Port of Gladstone
Gatcombe and Golding Cutting Channel Duplication Project

Environmental Impact Statement

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Appendix E5 Sediment Characterisation Plan Implementation Report (DMPAs)

Port of Gladstone Gatcombe and Golding Cutting Channel Duplication Project

Sediment Characterisation Plan Implementation Report (DMPAs)

Gladstone Ports Corporation

25 November 2015

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Port of Gladstone Gatcombe and Golding Cutting Channel Duplication Project

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Executive summary

Objectives

The purpose of this report is to detail the implementation of the Sediment Characterisation Plan and characterise ambient geochemical baseline conditions in terms of sediment character at the potential dredged material placement areas (DMPAs) within Port Curtis. Only sediments below the highest astronomical tide were assessed during the Project geochemical investigation as upper intertidal and terrestrial portions of the DMPAs will be assessed during a separate investigation.

The objectives of the Project geochemical investigation are:

- Undertake sediment sampling, analysis and reporting in accordance with the approved Sediment Characterisation Plan
- Analyse the sediments within the DMPAs for a range of physical and chemical parameters, and compare contaminant concentrations against the National Assessment Guidelines for Dredging 2009 (NAGD) and other relevant guideline criteria
- Characterise the ambient geochemical baseline conditions of each DMPA to assist in assessing the suitability of each DMPA to receive dredged material from the Port of Gladstone Gatcombe and Golding Cutting Channel Duplication Project
- Support the Environmental Impact Statement for the Project.

Methodology

The site investigation was carried out within the DMPAs by Aurecon Australasia Pty Ltd (Aurecon) in accordance with the approved Sediment Characterisation Plan (refer Appendix A), NAGD (2009) requirements, relevant legislation, standards and guidelines. The geochemical investigation was undertaken between 2 February and 28 February 2015 with additional sampling conducted during the Project geotechnical investigations.

A total of 99 locations within the Project DMPAs were drilled and assessed during the investigation, including:

- East Banks Expansion DMPA (at sea):
  - 36 boreholes
- West Banks Island DMPA:
  - 27 boreholes
  - 2 boreholes (geotechnical)
- Port Central Expansion DMPA:
  - 11 boreholes
  - 2 boreholes (geotechnical)
- Western Basin Expansion DMPA:
  - 21 boreholes.

A vibrocorer, operated by Seas Offshore aboard the vessel “Shackleton”, was used to collect sediment cores at 95 locations. A hand-held GPS device was used to position the vessel within 10m of each sample location. Sediment cores were cut into 1.0m lengths, split horizontally, photographed and logged prior to sampling.

Sediment samples were also taken at four additional locations within West Banks Island DMPA and Port Central Expansion DMPA in the underlying consolidated natural geological materials. This was done in conjunction with the geotechnical investigation drilling undertaken using the Ocean Driller II jack-up barge, between 9 March and 4 May 2015.

The primary analysis of sediment samples was conducted by ALS Environmental with Eurofins as the secondary laboratory to analyse inter-laboratory duplicate samples. Both laboratories are National Association of Testing Authorities (NATA) accredited for the analytical methods used.

Results

Where guideline value exist under NAGD (2009), an assessment against these was undertaken. Where no values are present under NAGD (2009), a comparison against locally derived reference values and other locally derived reference data (equivalent to the NAGD (2009) term regional ambient baseline levels) was undertaken.

Generally, the chemical composition across all four DMPAs demonstrated very few exceedances of the NAGD (2009) screening levels for contaminants of concern, including metals, metalloids and organics. All sites showed similar characteristics in having low levels (i.e. greater than laboratory limit of reporting but lower than NAGD screening levels or background value) of several metals, including arsenic, chromium, copper, lead, nickel, selenium, vanadium, zinc and mercury.

The distribution of these contaminants of concern (and observed exceedances) was ubiquitous throughout the sediment profile sampled and the spread was across the four DMPAs indicating that the metals are widespread and naturally occurring.

Dioxin concentrations detected across Port Curtis were below the Dutch Intervention Levels and the Canadian sediment quality guidelines. In addition, dioxin concentrations were consistent with previous testing undertaken by Department of Environment and Heritage Protection (EHP) in 2012 and were typical of estuaries around Australia when compared with the National Dioxins Program (Müller et al. 2004).

The presence of acid sulfate soils (ASS) varied between the DMPAs. Samples from East Banks Expansion DMPA and West Banks Island DMPA did not contain actual ASS and sediments are unlikely to contain potential ASS, mainly due to the higher proportion of sand at these locations. At Port Central Expansion DMPA, acidity was detected within some samples at depths of 0.5m and greater. At Western Basin Expansion DMPA, ASS was widespread throughout the site both laterally and vertically.

Conclusions

Geochemical results from this investigation have demonstrated that the sediment from the DMPAs have low concentrations of metals throughout the sediment profile, and despite the exceedances of screening levels for some contaminants in some samples, overall, the sediment would be considered **clean** as per NAGD (2009).

Given the sediments from the area to be dredged are also **clean** as per NAGD (2009), as reported in the Sampling and Analysis Plan Implementation Report (area to be dredged) (Aurecon 2015), the DMPAs are considered to be chemically suitable to receive dredged material from the area to be dredged. Further testing such as elutriates and bioavailability testing is not required.

The appraisal of laboratory and field QA/QC procedures and assessments indicates that the results comply with the NAGD (2009) requirements. The analytical results are therefore representative of the physical and chemical characteristics of the sediment.

Compliance of the Project geochemical investigation with the approved Sediment Characterisation Plan and NAGD (2009) is demonstrated by:

- Drilling and sampling has been undertaken to a full depth of sediment that has the potential to be contaminated and is considered to have potential to interact with the dredged material or be disturbed during reclamation bundwall construction or dredged material placement. The vibrocorer achieved refusal in consolidated natural geological materials (i.e. rock, dense sands/gravels or stiff to very stiff clays).
- Sampling used a vibrocoring process, a NAGD recognised approved device for undertaking geochemical sampling
- Additional sediment sampling and laboratory analysis for metals and metalloids was undertaken in the underlying consolidated natural geological materials, in conjunction with the geotechnical investigation in four additional locations (two locations in West Banks Island DMPA and two locations in Port Central Expansion DMPA) to collect information on metals and metalloids that have previously been demonstrated to be naturally occurring within Port Curtis.

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Acronyms

Acronym	Definition
AASS	Actual acid sulfate soils
ANC	Acid neutralising capacity
ANC_E	Excess acid neutralising capacity
ANZECC	Australian and New Zealand Environment and Conservation Council
ARMCANZ	Agriculture and Resources Management Council of Australia and New Zealand
ASS	Acid sulfate soils
Aurecon	Aurecon Australasia Pty Ltd
AusIMM	Australasian Institute of Mining and Metallurgy
BTEX	Benzene, toluene, ethylbenzene, xylene
Ca_A	Acid Reacted Calcium
Ca_{KCl}	KCl Extractable Calcium
Ca_P	Peroxide Calcium
CCME	Canadian Council of Ministers of the Environment
CG	Coordinator-General
CSD	Cutter suction dredger
CSIRO	Commonwealth Scientific and Industrial Research Organisation
EHP	Department of Environment and Heritage Protection (Qld)
DMPA	Dredged material placement area
DoE	Department of the Environment (Cwth)
DQI	Data quality indicator
DQO	Data quality objective
EH	PCIMP Ecosystem health
EIL	Environmental Investigation Level
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Cwth)
GBRMP	Great Barrier Reef Marine Park
GBRMP Reg	*Great Barrier Reef Marine Park Regulations 1983* (Cwth)

Acronym	Definition
GBRWHA	Great Barrier Reef World Heritage Area
GIS	Global information system
GPC	Gladstone Ports Corporation
GPS	Global positioning system
HAT	Highest astronomical tide
ISQG	Interim sediment quality guidelines
LAT	Lowest astronomical tide
LOR	Limit of reporting
Mg_A	Acid reacted magnesium
Mg_{KCl}	KCl extractable magnesium
Mg_P	Peroxide magnesium
MSQ	Maritime Safety Queensland
NAGD	National Assessment Guidelines for Dredging
NATA	National Association of Testing Authorities
OCP	Organochlorine pesticide
OPP	Organophosphate pesticide
PAH	Polycyclic aromatic hydrocarbons
PASS	Potential acid sulfate soils
PCB	Polychlorinated biphenyls
PCDD	Tetra- to octa- chlorinated dibenzo-p-dioxins
PCDF	Tetra- to octa- chlorinated dibenzofurans
PCIMP	Port Curtis Integrated Monitoring Program
PEL	Probably effect levels
PQL	Practical quantification limit
PSD	Particle size distribution
QA	Quality assurance
QC	Quality control
RPD	Relative percent deviation
RSD	Relative standard deviation
SCP	Sediment Characterisation Plan
SDPWO Act	*State Development and Public Works Organisation Act 1971* (Qld)
S_{KCl}	Potassium chloride extractable sulfur
S_P	Peroxide sulfur
SPL	Strategic Port Land
SPOCAS	Suspension Peroxide Oxidation Combined Acidity and Sulfur
S_{POS}	Peroxide oxidisable sulfur
SQG	Sediment Quality Guidelines
TAA	Titratable actual acidity

Acronym	Definition
TCDD	2,3,7,8 tetrachlorodibenzo-p-dioxin
TEF	Toxic equivalency factor
TEQ	TCDD equivalent concentration
TOC	Total organic carbon
TPA	Titratable peroxide acidity
TPH	Total petroleum hydrocarbon
TRH	Total recoverable hydrocarbon
TSA	Titratable sulfidic acidity
TSHD	Trailing suction hopper dredger
UCL	Upper confidence limit
WBDDP	Western Basin Dredging and Disposal Project
WCS	Worst case scenario
WHO	World Health Organization

1 Introduction

1.1 Background

The Port of Gladstone is located along the Capricorn Coast of Central Queensland, approximately 525km north of Brisbane. The outer Port limits extend east of Port Curtis, past the adjoining Curtis and Facing Islands. The southern Port limits extend to the northern tip of Hummock Hill Island, near Tannum Sands, and the northern Port limit is located within the upper sections of an estuarine passage known as The Narrows. The main shipping channel to the Port enters at the southern extent, through the Boyne River estuary, and onto Fisherman's Landing.

The Port of Gladstone is Queensland's largest multi-commodity port, with RG Tanna Coal Terminal in the 2013/14 reporting period being the world's fourth largest coal export terminal (by throughput) in the world. Cumulatively, the Port handles the export of mineral resources from Central Queensland and products from local industries, and the import of raw materials from national and international sources (GPC 2014).

The Port of Gladstone is also one of the busiest ports in Australia, vital to the local, state and national economies. Major exports from the Port include coal, alumina, cement, petroleum, aluminium and agricultural resources.

Gladstone Ports Corporation (GPC) is responsible for the control and management of port infrastructure and cargo handling operations for coal and other products at the Port of Gladstone, Port of Rockhampton and Port of Bundaberg. GPC provides and maintains vital shipping channels within the Port and is responsible for the development, management and leasing of Strategic Port Land (SPL). GPC is also directly responsible for road infrastructure, pilotage services, towage services (through an exclusive licence), property services on SPL, community parklands, quarantine and waste disposal services and the Gladstone Marina.

GPC has identified the need to duplicate the existing Gatcombe and Golding Cutting shipping channels to accommodate a predicted increase in shipping traffic as a result of ongoing industrial growth within the Port. The duplicate channels are proposed to be developed adjacent to the existing shipping channel, facilitating two-way shipping traffic from the outer harbour.

1.2 Environmental impact statement

The proposed Gatcombe and Golding Cutting Channel Duplication Project (herein referred to as 'the Project') was declared a 'coordinated project' by the Queensland Coordinator-General (CG) under the *State Development and Public Works Organisation Act 1971* (SDPWO Act) on 25 September 2012. The Project was also determined to be a 'controlled action' requiring an Environmental Impact Statement (EIS) by the Commonwealth Minister for the Environment under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) on 23 October 2012.

GPC is currently proceeding with the EIS phase of the Project. The EIS will be submitted for assessment to both the Queensland State Government under the SDPWO Act and the Commonwealth Department of the Environment (DoE) under the EPBC Act. The Project originally had the potential to undertake activities (e.g. placement of dredged material within the Great Barrier Reef Marine Park (GBRMP) which are assessable under the *Great Barrier Reef Marine Park Regulations 1983* (GBRMP Reg).

1.3 Dredging and dredged material placement

1.3.1 Dredging

The dredging component of the Project involves the duplication of the existing Gatcombe and Golding Cutting shipping channels that will be parallel to provide a duplicate channel parallel to the main shipping channel, facilitating two-way passage. The location of the area to be dredged as part of the Channel Duplication Project are shown in Figure 1.1.

The proposed duplicate channel will be approximately 14km long and dredging is proposed to be undertaken to an ultimate depth of -16.1 metres (m) lowest astronomical tide (LAT), with a channel width (toe to toe) of 200m (refer Figure 1.1). The channel area is approximately 382 hectares (ha), however, due to the existing bathymetry in the Port of Gladstone, the total area requiring dredging (i.e. above -16.1m LAT) is less, being 247.8ha. This equates to approximately 12.6Mm^3 of seabed material (including dredging tolerance) requiring removal and placement during the project.

Two dredging and placement campaign options are proposed and will be selected upon availability of dredging equipment and operations within the Port of Gladstone. The likely volumes and timing of each campaign option are outlined in Table 1.1.

Table 1.1 Dredging campaign and staging options, location and volumes

Stage	Location	Timeframe – likely start date or later (duration)	Design depth (m LAT)	Volume (Mm^3)*	Disturbance area to be dredged (ha)
Option 1 – two staged dredging campaign					
1	Gatcombe and Golding Cutting Channels	Q4 2018 or later (12 months)	-13.5	7.25	179.6^
2	Gatcombe and Golding Cutting Channels	2022 or later (8 months)	-16.1	5.35	247.8
Option 2 – one stage dredging campaign					
-	Gatcombe and Golding Cutting Channels	Q4 2018 or later (20 months)	-16.1	12.6	247.8

Table notes:
* Includes 0.3m (depth) allowance for average dredging tolerance
^ Different disturbance area to be dredged as part of Option 1, Stage 1 is due to some parts of the channels already being equal to or deeper than -13.5m
Q4 = fourth quarter of a calendar year (i.e. October to December)

There is the potential for the commencement of dredging to be after 2018, subject to actual and predicted Port throughput and associated vessel movements over the next 5 to 10 years.

1.3.2 Dredging methodology

The dredging methodology adopted for the Project will be subject to the Maritime Safety Queensland (MSQ) Regional Harbour Master acceptance of the successful dredging contractor's detailed execution plan. The dredging contractor will also comply with MSQ's Standard for Marine Construction Activities within Gladstone Harbour (DTMR 2012).

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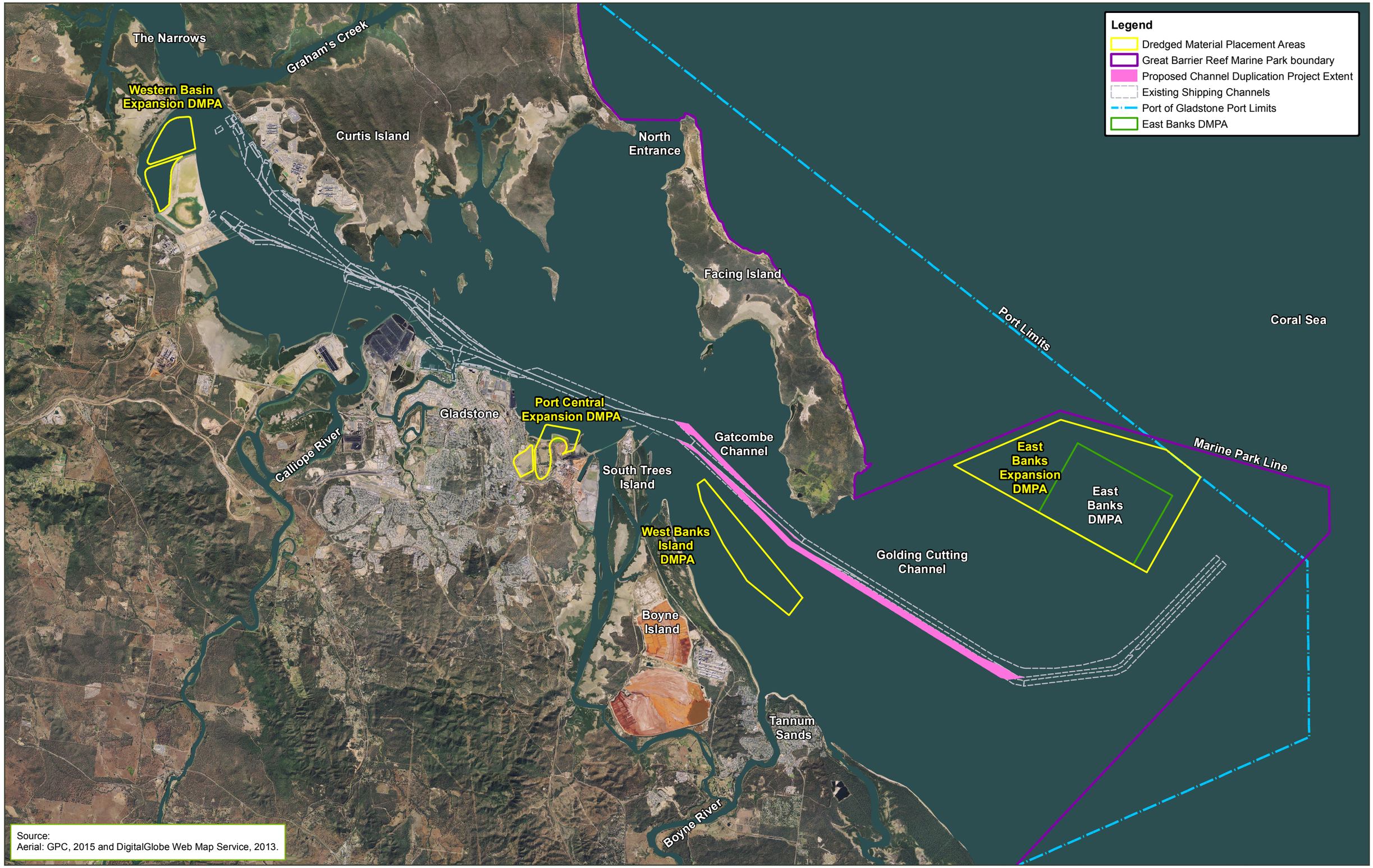

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Sediment Characterisation Plan Implementation Report (DMPAs)

Figure 1.1: Channel Duplication location and Dredged Material Placement Options

A combination of different dredging vessels are likely to be used for the Project, including:

- Trailing suction hopper dredger (TSHD)
- Cutter suction dredger (CSD).

The preferred method of dredging and size/capacity of the dredger equipment are dependent on a number of factors, which will have implications on how the material can be dredged, transported and placed at the preferred dredged material placement location, including:

- Design of the area to be dredged
- Nature of material to be dredged (e.g. the stiffness of material)
- Quantities of materials to be dredged
- Depth of water (i.e. to maintain the vessel's required underkeel clearance)
- Sea conditions (e.g. wind, waves, currents)
- Environmental considerations
- Distance, availability and accessibility of dredged material placement location
- Maintaining navigability of existing shipping channels
- Required schedule
- Equipment availability.

1.3.3 Dredged material placement

This investigation assessed four potential dredged material placement areas (DMPAs), which are outlined in Table 1.2 and presented in Figure 1.1, and include:

- East Banks Expansion DMPA – at sea placement within Port limits
- West Banks Island DMPA – island reclamation
- Port Central Expansion DMPA – land based and intertidal reclamation
- Western Basin Expansion DMPA – intertidal reclamation.

Table 1.2 Summary of potential DMPAs

DMPA	Placement type	Location
East Banks Expansion DMPA	Offshore (at sea)	Within Port limits and outside the Great Barrier Reef Marine Park (GBRMP) and extends from the boundary of the existing East Banks DMPA to the north, east and west
West Banks Island DMPA	Island reclamation	Between Boyne Island and the Gatcombe Channel, to the south of the existing shipping channel. Southeast of the South Trees Wharves and Boyne Wharf.
Port Central Expansion DMPA	Land based and intertidal reclamation	South of the existing Barney Point Wharf and Coal Terminal, the Barney Point residential area of Gladstone and north of QAL located at Parsons Point. It is to the south of the existing Auckland Channel and north of South Trees Wharves.
Western Basin Expansion DMPA	Intertidal reclamation	North of the existing Western Basin reclamation area and south of the Narrows

For Port Central Expansion DMPA, only the sediments below highest astronomical tide (HAT) were assessed during the Project geochemical investigation. The sediments and soils within the area above HAT (i.e. the upper intertidal and terrestrial portions of the DMPA) will be assessed during a separate investigation.

Further information on the potential DMPAs is provided in the Sediment Characterisation Plan (Appendix A).

1.4 Purpose of this report

A Sediment Characterisation Plan (SCP) has been approved by the Commonwealth DoE and the Queensland Department of Environment and Heritage Protection (EHP) and is provided in Appendix A.

The purpose of this report is to detail the implementation of the SCP and characterise ambient geochemical baseline conditions in terms of sediment character at the potential DMPAs. The objectives of the sediment investigation are:

- Undertake sediment sampling, analysis and reporting in accordance with the approved SCP
- Analysis of the sediments within the DMPAs for a range of physical and chemical parameters, and comparison of contaminant concentrations against the National Assessment Guidelines for Dredging 2009 (NAGD) and other relevant guideline criteria
- Characterise the ambient geochemical baseline conditions of each DMPA to assist in assessing the suitability of each DMPA to receive dredged material from the Project
- Support the EIS for the Project.

A separate implementation report has been developed to assess the geochemical characteristics of the sediments within the proposed area to be dredged.

A comparison between the geochemical characteristics of the material to be dredged and its suitability for placement at each of the DMPAs will be conducted during the impact assessment phase of the EIS.

1.5 Sediment investigation framework

1.5.1 Summary

The assessment of Project data has been undertaken in a staged process. This is to comply with NAGD (2009) where a contaminant does not have a screening level and to account for placement of dredged material in a reclamation. The sediment investigation framework staged process included:

- A compliance assessment undertaken for potential contaminants of concern, where guideline values exist under NAGD (2009)
- Where no guideline values exist under NAGD (e.g. iron), a comparison against locally derived reference values and other locally derived reference data was undertaken. This is in compliance with the NAGD (2009) requirement that where contaminants are identified for which there are no Screening Levels, these contaminant concentrations should be compared against regional ambient baseline levels.
- A comparison against terrestrial background values, such as QLD Draft Guidelines for the Assessment & Management of Contaminated Land in Queensland (both background and EILs), Australasian Institute of Mining & Metallurgy (background range) and the Dutch Intervention Levels was undertaken.

Further detail is provided in the sections below.

1.5.2 Guidelines

Where guidelines values exist, such as NAGD (2009), a compliance assessment against these guideline values will be undertaken.

1.5.2.1 National Assessment Guidelines for Dredging (NAGD)

The objective of the NAGD (2009) is to apply a regulatory framework to ensure the impacts of dredged material loading and dredged material placement are adequately assessed and, when offshore dredged material placement is permitted, that impacts are managed responsibly and effectively.

Where NAGD (2009) provides guideline values for potential contaminants of concern, an assessment of the data will be undertaken against these values.

NAGD (2009) provides screening levels for a range of contaminants, based on the interim sediment quality guidelines (ISQGs) developed by ANZECC/ARMCANZ (2000) and updated by Simpson et al. (2008; 2013). If the 95% upper confidence limit (UCL) of a contaminant exceeds the specified screening level, it is considered a contaminant of potential concern and requires further investigation.

Where contaminants exceed the Sediment Quality Guidelines – High (SQG – High), the sediment is considered to be significantly contaminated with a consequent risk of bioaccumulation in invertebrates. In this instance, bioaccumulation testing will be required.

1.5.3 Locally derived reference values

NAGD (2009) states that where contaminants are found for which there are no Screening Levels, these contaminant concentrations should be compared against regional ambient baseline levels. The sections below summarise existing locally derived reference values for Port Curtis, which are consistent with NAGD (2009) defined regional ambient baseline levels.

1.5.3.1 Port Curtis Integrated Monitoring Program

The Port Curtis Integrated Monitoring Program (PCIMP) was established in 2001 as a consortium of members from 16 bodies representing industry, government (both local and state), research institutions and other stakeholders to develop a cooperative, monitoring program for assessing the ecosystem health of Port Curtis, and to ensure the environmental sustainability of the Port of Gladstone.

To help assess the ecosystem health of Port Curtis, sediments were sampled every three years by PCIMP (2011). Water quality was assessed more frequently as contaminants in sediment are less dynamic than those in water and are therefore unlikely to change in the short term. Samples were analysed for metals and nutrients with results used as a background measurement for ecosystem health within Port Curtis.

The ecosystem health (EH) values for sediment were derived from the 95th percentile of background data collected during the PCIMP monitoring and the worst case scenario (WCS) values are 10 times the EH values (PCIMP 2011). The PCIMP EH values have been adopted by this investigation as locally derived reference values where no NAGD (2009) screening levels are provided.

1.5.3.2 Metal Concentrations in the Waters and Sediments of Port Curtis, Queensland

Angel et al. (2012) conducted an investigation of water and sediment quality within Port Curtis on behalf of the Commonwealth Scientific and Industrial Research Organisation (CSIRO). Results were collected from 6 to 8 December 2011 from 21 sites within the general area of Port Curtis, the southern Narrows and Rodds Bay, with more detailed sampling in the vicinity of Western Basin and the liquefied natural gas (LNG) facilities (Angel et al. 2012). Samples were collected from the surface sediments using a stainless steel Van Veen grab sampler.

Results from this investigation have been adopted as locally derived reference values where no NAGD (2009) screening levels are provided, including aluminium, iron, cobalt, manganese, selenium and vanadium.

1.5.3.3 Report for Western Basin Dredging and Disposal Project – Sediment Quality Assessment

GHD (2009a) conducted the sediment quality assessment for the Western Basin Dredging and Disposal Project (WBDDP). Sampling was conducted within the Western Basin area between 16 November 2008 and 17 June 2009 using a combination of vibrocoring, push tubes, standard

penetration tests and rotary drilling methods. Boreholes were drilled to various depths, ranging from -5.3m LAT to -22.4m LAT, and over 1,000 sediment samples were collected (GHD 2009a).

Results from this investigation have been adopted as locally derived reference values where no NAGD (2009) screening levels are provided, including aluminium, iron, cobalt, manganese, selenium and vanadium.

1.5.3.4 National Dioxins Program

There are no guideline values for dioxins or dioxin-like chemicals in sediments in Australia. However, under the National Dioxins Program (Müller et al. 2004), 75 sediment samples collected from 62 locations across Australia were analysed for dioxins and dioxin-like chemicals. These sediment samples were distributed within different aquatic environments (i.e. fresh, estuarine and marine), various States and Territories, and different land uses (i.e. urban/industrial, agricultural and remote).

The National Dioxins Program reported concentrations of dioxins and dioxin-like chemicals as the sum of tetra- to octachlorinated PCDD/PCDF concentrations (Müller et al. 2004).

The National Dioxins Program provides a national baseline for dioxins and dioxin-like chemicals in sediments against which results from this investigation can be compared.

1.5.4 Terrestrial background values

A comparison against terrestrial background values was also undertaken for manganese and dioxins. Manganese is a naturally occurring metal in Port Curtis, which means it is not of anthropogenic origins in Port Curtis, and the source of the manganese is from geologic formations (i.e. Wandilla Formation) which occur in both upstream terrestrial and marine environments in Port Curtis. Terrestrial background values representative for Queensland and Australia are therefore considered acceptable for comparison against Project data as a regional ambient baseline level (as defined in NAGD (2009)).

There are no Australian guidelines for dioxins in soils/sediments and as such, the Dutch Intervention Levels have been used to determine potential dioxin contamination in the sediments and the risk to human health and the environment.

Terrestrial background values are also considered appropriate for this Project as dredged material will be placed in a reclamation area for this Project.

1.5.4.1 Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland

The Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland (Environmental Protection Agency (EPA) 1998) were adopted for manganese as no NAGD screening level exists. While these guidelines were developed to provide best practice for managing land contamination, the Environmental Investigation Levels (EILs) have been adopted for comparison with manganese concentrations in conjunction with ambient background levels from the Port of Gladstone. The EIL for manganese was also previously adopted by the WBDDP.

1.5.4.2 Field Geologists' Manual

The Australasian Institute of Mining & Metallurgy (AusIMM) (2011), *Field Geologist's Manual,* Fifth Edition, provides the average abundance of various metals and metalloids in Australian soils. These values have been adopted as a terrestrial background value where no NAGD (2009) screening levels are provided.

1.5.4.3 Dutch Intervention Levels

The Dutch Target and Intervention Values, produced by the Dutch Ministry of Housing, Spatial Planning and the Environment (2000), provide an indication of when the functional properties of the

soil for humans, plant and animal life is seriously impaired or threatened. They are representative of the level of contamination above which there is a serious case of soil contamination.

The Dutch Target and Intervention Values provide the following concentrations for various contaminants:

- Background concentrations in soil and groundwater
- Target values for soil and groundwater to indicate the level at which there a sustainable soil quality
- Intervention levels where there is a serious case of soil or groundwater contamination

Given dredged material will be placed in a reclamation area for this Project, and an absence of locally derived reference values for dioxins, the Dutch Target and Intervention Values provide the most relevant guideline value for dioxin concentrations.

1.5.5 Adopted guidelines

Table 1.3 outlines the guideline values adopted for sediment quality during this investigation. Locally derived reference values and terrestrial background values are provided in the data summary tables for each of the investigation areas.

Table 1.3 Sediment quality guidelines

Chemical	Units	NAGD (2009) screening level[1]	NAGD (2009) high level[1]
Aluminium	mg/kg	-	-
Iron	mg/kg	-	-
Antimony	mg/kg	2	25
Arsenic	mg/kg	20	70
Cadmium	mg/kg	1.5	10
Chromium	mg/kg	80	370
Cobalt	mg/kg	-	-
Copper	mg/kg	65	270
Lead	mg/kg	50	220
Mercury	mg/kg	0.15	1
Manganese	mg/kg	-	-
Nickel	mg/kg	21	52
Selenium	mg/kg	-	-
Silver	mg/kg	1.0	3.7 (4.0)
Vanadium	mg/kg	-	-
Zinc	mg/kg	200	410
Tributyltin [(2)]	µg Sn/kg	9	70
TRH C_6-C_{10}[(2)]	mg/kg	-	-
TRH >C_{10}-C_{16}[(2)]	mg/kg	-	-
TRH >C_{16}-C_{34}[(2)]	mg/kg	-	-
TRH >C_{34}-C_{40}[(2)]	mg/kg	-	-
Total TRH[(2)]	mg/kg	550 (280)	- (550)
Total PCB[(2)]	µg/kg	23 (34)	- (280)

Chemical	Units	NAGD (2009) screening level[1]	NAGD (2009) high level[1]
Total PAH[(2)]	µg/kg	10,000	45,000-50,000 (50,000)
DDD[(2)]	µg/kg	2 (3.5)	20 (9.0)
DDE[(2)]	µg/kg	2.2 (1.4)	27 (7.0)
Total DDT[(2)]	µg/kg	1.6 (1.2)	46 (5.0)
Dieldrin[(2)]	µg/kg	280 (2.8)	270 e/ 620 (7.0)
Chlordane[(2)]	µg/kg	0.5 (4.5)	6 (9.0)
Lindane[(2)]	µg/kg	0.32 (0.9)	1.0 (1.4)
Endrin[(2)]	µg/kg	10 (2.7)	120 e/ 220 (60)
Dioxins[(2)]	µg/kg	-	-
Ammonia as N	mg/kg	- (4)	- (4.5)
Total phosphorus	mg/kg		
Total nitrogen	mg/kg		
Benzene	µg/kg	-	-
Toluene	µg/kg	-	-
Ethylbenzene	µg/kg	-	-
Xylene	µg/kg	-	-

Table notes: [1] Values provided in brackets represent revised sediment quality values as provided in Simpson et al. (2013) (unpublished).
[2] For comparison to revised sediment quality values (Simpson et al. 2013), concentrations were normalised to 1.0% total organic carbon

1.5.6 Acid sulfate soils

The Guidelines for Sampling and Analysis of Lowland Acid Sulfate Soils (ASS) in Queensland 1998 (Ahern et al. 1998) outlines action criteria at which there is a significant environmental risk from ASS when sediment is disturbed. When the action criteria are exceeded and the sediment is planned to be disturbed, management is required (e.g. treatment with lime). Table 1.4 details the action criteria, which is dependent on the clay content of the sediment and the volume of sediment disturbed.

Table 1.4 Action criteria for ASS analysis

Sediment type	Clay content (%)	Action criteria (1-1000 tonnes disturbed)		Action criteria (>1,000 tonnes disturbed)	
		Sulfur trail (%S oxidisable)	Acid trail (mol H^+/tonne)	Sulfur trail (%S oxidisable)	Acid trail (mol H^+/tonne)
Coarse (sand – gravel)	≤ 5	0.03	18	0.03	18
Medium (sandy loam – light clay)	5-40	0.06	36	0.03	18
Fine (medium to heavy clay)	≥ 40	0.1	62	0.03	18

1.6 Data quality objectives and indicators

1.6.1 Data quality objectives

Data quality objectives (DQOs) are qualitative and quantitative statements derived from the outputs of the first six steps of the seven step DQO process that:

- Clarify the study objective
- Define the most appropriate type of data to collect
- Determine the most appropriate conditions from which to collect data
- Specify tolerable limits on decision errors which will be used as the basis for establishing the quantity and quality of data needed to support the decision.

The DQO process (AS4482.1-2005) follows a systematic approach for defining the criteria that a data collection design should satisfy, including the number of samples and when, where and how to collect these samples. DQOs are employed to develop a scientific and resource-effective data collection design to assure decision makers that the type, quantity and quality of environmental data are appropriate for the intended application. In addition, decision makers will guard against committing sources to data collection efforts that do not support defensible decisions.

The DQOs for this SCP have been developed to define the type and quality of data required to achieve the objectives stated in Section 1.4. The DQOs were selected with reference to relevant guidelines published by the NAGD (2009) and the ANZECC/ARMCANZ (2000), which define minimum data requirements and quality control procedures.

These matters are addressed in the seven-step DQO approach presented in Table 1.5.

Table 1.5 Data quality objectives

Process	Response
Step 1: State the Problem	The ambient baseline condition of the sediments at East Banks Expansion DMPA; the West Banks Island DMPA, Port Central Expansion DMPA and Western Basin Expansion DMPA are required to be assessed in accordance with the requirements outlined in the NAGD (2009) and the SCP
Step 2: Identify the Decision	The principle objectives of this report are as follows: ■ Undertake sediment sampling, analysis and reporting in accordance with the approved SCP ■ Analysis of the sediments within the DMPAs for a range of physical and chemical parameters, and comparison of contaminant concentrations against the NAGD (2009) and other relevant guideline criteria ■ Characterise the ambient geochemical baseline conditions of each DMPA to assist in assessing the suitability of each DMPA to receive dredged material from the Project ■ Support the EIS for the Project.
Step 3: Identify the Inputs to the Decision	■ Footprint of DMPA sites ■ Previous investigations within the DMPA sites ■ History of offshore and reclamation dredged material placement within the Port of Gladstone ■ Field data and laboratory analysis ■ Adopted guideline criteria for sediments.
Step 4: Define the Boundaries of the Study	The boundaries of the four potential DMPA options are illustrated within Figure 1.1
Step 5: Develop a Decision Rule	The assessment programme has been designed to characterise the sediments within the DMPAs using the criteria outlined in Section 1.5.1
Step 6: Specify Tolerable Limits on Decision Errors	The data quality indicators (DQIs) have been established to set acceptance limits on field and laboratory data collected during the investigation

Process	Response
Step 7: Optimise the Design for Obtaining Data	The sampling methodology was developed with reference to the NAGD 2009 and in agreement with DoE and EHP. Nominated samples judged as being representative of sediment values were submitted for analysis. Samples were analysed by a National Association of Testing Authorities (NATA) Accredited Laboratory generally within approved sample withholding times.

1.6.2 Data quality indicators

The DQIs for the assessment are presented in Table 1.6.

Table 1.6 Data quality indicators

DQI	Field	Laboratory	Acceptability limits
Completeness	■ Sediments at the potential DMPAs require characterisation to allow assessment of suitability to receive dredged material ■ Appropriate sampling procedures to be used ■ Experienced field team to undertake sampling ■ Correct documentation to be completed	■ All required samples analysed ■ Appropriate methods ■ Appropriate limits of reporting (LORs) ■ Appropriate practical quantification limits (PQLs) ■ Sample documentation correct ■ Sample holding times in compliance	As per NAGD 2009 and Simpson et al. (2013) (unpublished)
Comparability	■ Correct sample procedures used at each location ■ Experienced field team ■ Same type (medium, volume and sampling technique) of samples collected	■ Same analytical methods used ■ Appropriate LORs ■ Samples submitted to the same NATA accredited laboratory ■ Analytical data is presented in the same unit	As per NAGD 2009
Representativeness	■ Appropriate media sampled ■ All media identified (i.e. sediment)	■ All required samples analysed	As per NAGD 2009
Precision	■ Correct sample procedures used at each location ■ Collection of appropriate quality assurance (QA)/ quality control (QC) samples	Analysis of: ■ Duplicate samples ■ Laboratory duplicate samples	Relative percent deviation (RPD) of 30-50%

DQI	Field	Laboratory	Acceptability limits
Accuracy	■ Sampling procedures appropriate and complied with ■ Collection of appropriate QA/QC samples	Analysis of: ■ Method blanks ■ Laboratory surrogate spikes ■ Laboratory control samples ■ Reference material	■ Non-detect for contaminants of concern ■ 70-130%

2 Methodology

2.1 Sediment Characterisation Plan

The DMPA SCP was approved by DoE and EHP in January 2015. All sampling and analysis of sediments were undertaken in accordance with the approved DMPA SCP and NAGD requirements. The approved DMPA SCP is provided in Appendix A.

2.2 Fieldwork programme

The initial geochemical sediment investigation was undertaken between 2 February and 28 February 2015 with additional sampling during the Project geotechnical investigation in April 2015. A summary of the programme of works is provided in Table 2.1.

Table 2.1 Programme of works

Activity	Date
Mobilisation	2 February 2015
Inductions	2 February 2015 (and ongoing as required)
Drilling operations	3-27 February 2015 (including six standby days due to inclement weather)
Demobilisation	28 February 2015

Two environmental scientists from Aurecon provided supervision on behalf of GPC in addition to sample collection and processing. Seas Offshore was contracted to provide and manage the drilling component of the works and Fodico was subcontracted to provide and operate the vessel "Shackleton".

The field team was directly supported by ALS Environmental (primary laboratory), Eurofins (secondary laboratory) and onshore Aurecon staff specialising in marine investigations, data management, global information systems (GIS) and project management.

Additional sampling was undertaken within West Banks Island and Port Central Expansion DMPAs by the Aurecon geotechnical team during Project geotechnical investigations. Geotechnical sampling was undertaken to depths of 4.0m (generally at 1.0m intervals) to provide information on the known naturally occurring metals.

2.3 Sample locations

The sampling locations provided in the DMPA SCP were randomly selected using the methodology outlined in NAGD (2009). The actual sampling locations (with an accuracy of ±10m) are illustrated in Figures 2.1 to 2.4.

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Legend

- Sampling Locations
- Dredged Material Placement Areas
- Great Barrier Reef Marine Park Boundary
- Port of Gladstone Port Limits
- Existing Shipping Channels
- Proposed Channel Duplication Project Extent
- East Banks DMPA

EB1 EB2 EB3 EB4 EB5 EB6 EB7 EB8 EB9 EB10 EB11 EB12 EB13 EB14 EB15 EB16 EB17 EB18 EB19 EB20 EB21 EB22 EB23 EB24 EB25 EB26 EB27 EB28 EB29 EB30 EB31 EB32 EB33 EB34 EB35 EB36

East Banks DMPA

Source:
Aerial: GPC, 2015 and DigitalGlobe Web Map Service, 2013.

Map by: Moore NK/RB\GIS\Projects\237374_GPC_Channel_Duplication_EIS\237374_GPC_Geochem2_02.mxd 26/11/2015 10:06

0 500 1,000 Metres

Date: 26/11/2015 Version: 6 Job No: 237374

Coordinate system: GDA_1994_MGA_Zone_56

Sediment Characterisation Plan Implementation Report (DMPAs)

Figure 2.1: Sampling Locations – East Banks Expansion DMPA

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Source:
Aerial: GPC, 2015 and DigitalGlobe Web Map Service, 2013.

Map by: Moore NK/FB\GIS\Projects\237374_GPC_Channel_Duplication_EIS\237374_GPC_Geochem2_03.mxd 26/11/2015 10:07

0 320 640 Metres

Date: 26/11/2015 Version: 6 Job No: 237374

Coordinate system: GDA_1994_MGA_Zone_56

Figure 2.2: Sampling Locations – West Banks Island DMPA

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Map by: Moore NK/RB\GIS\Projects\237374_GPC_Channel_Duplication_EIS\237374_GPC_Geochem2_04.mxd 26/11/2015 10:07

0 190 380 Metres

Date: 26/11/2015 Version: 6 Job No: 237374

Coordinate system: GDA_1994_MGA_Zone_56

Figure 2.3: Sampling Locations – Port Central Expansion DMPA

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Map by: Moore NK/RB\GIS\Projects\237374_GPC_Channel_Duplication_EIS\237374_GPC_Geochem2_05.mxd 26/11/2015 10:08

0 255 510 Metres

Date: 26/11/2015 Version: 7 Job No: 237374

Coordinate system: GDA_1994_MGA_Zone_56

Figure 2.4: Sampling Locations – Western Basin Expansion DMPA

In accordance with the DMPA SCP, the following boreholes were assessed during the investigation:

- East Banks Expansion DMPA:
  - 36 boreholes
- West Banks Island DMPA:
  - 27 boreholes
  - 2 boreholes (geotechnical)
- Port Central Expansion DMPA:
  - 11 boreholes
  - 2 boreholes (geotechnical)
- Western Basin Expansion DMPA:
  - 21 boreholes.

All boreholes were drilled to a depth of 1.0m or until refusal.

2.4 Sample collection

A vibrocorer, operated by Seas Offshore aboard the vessel “Shackleton”, was used to collect the sediment cores at each location. A hand-held GPS device was used to position the vessel within 10m of each sample location, as proposed Section 6.2.2 of the SCP (refer Appendix A).

The vibrocorer sampled to a depth of 1.0m or until refusal. Core barrels were capped at each end following core retrieval and a vibrocore frame was used to ensure the barrel remained vertical. Photographs of the equipment used and the vessel are provided below.

Multiple cores were collected where additional volume of sediment was required for QA/QC purposes.

An Aurecon environmental scientist determined the suitably of each sediment core following collection, based on the following:

- No loss of surface sediments
- No major loss or disturbance of sediments at depth
- Target depth was achieved or refusal at rock or dense sand or clay.

Sediment samples were also collected at two additional locations within West Banks Island DMPA and two additional locations within Port Central Expansion DMPA, in conjunction with geotechnical investigation drilling using the Ocean Driller II jack-up barge. These samples were generally collected from 1.0m intervals (where practicable) to a depth of 4.0m and were used to supplement the geochemical investigation and provide an indication of the naturally occurring metals.

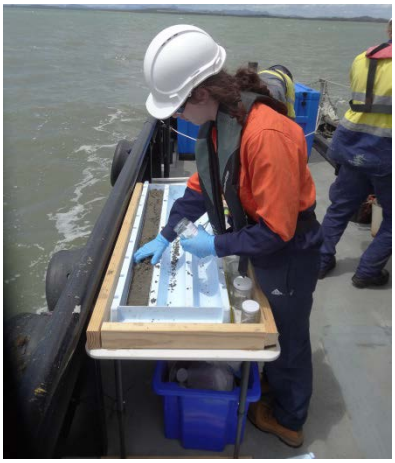

Photo 2.1 **Grab sampling from core**



Photo 2.2 **Vibrocorer and crane on deck of vessel**



Photo 2.3 **Launching the vibrocorer**



Photo 2.4 **Decontamination area**



Photo 2.5 **Splitting the core barrel**

A summary of the number of samples collected during the investigation is provided in Table 2.2.

Table 2.2 **Number of samples from DMPAs**

Sample type	Number of primary samples	Number of QA/QC samples
East Banks Expansion DMPA (EB)		
Geochemical	56	3 (field triplicate) 2 (inter-laboratory duplicate)
Particle size distribution	53	-
Dioxin	4	-
Field pH	52	-
Suspension Peroxide Oxidation Combined Acidity and Sulfur (SPOCAS)	82	9
West Banks Island DMPA (WB)		
Geochemical	61 (metals/metalloids) 54 (other parameters)	3 (field triplicate) 1 (inter-laboratory duplicate)
Particle size distribution	54	1 (field triplicate)
Dioxin	2	-
Field pH	53	-

Sample type	Number of primary samples	Number of QA/QC samples
SPOCAS	78	11
Port Central Expansion DMPA (PC)		
Geochemical	30 (metals/metalloids) 20 (other parameters)	2 (field triplicate) 1 (inter-laboratory duplicate)
Particle size distribution	19	-
Dioxin	2	-
Field pH	19	-
SPOCAS	30	5
Western Basin Expansion DMPA (WBE)[1]		
Geochemical	41	2 (field triplicate) 1 (inter-laboratory duplicate)
Particle size distribution	41	-
Dioxin	-	-
Field pH	41	-
SPOCAS	62	9

Table note: [1]Samples were labelled as BE during field investigations to avoid confusion with West Banks Island

2.5 Sample processing

Sediment cores were cut into 1.0m lengths, split horizontally, photographed and logged prior to sampling. Each borehole log recorded the following information:

- Project name and number
- Name of sampler
- Date of sampling
- Type of sampler
- Sample location ID
- Easting and Northing of sample location
- Sediment colour, odour, texture (clay, silt, sand, gravel), plasticity and grain size
- Presence of organic matter, marine organisms, shells and anthropogenic material.

The sediment cores were split upon recovery and sub sampled along one split only (where sample quantity was sufficient). Following logging of each sediment core, grabs samples were collected from each 0.5m section of the core in 150mL glass jars for volatile analysis. Grab samples of approximately 200g were also collected at 0.25m intervals along the length of the core and placed in plastic bags for ASS analysis.

Grab samples were also collected from core at depth intervals of 0.0m to 0.5m and 0.5m to 1.0m for particle size distribution and the remaining geochemical analyses.

2.6 Laboratory analysis

The primary analysis of sediment samples was conducted by ALS Environmental. Eurofins was selected as the secondary laboratory to analyse inter-laboratory duplicate samples. Both laboratories are NATA accredited for the analytical methods used.

Samples submitted to the primary laboratory were analysed for the contaminants listed in Table 2.3. Analyses conducted by the secondary laboratory are outlined in Table 2.4.

Table 2.3 **Analyses conducted by the primary laboratory**

Parameter	PQL	Sample suffix
Metals (Al, Sb, As, Cd, Cr, Cu, Co, Fe, Pb, Mn, Ni, Se, Ag, V and Zn)	0.1-1mg/kg 0.01mg/kg (Hg) 10mg/kg (Mn)	A
Organotins	0.5-1µg/kg	A
TRH	3-5mg/kg	A, V
BTEX	200µg/kg	V
PAHs	4-5µg/kg	A
PCB	5µg/kg	A
OCP/OPP	0.5-10µg/kg	A
TOC	0.02%	A
Nitrogen (speciated)	0.1mg/kg (nitrites and nitrates) 0.2mg/kg (ammonia) 20mg/kg (total nitrogen)	A
Phosphorus	2mg/kg	A
Particle sizing	1.0%	B
Dioxins and furans	0.0005-0.01µg/kg	D
pH_F and pH_{FOX}	0.1 pH units	C
SPOCAS suite	Various	C

Table 2.4 **Analyses conducted by the secondary laboratory**

Parameter	PQL
Metals (Sb, As, Cd, Cr, Cu, Pb, Hg, Mn, Ni, Ag and Zn)	0.1-1mg/kg 0.01mg/kg (Hg) 10mg/kg (Mn)
Organotins	0.5µg/kg
TRH	20-100mg/kg
BTEX	100-300µg/kg
PAHs	1µg/kg
PCB	5µg/kg
OCP/OPP	1-5µg/kg
TOC	50mg/kg
Nitrogen (speciated)	0.1mg/kg
Phosphorus	5mg/kg

2.7 Quality assurance and quality control procedures

2.7.1 Laboratory procedures

The primary and secondary laboratories followed the laboratory QA/QC procedures outlined in Appendix F of NAGD, including analysis of laboratory blanks, laboratory controls, laboratory spiked samples and laboratory duplicates.

Validation of the laboratory QA/QC procedures is provided in Section 7.1 to determine the data quality to undertake an assessment of the geochemical characteristics of the potential dredged material.

Table 2.5 outlines the laboratory QA/QC procedures as required under NAGD (2009).

Table 2.5 Laboratory QA/QC procedure details

QA/QC procedure	Details
Laboratory blank	Laboratory blanks are submitted with each sample batch during analysis to determine the level (if any) of cross contamination that may occur during laboratory preparation, extraction and/or analysis. Analysis of the laboratory blanks should result in contaminant concentrations that do not exceed the LOR
Laboratory control	Laboratory controls are submitted with each sample batch and contain known concentrations of a contaminant. Analysis of the laboratory controls should result in contaminant concentrations that do not deviate from the known concentration to determine the accuracy of the laboratory analysis
Laboratory spike (surrogate and matrix)	A surrogate laboratory spike involves additions of a known concentration of compounds that are similar to those analysed, but are not likely to be present in the environment. The recovery of these compounds indicates the ability of the laboratory to extract the specified analyte. Surrogate spikes are generally performed on organic compounds A matrix laboratory spike is performed by splitting a sample and spiking it with a known contaminant concentration. The recovery of the contaminant is calculated and used to determine interference from the sediment upon the level of recovery
Laboratory duplicates	Laboratory duplicates use RPD of an intra-laboratory split sample material to analyse laboratory precision

2.7.2 Field procedures

2.7.2.1 Sample processing

All staff collecting sediment samples wore disposable nitrile, powder free gloves, which were replaced for each sample to ensure no cross-contamination between sampling locations and sample depths occurred.

All sediment samples were collected in pre-labelled plastic bags or solvent-washed and acid rinsed glass jars to Teflon lined lids as appropriate. Sample containers were labelled with a unique sample number on the waterproof label with indelible ink.

Sample containers for volatile analytes were filled with zero headspace to prevent volatilisation. Field triplicates and inter-laboratory duplicates were given labels that did not relate to the sampling location. Once collected and labelled, samples were immediately stored in an esky with ice bricks and transported to the laboratory within the specified holding times (generally within 24 hours).

All samples were submitted under chain of custody documentation to ensure the analytical requirements of each sample were undertaken.

2.7.2.2 Decontamination procedure

At the beginning of each sampling day, the vessel was thoroughly inspected and washed down to prevent sample contamination. An area for sample processing was cleared of any potential sources of contamination (i.e. copper, brass or galvanised or oily surfaces).

Stainless steel equipment was used for sample collection and was cleaned before use and in between samples. Prior to obtaining each sample, all equipment, including core barrels, core trays and sampling equipment was cleaned as follows:

- Initial rinse with seawater
- Scrub with detergent solution (Decon 90)

- Rinse with seawater
- Final rinse with distilled water.

2.7.2.3 Additional field QA/QC

A trip blank container filled with clean chromatographic sand (as provided by the laboratory) was transported with the samples each day and analysed for volatile contaminants. Trip blanks were used to identify contaminants that may have contaminated the sediment samples during transport or storage.

A rinsate sample was collected once per day from a trowel used during sampling, as this was where the risk of cross-contamination between samples was most likely. Rinsate sample were analysed for the same contaminants as the sediment (i.e. those provided in Table 2.3). Rinsate results should be below the LOR to validate the decontamination procedure.

Field triplicates were collected at approximately 10% of sampling locations to determine the small-scale spatial variability of the chemical characteristics of the sediment. This was undertaken by collecting two cores in addition to the primary core from the field triplicate location and collecting a sample from each core at the same depths.

Inter-laboratory duplicates were collected at approximately 5% of sampling locations to identify variation associated with sub-sampled handling and analytical variation between laboratories. Inter-laboratory duplicates were collected from the same homogenised sediment as the primary sample, with one inter-laboratory duplicate analysed by the primary laboratory and the other inter-laboratory duplicate analysed by the secondary laboratory.

With the ASS sampling, approximately 13.5% of samples undergoing SPOCAS analysis were submitted with a blind duplicate sample to assess the variability and precision of both the sampling procedure and the analytical laboratory.

2.8 Data analysis

Contaminant concentrations were assessed against the guideline values outlined in Table 1.3 using the 95% upper confidence level of the mean (95% UCL), calculated with ProUCL Version 5.0 (U.S. EPA 2013). Where no analytical values of a contaminant were reported over the NAGD PQL, no analysis was undertaken. Statistics were not calculated where all values fell below PQL. In some cases where less than three values were above LOR for the respective contaminant, the maximum recorded value was used instead of the 95% UCL for a conservative comparison against NAGD screening levels. Where contaminant concentrations were below the LOR, a value of half the LOR was used, as per NAGD (2009).

Concentrations of organic contaminants (except organotin) were adjusted to 1.0% total organic carbon (TOC). Organic contaminant results were normalised to 1.0% TOC before being compared to relevant guideline values where the measured value was within the range of 0.2-10%. For TOC values outside of this range, the highest (10%) or lowest (0.2%) was adopted as appropriate. Organic contaminants with concentrations below detection limits were not normalised to 1.0% TOC but were included at half their LOR.

Calculation of the 95% UCL assumes that the samples are statistically independent. As such, field triplicates and inter-laboratory duplicates were not included in the 95% UCL calculation. Where retesting of samples was undertaken, the highest reported value was utilised in the calculations.

2.9 Compliance with SCP

Compliance of the Project geochemical investigation with the approved SCP and NAGD (2009) is demonstrated by:

- Drilling and sampling has been undertaken to full depth of sediment that has the potential to be contaminated and is considered to have potential to interact with the dredged material. The vibrocorer achieved refusal in consolidated natural geological materials (i.e. rock, dense sands/gravels or stiff to very stiff clays)
- Sampling used a vibrocoring process, a NAGD recognised approved device for undertaking geochemical sampling.

Additional sediment sampling and laboratory analysis for metals and metalloids was undertaken in the underlying consolidated natural geological materials, in conjunction with the Project geotechnical investigation in four additional locations (two locations in West Banks Island DMPA and two locations in Port Central Expansion DMPA) to collect information on metals and metalloids that have previously been demonstrated to be naturally occurring within Port Curtis.

Drilling was required to a depth of 1.0m or until refusal. Drilling reached a depth of 1.0m in 69 locations. Drilling was terminated in 26 boreholes due to refusal on stiff clay or gravels. The majority of these refusals (80.8%) occurred in East Banks Expansion DMPA due to the presence of a layer of stiff clay. The number of boreholes achieving a depth of 1.0m or refusal is outlined in Table 2.6.

Table 2.6 Number of boreholes achieving refusal at each DMPA

DMPA	Total number of boreholes	Number of boreholes that achieved 1.0m	Number of boreholes that encountered refusal
East Banks Expansion DMPA	36	15	21
West Banks Island DMPA	27	25	2
Port Central Expansion DMPA	11	9	2
Western Basin Expansion DMPA	21	20	1

As a result of these refusals using the vibrocore technique, two additional boreholes were drilled within both West Banks Island and Port Central Expansion DMPAs (to depths of 4.0m bgl) during the geotechnical investigations to provide further geochemical information of the sediments at depth.

Table 2.7 outlines the sampling locations that were refused prior to reaching the target depth of 1.0m.

Table 2.7 Sampling locations refused

Sampling location	Depth of refusal (m)	Sampling location	Depth of refusal (m)
EB02	0.85	EB22	0.50
EB03	0.69	EB23	0.70
EB04	0.40	EB25	0.63
EB05	0.52	EB27	0.70
EB09	0.70	EB28	0.38
EB12	0.30	EB29	0.52
EB13	0.67	EB30	0.75
EB15	0.66	EB31	0.57
EB16	0.37	PC09	0.40

Sampling location	Depth of refusal (m)	Sampling location	Depth of refusal (m)
EB17	0.68	PC11	0.60
EB18	0.85	WB03	0.85
EB19	0.80	WB24	0.80
EB20	0.60	WBE19	0.60

3 East Banks Expansion DMPA

3.1 General

Borehole logs for each of the sampling locations are presented in Appendix B and photographs of each of the cores collected are provided in Appendix C.

All laboratory results and laboratory QA/QC assessments are provided in Appendix D for the primary laboratory (ALS Environmental) and Appendix E for the secondary laboratory (Eurofins).

3.2 Geochemical

A statistical summary of the geochemical results, showing an assessment against relevant guideline values identified in Section 1.5.1, is provided in Table 3.1 and Appendix F. Analyte concentrations detected above the guideline values are highlighted in bold, along with the relevant assessment criteria. Where guideline values are not available, a comparison against locally derived reference values and terrestrial background values has been undertaken.

The distribution of the contaminants of concern (and observed exceedances) was ubiquitous throughout the sediment profile sampled and the spread was across the DMPA indicating that the metals are widespread and naturally occurring.

The analytical results and any exceedances are discussed in the following sections.

Sampling locations where guideline values have been exceeded are illustrated in Figures 3.1 to 3.4.

Table 3.1 Summary of geochemical results for the East Banks Expansion DMPA compared with guideline values

Analytes (mg/kg)		Aluminium	Iron	Arsenic	Cadmium	Chromium	Copper	Cobalt	Lead	Manganese	Nickel	Selenium	Silver	Vanadium	Zinc	Mercury	Ammonia as N
Guideline values	PQL	50	50	1.0	0.1	1.0	1.0	0.5	1.0	10	1.0	0.1	0.1	2.0	1.0	0.01	0.2
	NAGD (2009) – screening level	-	-	**20**	1.5	80	**65**	-	50	-	**21**	-	1.0	-	200	0.15	-
	NAGD (2009) – high level	-	-	70	10	370	270	-	220	-	52	-	3.7	-	410	1.0	-
Locally derived reference values[4]	Anastasi and Wilson (2010)	-	-	-	-	-	-	-	-	29-8,960	-	-	-	-	-	-	-
	PCIMP EH value	15,000	21,000	-	-	-	-	6.9	-	260	-	1	-	40	-	-	15
	PCIMP WCS value	150,000	210,000	-	-	-	-	69	-	2,600	-	10	-	400	-	-	150
	Angel et al. (2012)	1,720-26,900 (8,770)	4,970-62,600 (17,450)	-	-	-	-	3-31 (10)	-	74-1,330 (382.5)	-	0.02-0.51 (0.135)	-	11-114 (40.5)	-	-	-
	WBDDP (GHD 2009)	530-20,600 (8,190)	560-76,000 (20,900)	-	-	-	-	0.5-77.4 (11.5)	-	10-7,680 (298)	-	0.1-5.4 (0.4)	-	5.6-287 (45.3)	-	-	-
Terrestrial background values	EPA (1998) EIL	-	-	-	-	-	-	-	-	500	-	-	-	-	-	-	-
	EPA (1998) background levels	-	-	-	-	-	-	2-170	-	4-12,600	-	-	-	-	-	-	-
	AusIMM (2011) average abundance	-	-	-	-	-	-	8.0	-	850	-	0.2	-	100	-	-	-
Samples collected		56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56
Number of detects		56	56	56	3	56	56	56	56	56	56	56	5	56	56	27	56
Minimum		3,080	8,040	2.42	-	7.8	1.5	4	2.5	94	3.4	0.2	<0.1	14.3	9	<0.01	4.8
Maximum		29,200	43,900	**33**	0.3[2]	34	**79.5**	47.4	14.9	3,510	**25.8**	2.7	0.3	113	76.3	0.03	0.855
Mean		13,898	23,958	10.17	-	19.84	21.67	10.89	7.486	430	11.87	0.746	0.0634	52.5	36.77	0.0101	1.389
Median		13,150	24,600	8.455		19.85	19.4	9.9	7.5	280.5	10.65	0.6	0.2	52.9	33.9	0.02	1.3
Standard deviation		6,999	9,853	5.881	-	6.787	16.88	6.741	3.536	537.8	5.991	0.551	0.0472	23.15	20.17	0.0066	0.615
95% UCL		15,731	26,414	11.48	0.3[2]	21.36	31.51	12.21	9.546	743.2	13.4	1.067	0.0739	58.32	48.52	0.0137	1.583
Number of exceedances[1, 3]		27	31	3	-	-	1	41	-	9	4	7	-	34	-	-	-

Table notes:
[1]Refers to exceedances over NAGD (2009) screening levels, the QLD contaminated land guideline value (EPA 1998) or the PCIMP (2011) EH values
[2]Three detections only over NAGD PQL so the highest value of 0.3mg/kg has been utilised rather than calculating 95% UCL
[3]The distribution of the contaminants of concern (and observed exceedances) was ubiquitous throughout the sediment profile sampled and the spread was across the DMPA indicating that the metals are widespread and naturally occurring
Values in brackets are the median value
Bold indicates an exceedance of the corresponding guideline value

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EB2	0.5 - 0.85 m
Nickel (mg/kg)	25.8

EB21	0.5 - 1.0 m
Arsenic (mg/kg)	26.4

EB5	0.0 - 0.5 m
Nickel (mg/kg)	22.8

EB14	0.0 - 0.5 m	0.5 - 1.0 m
Nickel (mg/kg)	21.3	23.9

EB22	0.0 - 0.5 m
Copper (mg/kg)	79.5

EB30	0.5 - 0.8 m
Arsenic (mg/kg)	20.1

Legend

- Metals reported above NAGD (2009) Screening Levels
- Other Sampling Locations
- Dredged Material Placement Areas
- Great Barrier Reef Marine Park Boundary
- Port of Gladstone Port Limits
- Existing Shipping Channels
- Proposed Channel Duplication Project Extent
- East Banks DMPA

EB1 EB2 EB3 EB4 EB5 EB6 EB7 EB8 EB9 EB10 EB11 EB12 EB13 EB14 EB15 EB16 EB17 EB18 EB19 EB20 EB21 EB22 EB23 EB24 EB25 EB26 EB27 EB28 EB29 EB30 EB31 EB32 EB33 EB34 EB35 EB36

East Banks DMPA

Source:
Aerial: GPC, 2015 and DigitalGlobe Web Map Service, 2013.

Map by: RB
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0 500 1,000 Metres

Date: 26/11/2015 Version: 4 Job No: 237374

Coordinate system: GDA_1994_MGA_Zone_56

Figure 3.1: Metals reported above NAGD (2009) screening levels within East Banks Expansion DMPA

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Legend

- Aluminium concentrations above PCIMP Ecosystem Health value (15,000 mg/kg)
- Iron concentrations above PCIMP Ecosystem Health value (21,000 mg/kg)
- Boreholes without elevated concentrations
- Dredged Material Placement Areas
- Great Barrier Reef Marine Park Boundary
- Port of Gladstone Port Limits
- Existing Shipping Channels
- Proposed Channel Duplication Project Extent
- East Banks DMPA

EB1 EB2 EB3 EB4 EB5 EB6 EB7 EB8 EB9 EB10 EB11 EB12 EB13 EB14 EB15 EB16 EB17 EB18 EB19 EB20 EB22 EB23 EB24 EB25 EB26 EB27 EB28 EB29 EB30 EB31 EB32 EB33 EB34 EB35 EB36

East Banks DMPA

Source:
Aerial: GPC, 2015 and DigitalGlobe Web Map Service, 2013.

0 500 1,000 Metres

Map by: RB

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Date: 26/11/2015 Version: 3 Job No: 237374

Coordinate system: GDA_1994_MGA_Zone_56

Figure 3.2: Distribution of elevated aluminium and iron within East Banks Expansion DMPA

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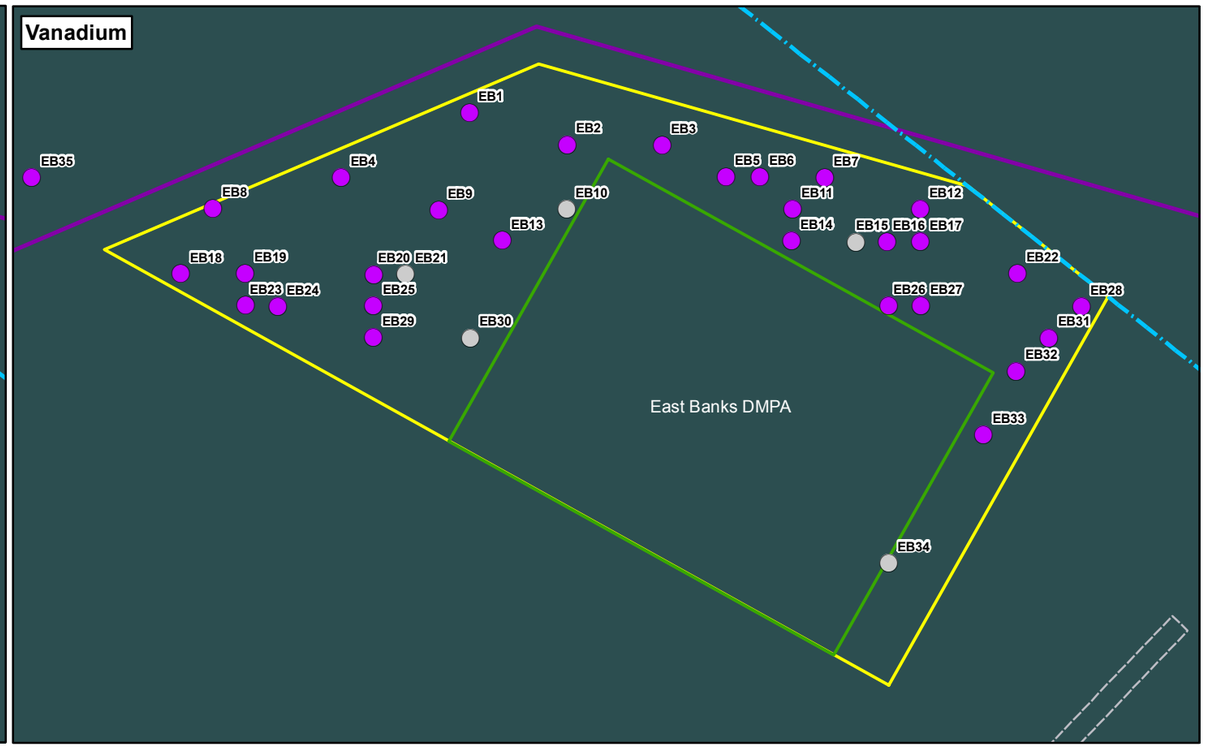

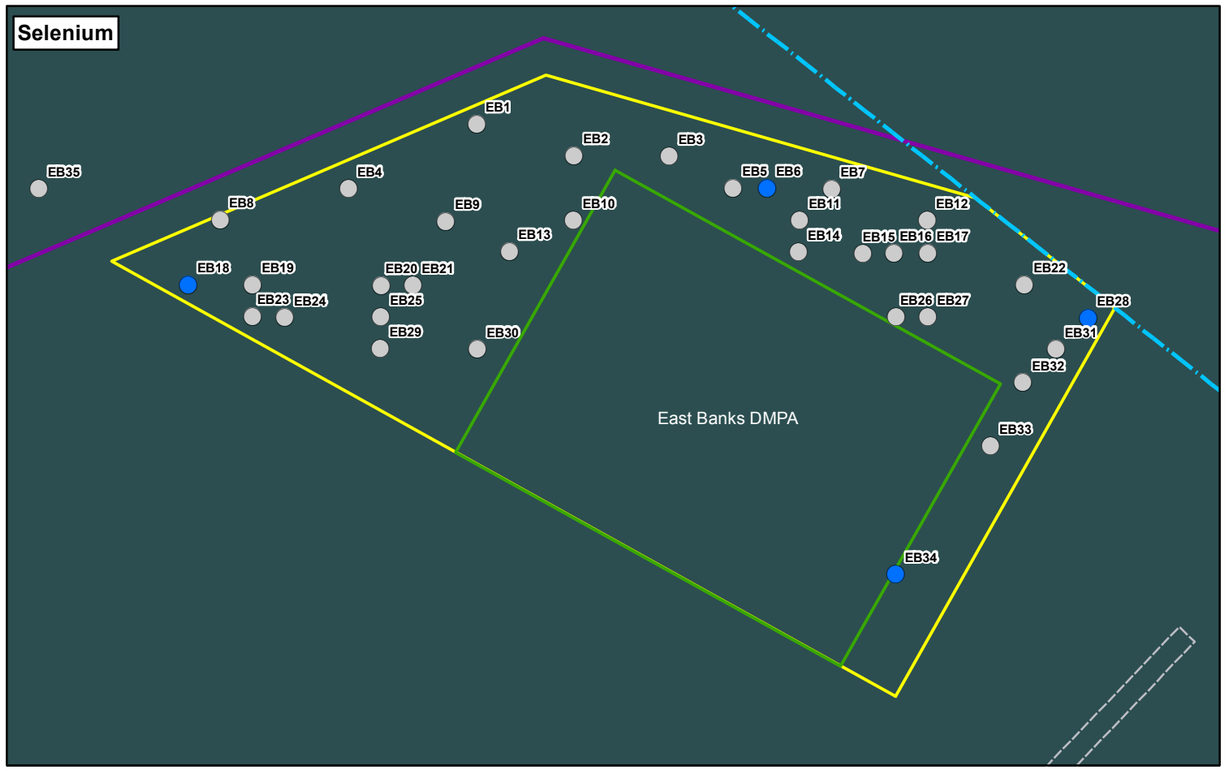

Legend

- Cobalt above PCIMP Ecosystem Health values (6.9 mg/kg)
- Vanadium above PCIMP Ecosystem Health values (40 mg/kg)
- Selenium above PCIMP Ecosystem Health values (1.0 mg/kg)
- Boreholes with metals below PCIMP Ecosystem Health values
- Dredged Material Placement Areas
- Port of Gladstone Port Limits
- Great Barrier Reef Marine Park Boundary
- Existing Shipping Channels
- East Banks DMPA

Source:
Aerial: GPC, 2015 and DigitalGlobe Web Map Service, 2013.

Map by: RB P:\GIS\Projects\237374_GPC_Channel_Duplication_EIS\237374_GPC_Geochem_Metals_in_East_Banks.mxd 26/11/2015 10:01

0 125 250 500 750 1,000 1,250 Meters

Date: 26/11/2015 Version: 2 Job No: 237374

Coordinate system: GDA_1994_MGA_Zone_56

Figure 3.3: Metals reported above PCIMP Ecosystem Health values within East Banks Expansion DMPA

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Legend

- Manganese above guideline value of 500 mg/kg
- Boreholes without elevated concentrations
- Dredged Material Placement Areas
- Great Barrier Reef Marine Park Boundary
- Port of Gladstone Port Limits
- Existing Shipping Channels
- Proposed Channel Duplication Project Extent
- East Banks DMPA

EB1 EB2 EB3 EB4 EB5 EB6 EB7 EB8 EB9 EB10 EB11 EB12 EB13 EB14 EB15 EB16 EB17 EB18 EB19 EB20 EB21 EB22 EB23 EB24 EB25 EB26 EB27 EB28 EB29 EB30 EB31 EB32 EB33 EB34 EB35 EB36

East Banks DMPA

Source:
Aerial: GPC, 2015 and DigitalGlobe Web Map Service, 2013.

Map by: Moore NK/RB\GIS\Projects\237374_GPC_Channel_Duplication_EIS\237374_GPC_Geochem_Boreholes_with_Manganese_in_East_Banks.mxd 26/11/2015 09:44

0 500 1,000 Metres

Date: 26/11/2015 Version: 3 Job No: 237374

Coordinate system: GDA_1994_MGA_Zone_56

Figure 3.4: Distribution of elevated manganese within East Banks Expansion DMPA

3.2.1 Metals/metalloids

Aluminium, iron, arsenic, chromium, copper, cobalt, lead, manganese, nickel, selenium, vanadium and zinc were recorded above laboratory PQL in all 56 samples collected. The elements were found at every depth horizon and as such, are ubiquitous across Port Curtis and likely to be naturally occurring. Three samples reported levels of cadmium over the LOR, five samples reported silver above the LOR and 27 samples of the 56 samples tested reported mercury over the laboratory LOR. No antimony over the laboratory LOR was detected.

The 95% UCL of all metals and metalloids considered contaminants of concern under the NAGD (2009) were below the NAGD screening levels. However, the 95% UCL for manganese was 743.2mg/kg, which is above the QLD Contaminated Land Guidelines EIL for manganese of 500mg/kg (EPA 1998).

A small number of arsenic, copper and nickel sample values demonstrated values slightly above the NAGD screening levels; however, none of these exceedances were recorded at levels greater than their respective NAGD high levels. Manganese, however, was recorded within nine samples at concentrations above the guideline value of 500mg/kg, which is discussed further below.

Metals with no NAGD screening level values (i.e. aluminium, iron, cobalt, manganese, selenium and vanadium) were compared against the locally derived reference values and terrestrial background values. While there were exceedances over the PCIMP EH values, comparison to other background investigations in Port Curtis, such as Angel et al. (2012), GHD (2009) and Anastasi and Wilson (2010), indicated that a number of metals were naturally elevated within Port Curtis.

No discussion has been presented for antimony as no concentrations were reported above the NAGD (2009) PQL.

3.2.1.1 Aluminium

Guideline values

No NAGD screening level values are available for aluminium and as such, a comparison against locally derived reference values was conducted.

Locally derived reference values

Aluminium was reported over the laboratory LOR within each of the 56 samples collected, with a minimum concentration of 3,080mg/kg at EB34 (0.5m to 1.0m) and a maximum concentration of 29,200mg/kg within EB2 at a depth of 0.5m to 0.85m.

When the results for aluminium are compared with the PCIMP EH value, 27 of the 56 samples recorded concentrations above the PCIMP EH value and the 95% UCL was 15,731mg/kg, slightly above the PCIMP EH value of 15,000mg/kg but substantially below the PCIMP WCS value of 150,000mg/kg.

Previous sediment investigations in Port Curtis recorded median aluminium concentrations of 8,770mg/kg (Angel et al. 2012) and 8,190mg/kg (GHD 2009). The median aluminium concentration recorded at East Banks Expansion DMPA (13,150mg/kg) is greater than these background values.

However, the 95% UCL for this investigation was within the background ranges for aluminium from both Angel et al. 2012 and GHD 2009 investigations, although the maximum concentration recorded for this investigation (29,200mg/kg) was above these background ranges.

Elevated concentrations of aluminium appear to be widespread across East Banks Expansion DMPA and throughout the depth profile of the sediments, indicating that aluminium is naturally occurring in Port Curtis.

3.2.1.2 Iron

Guideline values

No NAGD screening level values are available for iron and as such, a comparison against locally derived reference values was conducted.

Locally derived reference values

Iron was reported over the laboratory LOR within each of the 56 samples collected with a minimum concentration of 8,040mg/kg within EB34 at a depth of 0.5m to 1.0m and a maximum concentration of 43,900mg/kg within EB2 at a depth of 0.5m to 0.85m.

When the results for iron are compared with the PCIMP EH value, 31 of the 56 samples reported above the PCIMP EH value and the 95% UCL was 26,414mg/kg, above the PCIMP EH value of 21,000mg/kg but substantially below the PCIMP WCS value of 210,000mg/kg.

Previous sediment investigations in Port Curtis recorded median iron concentrations of 17,450mg/kg (Angel et al. 2012) and 20,900mg/kg (GHD 2009). The median iron concentration recorded at East Banks Expansion DMPA (24,600mg/kg) is greater than these background values.

Iron concentrations in all samples at East Banks Expansion DMPA were within the background range for iron in Port Curtis derived by Angel et al. (2012) (4,970-62,600mg/kg) and recorded during the WBDDP (560-76,000mg/kg) (GHD 2009).

The distribution of iron in Port Curtis appears similar to that of aluminium, with elevated concentrations of iron widespread across East Banks Expansion DMPA and throughout the depth profile of the sediments.

3.2.1.3 Arsenic

Guideline values

Arsenic was recorded above the PQL within each of the 56 samples collected, with three of the samples reporting concentrations above the NAGD screening level of 20mg/kg. The minimum concentration reported was 2.4mg/kg within EB32 at a depth of 0.5m to 1.0m and the highest concentration was 33mg/kg from EB21 at a depth of 0.0m to 0.5m. No concentrations were recorded over the NAGD high level and the 95% UCL reported a value of 11.48mg/kg, which is well below the NAGD screening level value.

Arsenic has previously been demonstrated to occur naturally within Port Curtis at concentrations very close to ANZECC ISQG-low guidelines. Vicente-Beckett et al. (2006) showed via multivariate analyses that the concentrations of arsenic (as well as nickel and chromium) in the Port Curtis region are at natural background levels which are very close to the ANZECC ISQG-low guidelines.

The widespread occurrence of arsenic in local sediments is consistent with the local geological formations surrounding Port Curtis. Arsenic is common in marine mudstones (Doonside and Wandilla Formations) where it substitutes for sulfur in the mineral pyrite, and in mineralised sequences surrounding granite intrusions (Mount Larcom area). The arsenic is often locked into framboidal pyrite structures where it remains immobilised until exposed to weathering. Examination of the arsenic exceedances in a stratigraphic context has found that a strong association exists between the metalloid and distribution leading to accretion of transported sediments from weathered localised sources. These sources appear to be either sub-marine basement material underlying substrate highs, or a landward origin, such as an early reworking of adjacent surface soils.

Locally derived reference values

Given the 95% UCL for arsenic was below the NAGD (2009) screening level value, a comparison against locally derived reference values was not required.

3.2.1.4 Cadmium

Guideline values

Only three samples demonstrated levels of cadmium over the NAGD PQL with the maximum concentration only 0.3mg/kg, recorded from EB6 at a depth of 0.5m to 1.0m. As such, the maximum of 0.3mg/kg is utilised rather than calculating a 95% UCL. This concentration is well below the NAGD (2009) screening level of 1.5mg/kg and NAGD high value of 10mg/kg.

Locally derived reference values

Given cadmium was below the NAGD (2009) screening level value in all samples, a comparison against locally derived reference values was not required.

3.2.1.5 Chromium

Guideline values

Chromium was recorded above the NAGD PQL in all 56 samples with a minimum concentration of 7.8mg/kg from EB34 at a depth of 0.5m to 1.0m and maximum concentration of 34mg/kg from EB2 at a depth of 0.5m to 0.85m. No samples reported concentrations above the NAGD screening level of 80mg/kg and the 95% UCL for all depth samples of 21.36mg/kg was significantly lower than the NAGD screening level.

Locally derived reference values

Given chromium was below the NAGD (2009) screening level value in all samples, a comparison against locally derived reference values was not required.

3.2.1.6 Copper

Guideline values

Copper was recorded above the NAGD PQL in all 56 samples with one sample at EB22 (0.0m to 0.5m) exceeding the NAGD screening level of 65mg/kg (reporting a value of 79.5mg/kg). The 95% UCL of 31.5mg/kg is however significantly below the NAGD screening level.

Locally derived reference values

Given the 95% UCL for copper was below the NAGD (2009) screening level value, a comparison against locally derived reference values was not required.

3.2.1.7 Cobalt

Guideline values

No NAGD screening level values are available for cobalt and as such, a comparison against locally derived reference values was conducted.

Locally derived reference values

Cobalt was recorded over laboratory LORs in all 56 samples, with 41 of the 56 samples reporting over the PCIMP EH value of 6.9mg/kg. The minimum concentration was 4mg/kg within EB8 at a depth of 0.0m to 0.5m and the maximum concentration was 47.4mg/kg from EB14 at a depth of 0.5m to 1.0m.

The 95% UCL was 12.21mg/kg which is nearly twice that of the PCIMP EH value but well below the PCIMP WCS value of 69mg/kg.

The 95% UCL for cobalt (12.21mg/kg) was within the background range in Port Curtis, as recorded by Angel et al. (2012) and during the WBDDP (GHD 2009). In addition, the median concentration for cobalt at East Banks Expansion DMPA (9.9mg/kg) is equal to the medians from both Angel et al. (2012) and GHD (2009).

Terrestrial background values

The cobalt concentrations in all samples are within the terrestrial background values, which range from 2 to 170mg/kg (EPA 1998) and the median concentration is similar to the average abundance of cobalt in soil, as determined by AusIMM (2011).

3.2.1.8 Lead

Guideline values

Lead was recorded in all 56 samples above the NAGD PQL. No samples were recorded above the NAGD screening level of 50mg/kg and the maximum concentration recorded was 14.9mg/kg, sampled from EB14 (0.5m to 1.0m), which is well below the NAGD screening level (as was the 95% UCL of 9.55mg/kg).

Locally derived reference values

Given lead was below the NAGD (2009) screening level value in all samples, a comparison against locally derived reference values was not required.

3.2.1.9 Manganese

Guideline values

No NAGD screening level values are available for manganese and as such, a comparison against locally derived reference values and terrestrial background values was conducted.

Locally derived reference values

Manganese was reported above the NAGD PQL in all 56 samples at East Banks Expansion DMPA with a minimum concentration of 94mg/kg from EB8 at a depth of 0.5m to 1.0m and a maximum concentration of 3,510mg/kg from EB1 at a depth of 0.5m to 1.0m.

Angel et al. (2010) investigated dissolved metal levels in Port Curtis, including manganese and concluded that nickel and manganese are likely to be released by natural processes such as reduction of manganese (hydr)oxides and leaching by the lower sediment and water pH. Anastasi and Wilson (2010) also examined Port Curtis as a case study in reviewing manganese in subtropical estuaries and stated that recorded naturally occurring manganese concentrations have been recorded in marine sediments with values up to 9,000mg/kg.

Previous sediment investigations in Port Curtis recorded median manganese concentrations of 382.5mg/kg (Angel et al. 2012) and 298mg/kg (GHD 2009a). In addition, concentrations of manganese in the sediments of Port Curtis derived by Angel et al. (2012) and during the WBDDP (GHD 2009) were recorded up to 1,330mg/kg and 7,680mg/kg, respectively.

The median manganese concentration recorded at East Banks Expansion DMPA was 280.5mg/kg, which is below the corresponding median concentrations determined during the previous investigation by Angel et al. (2012) and during the WBDDP (GHD 2009).

The 95% UCL for manganese at East Banks Expansion DMPA was 743.2mg/kg, which is consistent with background concentrations identified in previous investigations within Port Curtis.

Manganese is the twelfth most abundant element in the Earth's crust with among 300 minerals containing manganese and the two main manganese minerals being pyrolusite (MnO_2) and rhodochrosite ($MnCO_3$). It is an essential element and is required by mammals and birds for normal growth. High concentrations of manganese may occur under anoxic (absence of oxygen) conditions such as the bottom of deep reservoirs or lakes, or in groundwater.

There are six separate areas of manganese mineralisation located within the Gladstone area with the most significant of which being the historic Mount Millar manganese mine which opened in 1895 and operated intermittently until 1916 and then from 1958 to 1960. Exploration permits are currently active within the Gladstone area (Genesis Resources Ltd 2010) examining the viability of several northwest striking manganese ore deposits within the Doonside Formation approximately 15km west of Gladstone. The deposits occur as structurally controlled lenses parallel to bedding in the enclosing sediments.

Manganese was historically mined from 1882 to 1900 at Auckland Hill, adjacent to Port Curtis (GPC 2012). The rocky face of Auckland Hill is a remnant of this manganese mining and quarrying.

Terrestrial background values

Manganese is not specified within the NAGD (2009) guidelines but is included within the EPA Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland (1998). As such, the manganese EIL of 500mg/kg has been utilised in order to report the levels contained within seabed sediments. Manganese was reported at concentrations over the 500mg/kg EIL within nine samples at East Banks Expansion DMPA. The 95% UCL value of 743.2mg/kg was above the QLD Contaminated Land Guideline EIL of 500mg/kg (EPA 1998).

Background levels provided by the EPA Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland (1998) ranged from 4 to 12,600mg/kg, indicating a large abundance of manganese in Queensland soils.

The AusIMM (2011), *Field Geologist's Manual,* Fifth Edition, provides background ranges for various metals and metalloids in Australia, with an average abundance of 850mg/kg for manganese observed in Australian soils. The 95% UCL for manganese (743.2mg/kg) was below this background value and within the range provided by the EPA (1998).

While the sediments did report a 95% UCL higher than the 500mg/kg EIL, these are likely to be naturally occurring and in line with levels previously reported within the Port Curtis area in previous studies.

3.2.1.10 Nickel

Guideline values

Nickel was recorded over the NAGD PQL for all 56 samples collected with four samples reporting concentrations at or above the NAGD screening level of 21mg/kg with a maximum concentration of 25.8mg/kg from EB2 at a depth of 0.5m to 0.85m. The 95% UCL for nickel was 13.4mg/kg, which is well below the NAGD screening level.

Locally derived reference values

Given the 95% UCL for nickel was below the NAGD (2009) screening level value, a comparison against locally derived reference values was not required.

3.2.1.11 Selenium

Guideline values

No NAGD screening level values are available for selenium and as such, a comparison against locally derived reference values was conducted.

Locally derived reference values

Selenium reported detection above the laboratory LOR for all 56 samples, with seven of these samples reporting concentrations over the PCIMP EH value of 1.0mg/kg (with a maximum concentration of 2.7mg/kg from EB34 from a depth of 0.0m to 0.5m). The 95% UCL was only slightly above the PCIMP EH value at 1.07mg/kg and significantly below the PCIMP WCS value of 10mg/kg.

In addition, sediment investigations during the WBDDP recorded concentrations of selenium ranging from 0.1-5.4mg/kg with a median concentration of 0.4mg/kg (GHD 2009). These results are similar to concentrations from East Banks Expansion DMPA, which recorded a median concentration of 0.6mg/kg.

3.2.1.12 Silver

Guideline values

Silver was detected above the NAGD PQL within five of the 56 samples. No samples were however recorded above the NAGD screening level of 1mg/kg and the maximum concentration was 0.3mg/kg from EB22 at a depth of 0.0m to 0.5m.

Locally derived reference values
Given silver was below the NAGD (2009) screening level value in all samples, a comparison against locally derived reference values was not required.

3.2.1.13 Vanadium

Guideline values
No NAGD screening level values are available for vanadium and as such, a comparison against locally derived reference values and terrestrial background values was conducted.

Locally derived reference values
Vanadium was detected above the laboratory LOR in all 56 samples, with 34 of the samples reporting values above the PCIMP EH value of 40mg/kg (with a maximum concentration of 113mg/kg from EB2 at a depth of 0.5m to 0.85m). The 95% UCL was calculated at 58.32mg/kg which is above the PCIMP EH value but well below the PCIMP WCS value of 400mg/kg.

Angel et al. (2012) identified vanadium concentrations in sediments of Port Curtis ranging from 11 to 114mg/kg while vanadium concentrations in sediments ranged from 5.6 to 287mg/kg during the WBDDP (GHD 2009). The vanadium concentrations identified at East Banks Expansion DMPA had a very similar range with a median concentration of 52.9mg/kg and a 95% UCL of 58.32mg/kg, both within the background range, indicating that vanadium is naturally occurring in Port Curtis.

Terrestrial background values
In addition, AusIMM (2011) provides an average abundance value of 100mg/kg for vanadium as observed in Australian soils. The 95% UCL for vanadium (58.32mg/kg) at East Banks Expansion DMPA is well below this value.

3.2.1.14 Zinc

Guideline values
Zinc was recorded above the NAGD PQL in all of the 56 samples collected and no exceedances were recorded over the NAGD screening level of 200mg/kg with a maximum concentration of 76.3mg/kg from EB14 at a depth 0.5m to 1.0m.

Locally derived reference values
Given zinc was below the NAGD (2009) screening level value in all samples, a comparison against locally derived reference values was not required.

3.2.1.15 Mercury

Guideline values
Mercury was recorded in 27 of the 56 samples at levels over the NAGD PQL. No exceedances however were recorded over the NAGD screening level of 0.15mg/kg with a maximum concentration of 0.03mg/kg from EB14 at a depth of 0.5m to 1.0m.

Locally derived reference values
Given mercury was below the NAGD (2009) screening level value in all samples, a comparison against locally derived reference values was not required.

3.2.2 Organics and BTEX

No polychlorinated biphenyl (PCB), organochlorine pesticide (OCP) and organophosphate pesticide (OPP) concentrations were detected with all samples tested reporting below the laboratory LORs (and hence below guideline levels) for these contaminants.

One of the 56 samples analysed reported the sum of (11) polycyclic aromatic hydrocarbons (PAHs) above the laboratory LOR. This sample reported a concentration of 14µg/kg made up of phenanthrene, fluoranthene and pyrene, and was sampled from EB32 at a depth of 0.7m. This concentration is considerably below the NAGD screening level of 10,000µg/kg.

No total recoverable hydrocarbon (TRH) C_6-C_{10} fraction concentrations were detected although approximately half the samples recorded concentrations of the >C_{10}-C_{40} fraction above the NAGD PQL (29 values of 56 samples analysed). When adjusted to 1.0% TOC, maximum concentration was 140mg/kg from EB2 at a depth of 0.5m to 0.85m with a 95% UCL of 37.89mg/kg which is well below the NAGD screening level of 550mg/kg and the proposed Simpson et al. (2013) revised screening level of 280mg/kg.

A small number of samples (10 samples from 56 samples) recorded total petroleum hydrocarbon (TPH) concentrations over the LOR with the maximum concentration recorded being 160mg/kg (adjusted to 1.0% TOC) from EB2 (0.5m to 0.85m) with the 95% UCL being 29.51mg/kg (adjusted to 1.0% TOC). Benzene, toluene, ethylbenzene and xylene (BTEX) was not detected above the laboratory LOR in any of the samples collected.

3.2.3 Organotins

No samples reported a concentration of tributyltin above the NAGD PQL of 1.0µg Sn/kg.

3.2.4 Nutrients and total organic carbon

No trigger limits exist for TOC and nutrients in sediments within the NAGD (2009) guidelines although the PCIMP has set EH values derived from the 95th percentile of background data collected during the PCIMP monitoring with WCS values being set at 10 times the PCIMP EH values. The PCIMP EH and WCS values set for ammonia as N are 15mg/kg and 150mg/kg respectively.

Simpson et al. (2013) (unpublished) provides revised sediment quality values, with a proposed screening level of 4.0mg/kg for ammonia.

All 56 samples analysed for ammonia as N were recorded above the NAGD PQL of 0.1mg/kg, however there were no exceedances of the PCIMP EH 15mg/kg recorded. The Simpson et al. (2013) screening levels were exceeded in two samples with a maximum concentration of 4.8mg/kg from EB28 at a depth of 0.0m to 0.4m. However, the 95% UCL for ammonia was 1.583mg/kg, which is below the Simpson et al. (2013) screening level.

Sediment total ammonia as N concentrations have been found to be generally higher at locations within Port Curtis with higher TOC and silt/clay content, compared to sites characterised by coarser material. The 95% UCLs for TOC and ammonia as N were 0.15% and 1.58mg/kg, respectively. It was very difficult to characterise a general sediment type at this site as the samples varied with half the samples comprising of fine sediments and the other half comprising of sand, cobble and gravel mix sediments.

3.2.5 Dioxins

Guideline values

NAGD (2009) does not provide screening levels for dioxins.

Minimal sampling for dioxins levels has been undertaken previously within Port Curtis, with virtually no samples undertaken within the shipping channels. As such, 22 samples were taken throughout Port Curtis as part of the sediment characterisation for the Project, with five samples collected from East Banks Expansion DMPA (refer Figure 3.5). Results are discussed for all of the samples undertaken, as there was no significant difference between results when analysed for the five samples as opposed to the full 22 samples. As a result, the full 22 dioxin samples were utilised to strengthen the analysis.

The summary dioxin results are:

- Median: 0.355pg TEQ/g
- Maximum: 2.89pg TEQ/g
- Minimum: 0.04pg TEQ/g.

Canadian sediment quality guidelines provide for dioxins in marine environments by adopting the freshwater ISQGs and probably effect levels (PELs). This is due to a paucity of data for the marine environment (Canadian Council of Ministers of the Environment (CCME) 1999). As a result, any comparison against these levels should be considered indicative only.

The Canadian ISQGs represent the concentration below which adverse biological effects are expected to rarely occur while PELs are the concentration above which adverse effects are expected to frequently occur. The Canadian ISQG value for dioxins is 0.85pg TEQ/g while the PEL is 21.5pg TEQ/g (CCME 1999).

All dioxin concentrations recorded during the investigation are significantly below the PEL, while the median concentration is below the ISQG, indicating that dioxins within the sediments of Port Curtis are unlikely to result in adverse biological effects.

Locally derived reference values

The National Dioxins Program (Müller et al. 2004) has investigated the levels of dioxins around Australia by reporting the concentrations of dioxins and dioxin-like chemicals. Dioxins often occur as complex mixtures and exert their toxicity by the same mechanism, the concept of toxic equivalents. This concept allows the concentration or mass of each dioxin in a complex mix to be connected to an equivalent mass of the most toxic dioxin – 2,3,7,8 tetrachlorodibenzo-p-dioxin (TCDD) by using a set of toxic equivalency factors (TEFs) which rate the toxicity of the various dioxins against TCDD. The equivalent TCDD concentrations are then summed (∑) to estimate the concentration of mixture of dioxins as a TCDD equivalent concentration (called ∑TEQ).

EHP undertook dioxin sampling across 31 sites within Port Curtis and related waterways in early 2012 whilst investigating the sediment quality of Port Curtis and its tributaries. Many dioxins were detected and these detection values were compared with dioxin concentrations from the National Dioxins Program using toxic equivalence values (∑TEQ). The ∑TEQ values were found to be typical of those recorded throughout Australia for aquatic sediments adjacent to urban/industrial environments and the values were considered typical of estuaries in Australia.

In order to place this investigation in context and compare with the Müller et al. (2004) study and the EHP (2012) Port Curtis results, the World Health Organization (WHO) TEF calculated using zero for not detected dioxins was utilised. As noted within EHP (2012) Port Curtis report, an exact comparison cannot be made as the WHO has made some minor changes since the National Dioxins Program. A comparison of dioxins ∑TEQ values using the same TEFs cannot be made as the raw data from the National Dioxins Program are not available.

The Port Curtis study (EHP 2012) adapted two Müller et al. (2004) box plot figures and compared these against their own results. Müller et al. (2004) provides an explanation for interpretation of the box plots. When dioxin results from the Project geochemical investigation are compared with both of these previous studies (refer Figure 3.6), it can be seen that the results for this study for the sum of dioxin equivalent on a dry weight basis (reported as WHO-TEQ_{zero}) fall between the concentrations shown for agriculture and urban/industrial sediments, and appear different from the results reported from the Port Curtis investigation (EHP 2012).

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EB1	0.0 - 0.5 m
ΣTEQ	0.58

EB6	0.0 - 0.5 m
ΣTEQ	2.89

EB11	0.0 - 0.5 m
ΣTEQ	0.16

EB28	0.0 - 0.5 m
ΣTEQ	1.14

EB24	0.0 - 0.5 m
ΣTEQ	0.12

Legend

- Boreholes where dioxins were sampled
- Other Sampling Locations
- Dredged Material Placement Areas
- Great Barrier Reef Marine Park Boundary
- Port of Gladstone Port Limits
- Existing Shipping Channels
- Proposed Channel Duplication Project Extent
- East Banks DMPA

Note:
ΣTEQ: sum of dioxin equivalent concentrations dry weight.

EB1 EB2 EB3 EB4 EB5 EB6 EB7 EB8 EB9 EB10 EB11 EB12 EB13 EB14 EB15 EB16 EB17 EB18 EB19 EB20 EB21 EB22 EB23 EB24 EB25 EB26 EB27 EB28 EB29 EB30 EB31 EB32 EB33 EB34 EB35 EB36

East Banks DMPA

Source:
Aerial: GPC, 2015 and DigitalGlobe Web Map Service, 2013.

Map by: RB
P:\GIS\Projects\237374_GPC_Channel_Duplication_EIS\237374_GPC_Geochem_Dioxins_Concentrations_in_East_Banks.mxd 26/11/2015 09:50

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Date: 26/11/2015 Version: 4 Job No: 237374
Coordinate system: GDA_1994_MGA_Zone_56

Figure 3.5: Dioxin concentrations within East Banks Expansion DMPA

When the sum of dioxin and furan concentrations on a dry weight basis are compared against sediments from freshwater, estuarine and marine environments, and the previous Port Curtis study (refer Figure 3.7), the results fall between the estuarine and marine sediments and appear to be more similar to the marine values. This is in contrast to the previous Port Curtis study (EHP 2012), which appeared more similar to the estuarine sediments in terms of group total dioxin levels. This is likely due to the exposed outer harbour channel sediments in this investigation being more consistent with open marine sediments as opposed to the previous Port Curtis study, which included many of the upper tributaries and sheltered waters of Port Curtis with very few samples within the deeper exposed outer harbour channels.

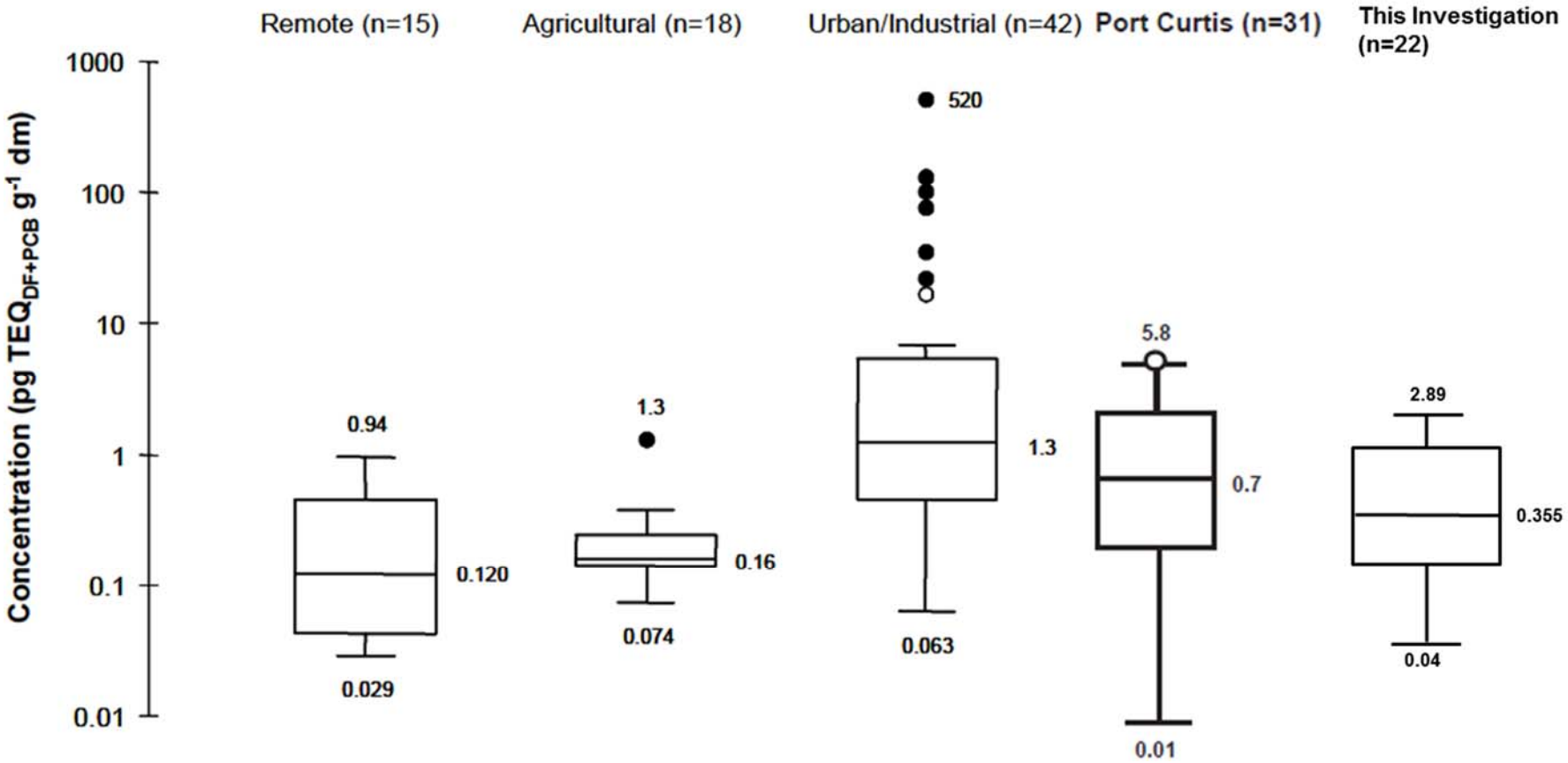

Figure 3.6 Box plot figures showing WHO-TEF values (calculated using zero for not detected dioxins)

Figure note: The first three box plots (remote, agriculture and urban/industrial) are adapted from the National Dioxins Program (Müller et al. 2004). The box plot labelled Port Curtis is taken from the EHP (2012) Port Curtis Study and the final boxplot illustrates the dioxin results across Port Curtis reported during this investigation. For interpretation of the box plots, refer to the National Dioxins Program (Müller et al. 2004).

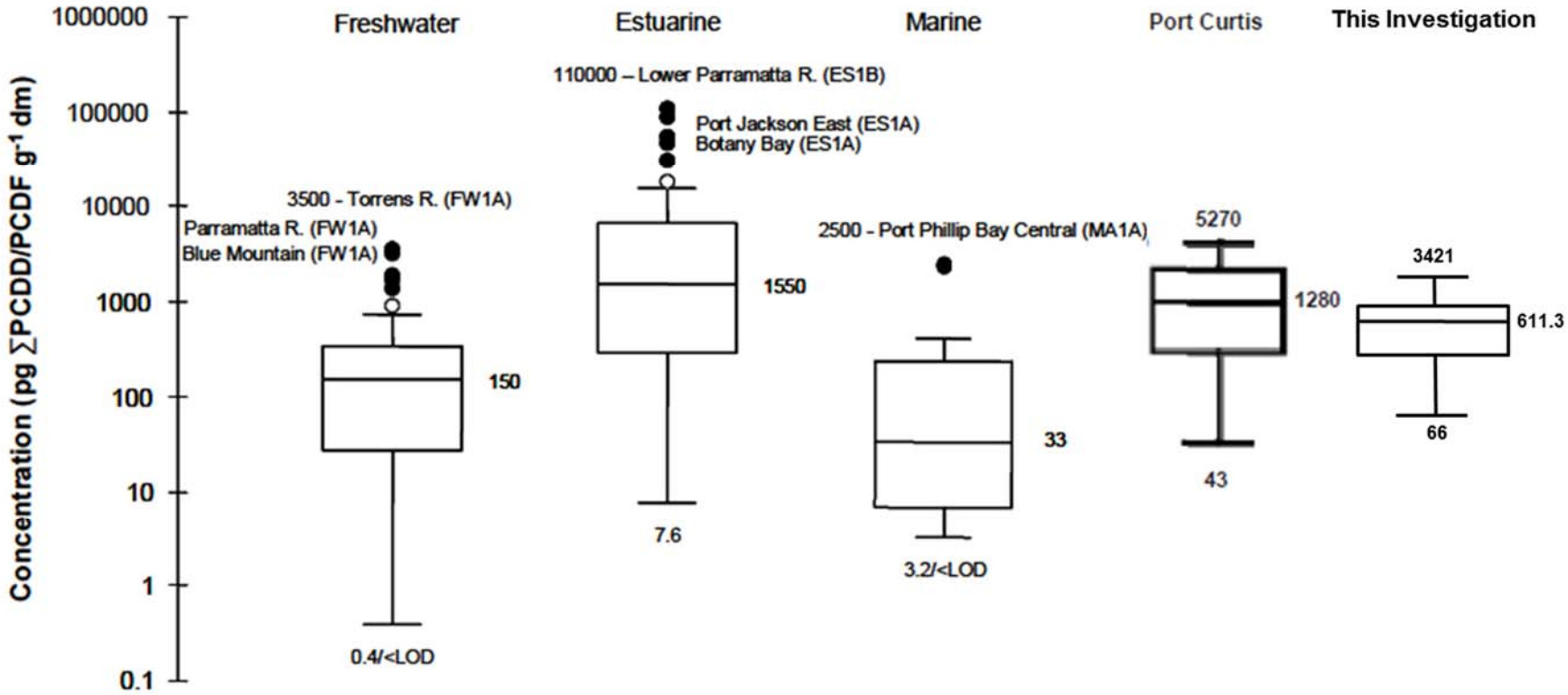

Figure 3.7 Box plot figures showing dioxin Group Total Concentrations pg/g

Figure note: The first three box plots (freshwater, estuarine and marine) are adapted from the National Dioxins Program (Müller et al. 2004). The box plot labelled Port Curtis is taken from the EHP (2012) Port Curtis Study and the final boxplot illustrates the dioxin results across Port Curtis reported during this investigation. For interpretation of the box plots, refer to the National Dioxins Program (Müller et al. 2004).

3.3 Particle size distribution

Particle size distribution (PSD) was analysed at 34 of the boreholes within East Banks Expansion DMPA, generally from the top 0.5m of sediment and from 0.5m to 1.0m where practicable.

The sediments within East Banks Expansion DMPA varied in texture with half the samples containing predominately fine material and the other half containing predominately coarse material. In addition, approximately 11.3% of samples collected were very coarse in texture, with combined sand, gravel and cobble proportion of over 90% while another 11.3% of samples contained over 90% of fines (i.e. clays and silts). These proportions do not significantly change with depth.

Figures 3.8 and 3.9 illustrate the PSD results across East Banks Expansion DMPA.

Table 3.2 outlines the PSD for the proposed East Banks Expansion DMPA, indicating that sand is the major component of the sediment (48.0%), although this is followed by clay (28.3%) and silt (20.0%).

Table 3.2 Summary of PSD results for East Banks Expansion DMPA

Statistics	Clay (<2 µm)	Silt (2-60 µm)	Sand (0.06-2mm)	Gravel (>2mm)	Cobbles (>6cm)
Minimum	2	<1	3	<1	<1
Mean	28.3	20	48.0	3.7	<1
Maximum	69	53	95	24	<1

All PSD laboratory results are included in Appendix G.

3.4 Acid sulfate soils

3.4.1 General

The full NATA certified laboratory report is provided in Appendix D while a summary of the results are provided in Appendix H.

The sections below discuss the ASS results and determine the likelihood of actual acid sulfate soils (AASS) and potential acid sulfate soils (PASS) being present in the sediment at East Banks Expansion DMPA.

The action criteria for ASS, as specified by Ahern et al. (1998) where more than 1,000 tonnes (t) of sediment is to be disturbed, is as follows:

- Sulfur trail 0.03% S
- Acidity trail 18 mole H+/t.

3.4.2 Field testing

3.4.2.1 Screening criteria

For reasons of practicality and the avoidance of transporting and using oxidising chemicals on board the vessel, the pH tests were conducted by the primary laboratory. The primary laboratory utilised two different methods for obtaining pH measurements depending on if the pH tests were stand-alone or part of the SPOCAS suite. The same pH results are achieved, regardless of the method utilised.

A typical value that may indicate the presence of AASS includes:

- A pH_F/pH_{KCL} value of 4 or less.

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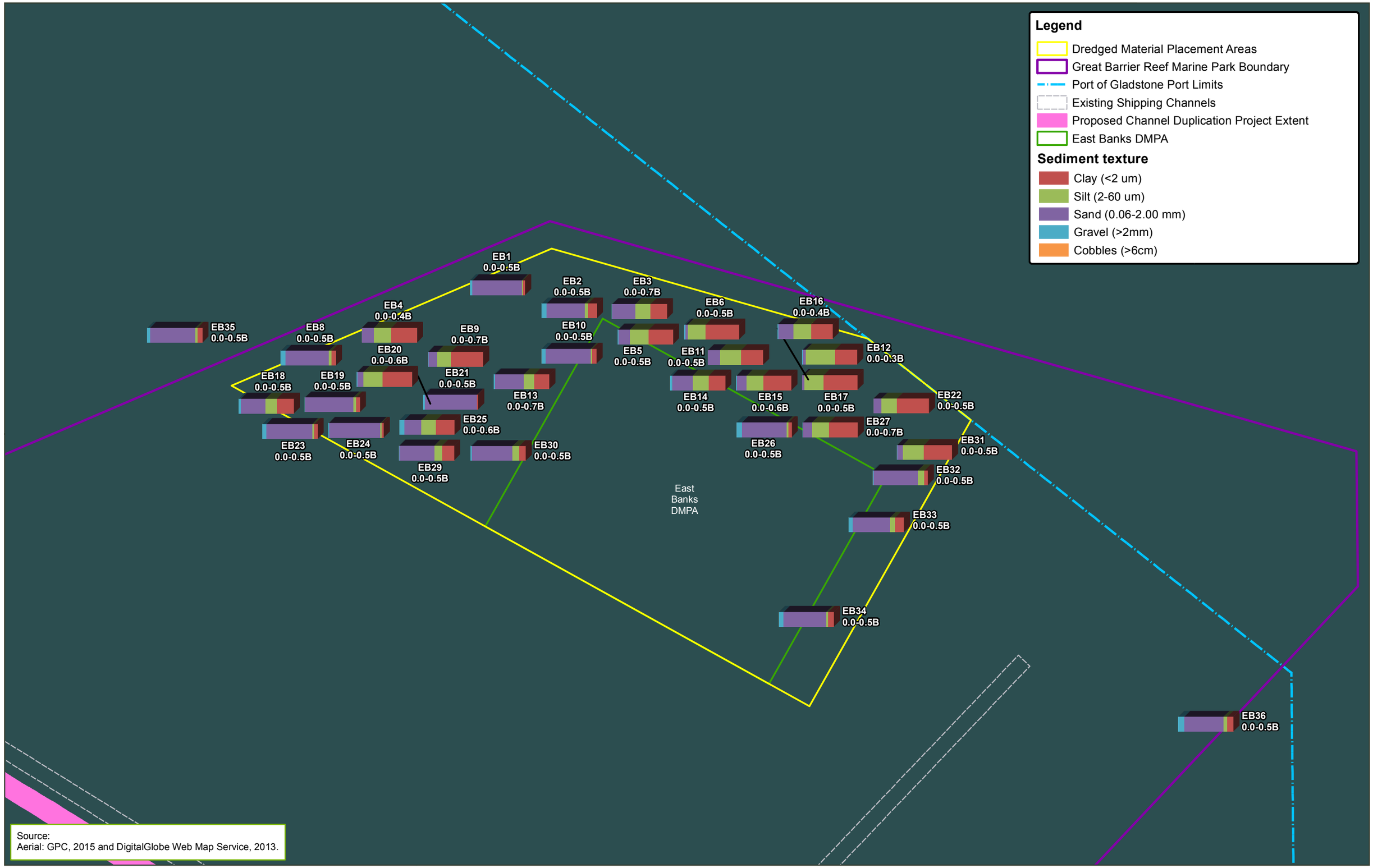

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Coordinate system: GDA_1994_MGA_Zone_56

Figure 3.8: Particle Size Distribution (shallow sediments) – East Banks Expansion DMPA

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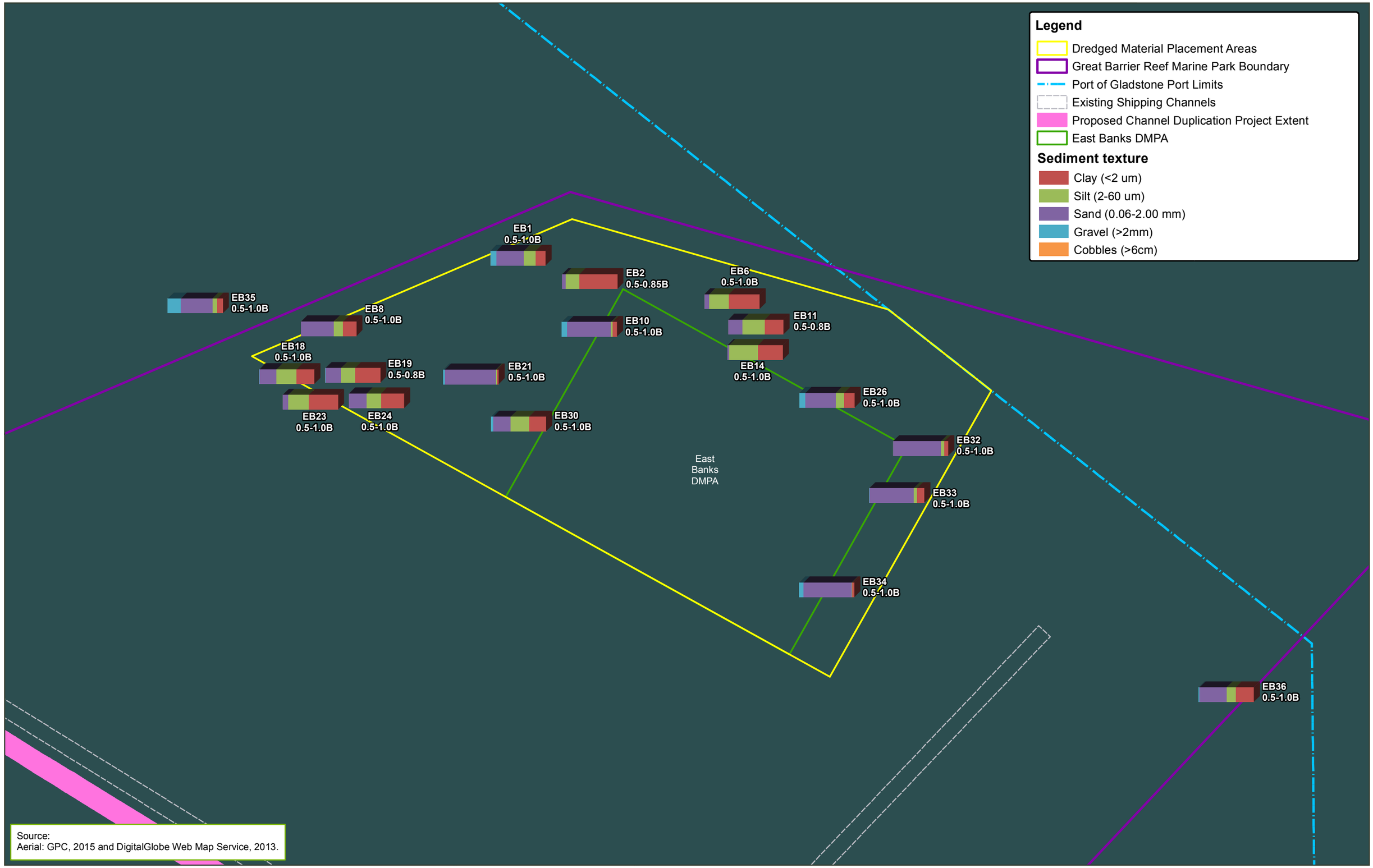

Map by: Moore NK/RB\GIS\Projects\237374_GPC_Channel_Duplication_EIS\237374_GPC_Geochem2_10.mxd 26/11/2015 10:10

0 500 1,000 Metres

Date: 26/11/2015 Version: 5 Job No: 237374

Coordinate system: GDA_1994_MGA_Zone_56

Figure 3.9: Particle Size Distribution (deeper sediments) – East Banks Expansion DMPA

Values that indicate the presence of PASS may include:

- A pH_{FOX}/pH_{OX} value of 4 or less
- A ΔpH greater than 2 (from pH_F to pH_{FOX} and pH_{KCL} to pH_{OX})
- To a much lesser extent, a 'vigorous' observed reaction rate.

3.4.2.2 Field and laboratory pH results

The pH test results provide an indication of the presence or absence of ASS in the sediment profile. The pH testing was conducted on each core, typically at 0.25m intervals along the core.

The pH tests were carried out on 143 sediment samples within East Banks Expansion DMPA. These tests were used to indicate the likelihood of sediment being non-ASS, AASS or PASS. The results of the pH testing are summarised as follows:

- The pH_F/pH_{KCL} values for all samples ranged from pH 6.2 to pH 10 indicating that AASS was not present at East Banks Expansion DMPA
- The results of the pH_{FOX}/pH_{OX} tests for all samples ranged from pH 2.0 to pH 10.2. The potential for the presence of PASS was identified at the following location:
  - EB26 0.75m: pH 2.0
- A drop in two or more pH units is considered potentially indicative of PASS presence in the sediment. This was observed in 25.9% of the sediment samples with a maximum drop in pH from EB26 0.75m.

Interpretation of the pH results indicated an absence of AASS across East Banks Expansion DMPA. PASS may be present in East Banks Expansion DMPA, given the drop in pH upon oxidation in a quarter of the samples.

3.4.3 SPOCAS results

The results for each component of the SPOCAS analysis methods are utilised as input into the acid base accounting, which is used to calculate the net acidity.

The acid base accounting takes into consideration the acid generating/neutralising capacity of the sediment in both its existing and disturbed states. It also includes consideration of potential for the sulfur material present in the sediment matrix to exchange with ions such as calcium and magnesium.

SPOCAS analysis was carried out on 91 sediment samples taken from within East Banks Expansion DMPA.

3.4.3.1 Acidity trail

The acidity trail component of the SPOCAS analysis is comprised of the following analytical methods:

- Titratable actual acidity (TAA) 23F (mole H+/t)
- Titratable peroxide acidity (TPA) 23G (mole H+/t)
- Titratable sulfidic acidity (TSA) 23H (mole H+/t).

These analytical methods assist in quantifying the level of acidity present within the sediment.

TAA quantifies the amount of existing acid in the sediment as measured in mole H^+/t. The expression of existing acidity within the sediment is generally indicated by the measured pH. TAA was not detected (<2 mole H^+/t) in all the samples.

TPA quantifies the amount of acid that is likely to be generated in the sediment if oxidation were to occur (e.g. during or as a result of disturbance). TPA was not detected (<2 mole H^+/t) in all the samples.

TSA quantifies the amount of acid (existing or potential) within the sediment that is attributable to pyritic material, which indicates the presence/absence of ASS material. TSA was not detected (<2 mole H^+/t) in all the samples.

3.4.3.2 Sulfur trail

The sulfur trail component of the SPOCAS analysis is comprised of the following analysis methods:

- Potassium chloride extractable sulfur (S_{KCl}) 23C (%S)
- Peroxide sulfur (S_P) 23D (%S)
- Peroxide oxidisable sulfur (S_{POS}) 23E (%S)
- Acidity – peroxide oxidisable sulfur (a-S_{POS}) a-23E (mole H+/t).

These analytical methods assist in quantifying the level of extractable sulfidic material present within the sediment, which includes soluble and adsorbed sulfate as well as sulfate from gypsum. These results are utilised as input into the acid base accounting for calculating the net acidity within the sediment attributable to the sulfur content available through oxidation.

S_{POS} was not detected (<0.02%S) in 41.8% of the samples. The maximum value for S_{POS} was 0.43%S, detected in EB35 at a depth of 0.5m. Approximately 58.2% of the samples were above the action criteria (≥ 0.03%S) and were observed in boreholes throughout East Banks Expansion DMPA.

3.4.3.3 Calcium values analysis

The calcium values analysis is comprised of the following analysis methods:

- KCl extractable calcium (Ca_{KCl}) method 23Vh (%Ca)
- Peroxide calcium (Ca_P) method 23Wh (%Ca)
- Acid reacted calcium (Ca_A) method 23X (%Ca).

These analysis methods assist in quantifying the level of extractable calcium present within the sediment. These results are utilised as input into the calculation of the neutralising capacity within the sediment that is attributable to the presence of calcium.

Ca_{KCl} results give an indication of the calcium that is soluble and exchangeable within the sediment. Ca_P results are utilised to calculate the reacted calcium (Ca_A), which indicates the acid neutralising capacity within the sediment that is attributable to the presence of soluble and exchangeable calcium.

All samples submitted to the laboratory for SPOCAS analysis were analysed for the presence of soluble and exchangeable calcium to calculate the acid reacted calcium. Results for Ca_{KCL} ranged from 0.09%Ca in EB7 (1.0m) to a maximum of 0.28%Ca in EB14 (1.0m).

3.4.3.4 Magnesium values analysis

The magnesium values analysis is comprised of the following analysis methods:

- KCl extractable magnesium (Mg_{KCl}) method 23Sm (%Mg)
- Peroxide magnesium (Mg_P) method 23Tm (%Mg)
- Acid reacted magnesium (Mg_A) method 23U (%Mg).

These analysis methods assist in quantifying the level of extractable magnesium present within the sediment. These results are utilised as input into the calculation of the neutralising capacity within the sediment that is attributable to the presence of magnesium.

Mg_{KCl} results give an indication of the magnesium that is soluble and exchangeable within the sediment. Mg_P results are utilised to calculate the reacted magnesium (Mg_A), which indicates the acid neutralising capacity within the sediment that is attributable to the presence of soluble and exchangeable magnesium.

All samples submitted to the laboratory for SPOCAS analysis were analysed for the presence of soluble and exchangeable magnesium in order to calculate the acid reacted magnesium. Results for Mg_{KCL} ranged between 0.03%Mg at EB21 (0.0m) and EB24 (0.0m) and 0.17%Mg in EB9 at a depth of 0.5m.

3.4.3.5 Excess acid neutralising capacity

All samples submitted to the laboratory for SPOCAS analysis were analysed for excess acid neutralising capacity (ANC_E). Results for ANC_E ranged from 0.36% $CaCO_3$ in EB7 (1.0m) to 43.5% $CaCO_3$ in EB1 (0.5m), indicating that the sediment throughout East Banks Expansion DMPA possesses acid neutralising capacity.

3.4.3.6 Acid base accounting

The acid base accounting analysis component of the SPOCAS analysis is comprised of the following calculations:

- Acid neutralising capacity (ANC) fineness factor (1.5)
- Net acidity (sulfur units) (%S)
- Net acidity (acidity units) (mole H+/t)
- Liming rate (kg $CaCO_3$/t).

The results of these calculations provide the information required for the development of sediment management measures for the placement of dredged material within East Banks Expansion DMPA, should dredged material placement disturb sediment when placed.

Net acidity (sulfur units) results for samples analysed were all below the LOR (<0.02%S). Net acidity (acidity units) results for samples analysed were all below the LOR (<10 mole H^+/t).

Based on laboratory results for net acidity, it is considered that the sediments within East Banks Expansion DMPA do not contain AASS and are unlikely to contain PASS.

4 West Banks Island DMPA

4.1 General

Borehole logs for each of the sampling locations are presented in Appendix B and photographs of each of the cores collected are provided in Appendix C.

All laboratory results and laboratory QA/QC assessments are provided in Appendix D for the primary laboratory (ALS) and Appendix E for the secondary laboratory (Eurofins).

4.2 Geochemical

A statistical summary of the geochemical results, showing an assessment against relevant guideline values identified in Section 1.5.1, is provided in Table 4.1 and Appendix F. Analyte concentrations detected above the guideline values are highlighted in bold, along with the relevant assessment criteria. Where guideline values are not available, a comparison against locally derived reference values and terrestrial background values has been undertaken.

The distribution of the contaminants of concern (and observed exceedances) was ubiquitous throughout the sediment profile sampled and the spread was across the DMPA indicating that the metals are widespread and naturally occurring. The analytical results and any exceedances are discussed in the following sections.

Sampling locations where guideline values have been exceeded are illustrated in Figures 4.1 to 4.4.

Table 4.1 Summary of geochemical results for the West Banks Island DMPA compared with guideline values

Analytes (mg/kg)		Aluminium	Iron	Arsenic	Cadmium	Chromium	Copper	Cobalt	Lead	Manganese	Nickel	Selenium	Silver	Vanadium	Zinc	Mercury	Ammonia as N
Guideline values	PQL	50	50	1.0	0.1	1.0	1.0	0.5	1.0	10	1.0	0.1	0.1	2.0	1.0	0.01	0.2
	NAGD (2009) – screening level	-	-	**20**	1.5	80	**65**	-	50	-	**21**	-	1.0	-	200	0.15	-
	NAGD (2009) – high level	-	-	70	10	370	270	-	220	-	52	-	3.7	-	410	1.0	-
Locally derived reference values[4]	Anastasi and Wilson (2010)	-	-	-	-	-	-	-	-	29-8,960	-	-	-	-	-	-	-
	PCIMP EH value	15,000	21,000	-	-	-	-	6.9	-	260	-	1	-	40	-	-	15
	PCIMP WCS value	150,000	210,000	-	-	-	-	69	-	2,600	-	10	-	400	-	-	150
	Angel et al. (2012)	1,720-26,900 (8,770)	4,970-62,600 (17,450)	-	-	-	-	3-31 (10)	-	74-1,330 (382.5)	-	0.02-0.51 (0.135)	-	11-114 (40.5)	-	-	-
	WBDDP (GHD 2009)	530-20,600 (8,190)	560-76,000 (20,900)	-	-	-	-	0.5-77.4 (11.5)	-	10-7,680 (298)	-	0.1-5.4 (0.4)	-	5.6-287 (45.3)	-	-	-
Terrestrial background values	EPA (1998) EIL	-	-	-	-	-	-	-	-	500	-	-	-	-	-	-	-
	EPA (1998) background levels	-	-	-	-	-	-	2-170	-	4-12,600	-	-	-	-	-	-	-
	AusIMM (2011) average abundance	-	-	-	-	-	-	8.0	-	850	-	0.2	-	100	-	-	-
Samples collected		61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	54
Number of detects		61	61	61	1	61	61	61	61	61	61	61	5	61	61	4	54
Minimum		3,330	7,990	3.31	-	6.4	2.2	2.8	2.1	82	3.2	0.1	<0.1	17.8	11.3	<0.01	0.2
Maximum		17,400	34,900	**25.3**	0.8[2]	23.7	**66.1**	16.7	10.7	1,720	**23.4**	0.6	0.25	72.2	57.8	0.04	**20.3**
Mean		5,115	11,937	14.24	-	10.46	5.739	6.43	3.154	607	5.038	0.321	0.0836	29.84	16.38	0.006	3.639
Median		4,470	11,000	13.4	-	10	3	6.2	2.6	533	4.3	0.3	0.1	27.7	14.4	0.01	3.1
Standard deviation		2,336	4,438	5.06	-	3.012	10.44	1.869	1.632	355.5	3.116	0.0819	0.0711	9.256	7.563	0.005	3.116
95% UCL		5,614	12,886	15.33	0.8[2]	11.1	11.57	6.829	3.503	690.9	5.704	0.339	0.123	31.82	17.99	0.007	4.367
Number of exceedances[1, 3]		1	4	10	-	-	1	13	-	34	1	-	-	4	-	-	1

Table notes:
[1]Refers to exceedances over NAGD (2009) screening levels, the QLD contaminated land guideline value (EPA 1998) or the PCIMP (2011) EH values
[2]One detection only over NAGD PQL so the value of 0.8mg/kg has been utilised rather than calculating 95% UCL
[3]The distribution of the contaminants of concern (and observed exceedances) was ubiquitous throughout the sediment profile sampled and the spread was across the DMPA indicating that the metals are widespread and naturally occurring
Values in brackets are the median value
Bold indicates an exceedance of the corresponding guidance value

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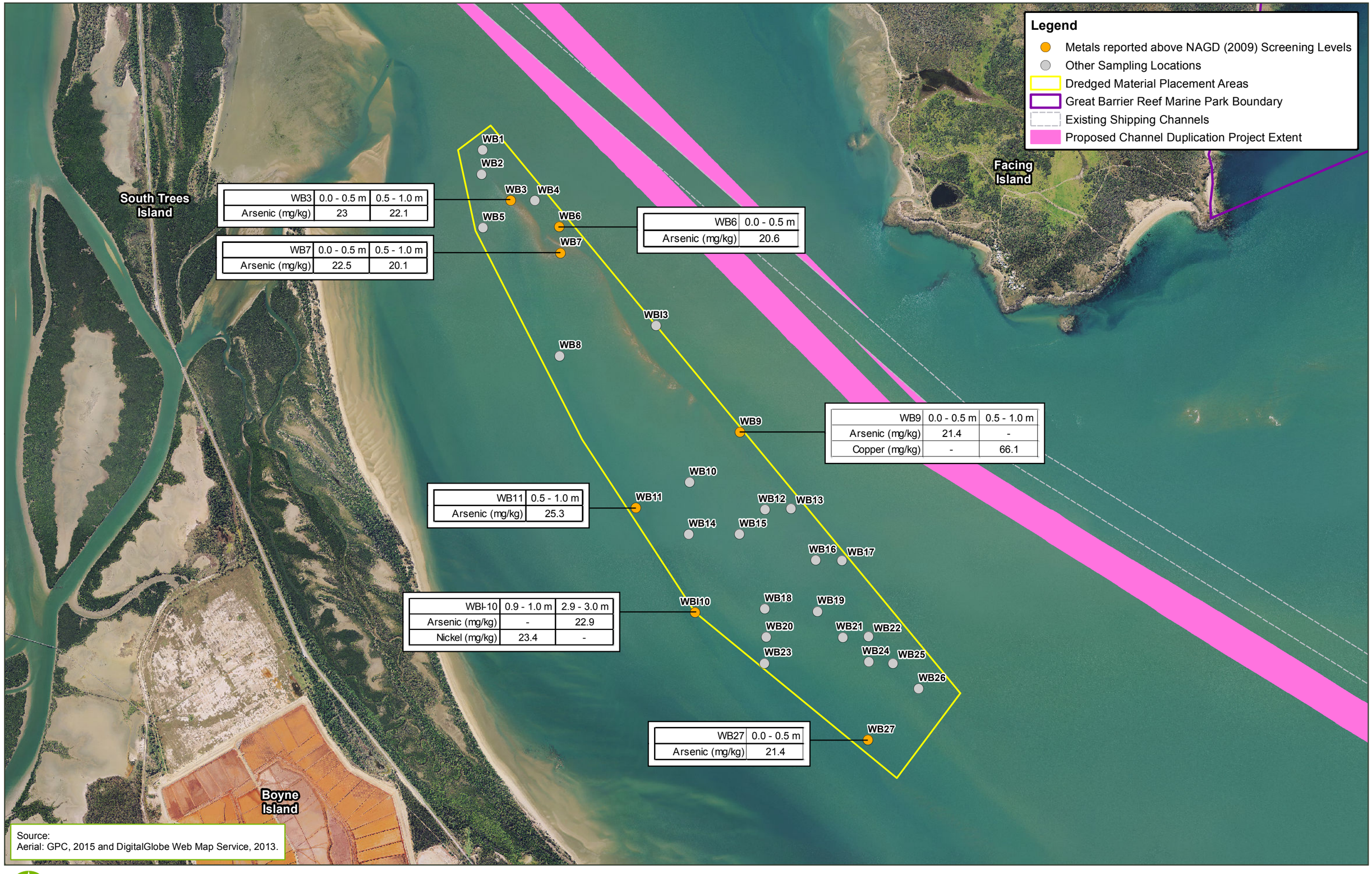

Map by: RB P:\GIS\Projects\237374_GPC_Channel_Duplication_EIS\237374_GPC_Geochem_Heavy_Metal_Exceedances_in_West_Banks.mxd 26/11/2015 09:58

0 320 640 Metres

Date: 26/11/2015 Version: 3 Job No: 237374

Coordinate system: GDA_1994_MGA_Zone_56

Sediment Characterisation Plan Implementation Report (DMPAs)

Figure 4.1: Metals reported above NAGD (2009) screening levels within West Banks Island DMPA

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Legend

- Aluminium concentrations above PCIMP Ecosystem Health value (15,000 mg/kg)
- Iron concentrations above PCIMP Ecosystem Health value (21,000 mg/kg)
- Boreholes without elevated aluminium and iron concentrations
- Dredged Material Placement Areas
- Great Barrier Reef Marine Park boundary
- Existing Shipping Channels
- Proposed Channel Duplication Project Extent

South Trees Island

Facing Island

Boyne Island

WB1 WB2 WB3 WB4 WB5 WB6 WB7 WBI3 WB8 WB9 WB10 WB11 WB12 WB13 WB14 WB15 WB16 WB17 WBI10 WB18 WB19 WB20 WB21 WB22 WB23 WB24 WB25 WB26 WB27

Source:
Aerial: GPC, 2015 and DigitalGlobe Web Map Service, 2013.

Map by: RB P:\GIS\Projects\237374_GPC_Channel_Duplication_EIS\237374_GPC_Geochem_Elevated_Aluminium_and_Iron_Distribution_in_West_Banks.mxd 26/11/2015 09:55

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Date: 26/11/2015 Version: 5 Job No: 237374

Coordinate system: GDA_1994_MGA_Zone_56

Figure 4.2: Distribution of elevated aluminium and iron within West Banks Island DMPA

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Legend

- Cobalt above PCIMP Ecosystem Health values (6.9 mg/kg)
- Vanadium above PCIMP Ecosystem Health values (40 mg/kg)
- Selenium above PCIMP Ecosystem Health values (1.0 mg/kg)
- Boreholes with metals below PCIMP Ecosystem Health values
- Lowest Astronomical Tide
- Highest Astronomical Tide
- Dredged Material Placement Areas
- Proposed Channel Duplication Project Extent
- Existing Shipping Channels

Source:
Aerial: GPC, 2015 and DigitalGlobe Web Map Service, 2013.

Map by: RB P:\GIS\Projects\237374_GPC_Channel_Duplication_EIS\237374_GPC_Geochem_Metals_in_West_Banks.mxd 26/11/2015 10:03

0 125 250 500 750 1,000 1,250 Meters

Date: 26/11/2015 Version: 3 Job No: 237374

Coordinate system: GDA_1994_MGA_Zone_56

Figure 4.3: Metals reported above PCIMP Ecosystem Health values within West Banks Island DMPA

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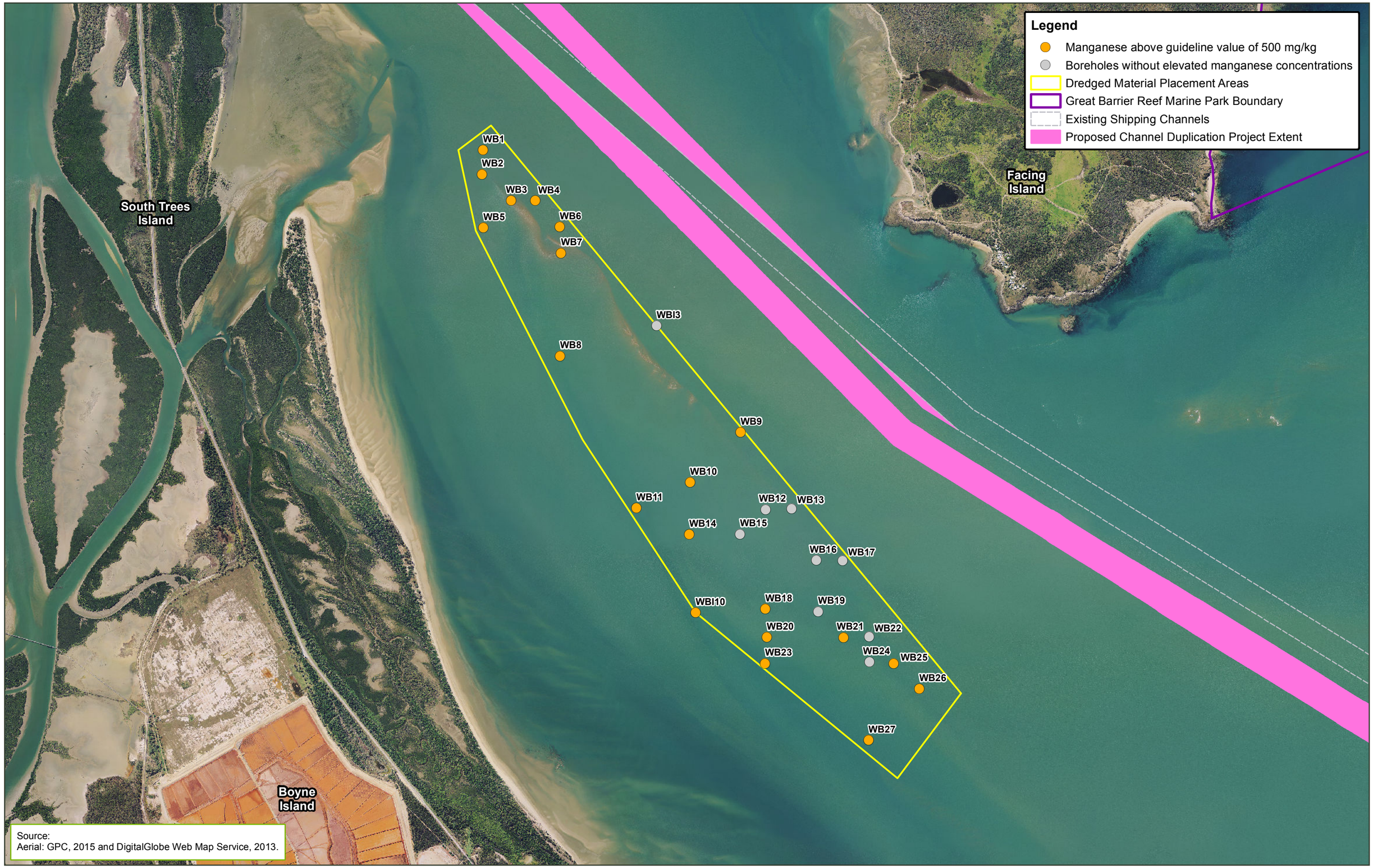

Map by: Moore NK\RBG\GIS\Projects\237374_GPC_Channel_Duplication_EIS\237374_GPC_Geochem_Boreholes_with_Manganese_in_West_Banks.mxd 26/11/2015 09:48

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Date: 26/11/2015 Version: 4 Job No: 237374

Coordinate system: GDA_1994_MGA_Zone_56

Figure 4.4: Distribution of elevated manganese within West Banks Island DMPA

4.2.1 Metals/metalloids

Aluminium, iron, arsenic, chromium, copper, cobalt, lead, manganese, nickel, selenium, vanadium and zinc were recorded above laboratory PQLs in every one of the 61 samples collected. One sample reported a level of cadmium over the LOR, five samples reported silver above the LOR and four samples of the 61 samples tested reported mercury over the laboratory LOR. No antimony over the laboratory LOR was detected.

The 95% UCL of all metals and metalloids considered as contaminants of concern under the NAGD (2009) for all samples were below the NAGD screening levels. However, the 95% UCL for manganese was 690.9mg/kg which is above the QLD Contaminated Land Guidelines EIL for manganese of 500mg/kg (EPA 1998).

A small number of arsenic, copper and nickel sample values demonstrated values slightly above the NAGD screening levels; however, none of these exceedances were recorded at levels greater than their respective NAGD high levels. Manganese however, was recorded within 34 samples at concentrations above its guideline value of 500mg/kg, which is discussed further below.

Metals with no NAGD screening level values (i.e. aluminium, iron, cobalt, manganese, selenium and vanadium) were compared against the locally derived reference values and terrestrial background values. While there were some exceedances over the locally derived reference values, none of the metals reported 95% UCLs over their respective PCIMP EH values.

No discussion has been presented for antimony as no concentrations were reported above the NAGD (2009) PQL.

4.2.1.1 Aluminium

Guideline values

No NAGD screening level values are available for aluminium and as such, a comparison against locally derived reference values was conducted.

Locally derived reference values

Aluminium was reported over the laboratory LOR within each of the 61 samples collected, with a minimum concentration of 3,330mg/kg from WBI3 at a depth of 2.9m to 3.0m, and a maximum concentration of 17,400mg/kg from WBI10 at a depth of 0.9m to 1.0m. When the results for aluminium are compared with the PCIMP EH value, only one of the 61 samples reported above the PCIMP EH value and the 95% UCL was 5,614mg/kg which is well below the PCIMP EH value of 15,000mg/kg.

Previous sediment investigations in Port Curtis recorded median aluminium concentrations of 8,770mg/kg (Angel et al. 2012) and 8,190mg/kg (GHD 2009). The median aluminium concentration recorded at West Banks Island DMPA (4,470mg/kg) is below these background values. The maximum aluminium concentration at West Banks Island DMPA also falls within the background range from the previous investigations.

4.2.1.2 Iron

Guideline values

No NAGD screening level values are available for iron and as such, a comparison against locally derived reference values was conducted.

Locally derived reference values

Iron was reported over the laboratory LOR within each of the 61 samples collected with a minimum concentration of 7,990mg/kg from WB2 at a depth of 0.5m to 1.0m and a maximum concentration of 34,900mg/kg from WBI10 at a depth of 0.9m to 1.0m. When the results for iron are compared with the PCIMP EH value, four of the 61 samples reported concentrations above the PCIMP EH value, including:

- WB9 0.5m to 1.0m
- WBI10 0.9m to 1.0m
- WBI10 1.9m to 2.0m
- WBI10 2.9m to 3.0m.

The 95% UCL was 12,886mg/kg, which is well below the PCIMP EH value of 21,000mg/kg. The four samples which reported values above the PCIMP EH value were all recorded at depths greater than 0.5m which, along with the ubiquitous presence of iron throughout the Port Curtis sediments, indicates that the iron is naturally occurring.

Previous sediment investigations in Port Curtis recorded median iron concentrations of 17,450mg/kg (Angel et al. 2012) and 20,900mg/kg (GHD 2009). The median iron concentration recorded at West Banks Island DMPA (11,000mg/kg) is below both of these background values.

Iron concentrations in all samples at West Banks Island DMPA were within the background range for iron in Port Curtis derived by Angel et al. (2012) (4,970-62,600mg/kg) and recorded during the WBDDP (560-76,000mg/kg) (GHD 2009).

4.2.1.3 Arsenic

Guideline values

Arsenic was recorded above the PQL of 1.0mg/kg within each of the 61 samples collected, with 10 samples reporting levels above the NAGD screening level of 20mg/kg. The lowest concentration reported was 3.31mg/kg from WBI3 at a depth of 2.9m to 3.0m and the maximum was 25.3mg/kg from WB11 at a depth of 0.5m to 1.0m. No levels were recorded over the NAGD high level and the 95% UCL reported a value of 15.33mg/kg, which is below the NAGD screening level.

Arsenic has previously been demonstrated to occur naturally within Port Curtis at concentrations very close to ANZECC ISQG-low guidelines. Vicente-Beckett et al. (2006) showed via multivariate analyses that the concentrations of arsenic (as well as nickel and chromium) in the Port Curtis region are at natural background levels which are very close to the ANZECC ISQG-low guidelines (Vicente-Beckett et al. 2006).

Locally derived reference values

Given the 95% UCL for arsenic was below the NAGD (2009) screening level value, a comparison against locally derived reference values was not required.

4.2.1.4 Cadmium

Guideline values

Only one sample from WB9 at a depth of 0.5m to 1.0m reported a detection of cadmium over the NAGD PQL with a concentration of 0.8mg/kg. As such, this concentration was utilised rather than calculating a 95% UCL. This concentration is well below the NAGD screening level of 1.5mg/kg and NAGD high level of 10mg/kg.

Locally derived reference values

Given cadmium was below the NAGD (2009) screening level value in all samples, a comparison against locally derived reference values was not required.

4.2.1.5 Chromium

Guideline values

Chromium was recorded above the NAGD PQL in all 61 samples with a minimum concentration of 6.4mg/kg from WB1 (0.0m to 0.5m) and maximum concentration of 23.7mg/kg from WBI10 (0.9m to 1.0m). No samples reported values above the NAGD screening level of 80mg/kg and the 95% UCL for all samples of 11.1mg/kg was significantly lower than the NAGD screening level of 80mg/kg.

Locally derived reference values

Given chromium was below the NAGD (2009) screening level value in all samples, a comparison against locally derived reference values was not required.

4.2.1.6 Copper

Guideline values

Copper was recorded above the NAGD PQL in all 61 samples with one sample from WB9 at a depth of 0.5m to 1.0m exceeding the NAGD screening level of 65mg/kg (reporting a concentration of 66.1mg/kg). However, the 95% UCL of 11.57mg/kg is significantly lower than the NAGD screening level.

Locally derived reference values

Given the 95% UCL for copper was below the NAGD (2009) screening level value, a comparison against locally derived reference values was not required.

4.2.1.7 Cobalt

Guideline values

No NAGD screening level values are available for cobalt and as such, a comparison against locally derived reference values was conducted.

Locally derived reference values

Cobalt was recorded over laboratory LORs in all 61 samples, with 13 of the 61 samples reporting over the PCIMP EH value of 6.9mg/kg. The minimum concentration of 2.8mg/kg was from WBI3 at a depth of 2.9m to 3.0m and the maximum concentration of 16.7mg/kg was from WBI10 at a depth of 0.9m to 1.0m. The 95% UCL of 6.83mg/kg was just below the PCIMP EH value.

All cobalt samples from West Banks Island DMPA were within the background range in Port Curtis, as recorded by Angel et al. (2012) and during the WBDDP (GHD 2009). In addition, the median concentration for cobalt at West Banks Island DMPA (6.2mg/kg) is below the medians from both Angel et al. (2012) and GHD 2009.

Terrestrial background values

The cobalt concentrations in all samples are within the terrestrial background values, which range from 2 to 170mg/kg (EPA 1998) and the median concentration is below the average abundance of cobalt in soil, as determined by AusIMM (2011).

4.2.1.8 Lead

Guideline values

Lead was recorded in all 61 samples above the NAGD PQL. No samples were recorded above the NAGD screening level of 50mg/kg and the highest concentration recorded was 10.7mg/kg from WBI10 from a depth of 0.9m to 1.0m, which is well below the NAGD screening level (as was the 95% UCL of 3.5mg/kg).

Locally derived reference values

Given lead was below the NAGD (2009) screening level value in all samples, a comparison against locally derived reference values was not required.

4.2.1.9 Manganese

Guideline values

No NAGD screening level values are available for manganese and as such, a comparison against locally derived reference values and terrestrial background values was conducted.

Locally derived reference values

Manganese was reported above the NAGD PQL in all 61 samples at the West Banks Island DMPA with a minimum concentration of 82mg/kg from WBI3 (2.9m to 3.0m) and a maximum of 1,720mg/kg from WB5 (0.5m to 1.0m).

The median manganese concentration recorded at West Banks Island DMPA was 533mg/kg, which is greater than the corresponding median concentrations determined during the previous investigation by Angel et al. (2012) and during the WBDDP (GHD 2009). However, concentrations of manganese in the sediments of Port Curtis derived by Angel et al. (2012) and during the WBDDP (GHD 2009) were recorded up to 1,330mg/kg and 7,680mg/kg respectively. The 95% UCL for manganese at West Banks Island DMPA was 690.9mg/kg, which is reflective of background concentrations identified in previous investigations within Port Curtis.

Terrestrial background values

Manganese concentrations was reported over the 500mg/kg EIL in 34 of the 61 samples collected. The 95% UCL value of 690.9mg/kg was above the QLD Contaminated Land Guideline EIL of 500mg/kg.

While the sediments did report a 95% UCL higher than the 500mg/kg EIL, all manganese concentrations at West Banks Island DMPA were within the background levels provided by the draft QLD contaminated land guideline of 4-12,600mg/kg (EPA 1998).

In addition, given that the distribution of the exceedances occurred in both surface and deeper sediments, these are likely to be naturally occurring and are in line with levels previously reported within the Port Curtis area in previous studies.

The AusIMM (2011), *Field Geologist's Manual,* Fifth Edition, provides background ranges for various metals and metalloids in Australia, with an average abundance of 850mg/kg for manganese observed in Australian soils, which is greater than the 95% UCL for manganese at West Banks Island DMPA.

4.2.1.10 Nickel

Guideline values

Nickel was recorded over the NAGD PQL for all 61 samples collected with one sample from WBI10 from a depth of 0.9m to 1.0m reporting above the NAGD screening level of 21mg/kg with a concentration of 23.4mg/kg. The 95% UCL reported a value of 5.7mg/kg which is well below the NAGD screening level.

Locally derived reference values

Given the 95% UCL for nickel was below the NAGD (2009) screening level value, a comparison against locally derived reference values was not required.

4.2.1.11 Selenium

Guideline values

No NAGD screening level values are available for selenium and as such, a comparison against locally derived reference values was conducted.

Locally derived reference values

Selenium was detected above the laboratory LOR for all 61 samples although no samples reported concentrations over the PCIMP EH value of 1.0mg/kg. The minimum concentration was 0.1mg/kg from WBI3 at a depth of 2.9m to 3.0m while the maximum was 0.6mg/kg from WB9 at a depth of 0.5m to 1.0m. The 95% UCL of 0.34mg/kg was well below the PCIMP EH value.

In addition, sediment investigations during the WBDDP recorded concentrations of selenium ranging from 0.1-5.4mg/kg with a median concentration of 0.4mg/kg (GHD 2009). These results are similar to concentrations from West Banks Island DMPA, which recorded a median concentration of 0.3mg/kg.

4.2.1.12 Silver

Guideline values

Silver was detected above the NAGD PQL within five of the 61 samples analysed. However, no samples were recorded above the NAGD screening level of 1.0mg/kg and the maximum concentration recorded was 0.2mg/kg from WB13 at a depth of 0.0m to 0.5m.

Locally derived reference values

Given silver was below the NAGD (2009) screening level value in all samples, a comparison against locally derived reference values was not required.

4.2.1.13 Vanadium

Guideline values

No NAGD screening level values are available for vanadium and as such, a comparison against locally derived reference values and terrestrial background values was conducted.

Locally derived reference values

Vanadium was detected above the laboratory LOR in all 61 samples, with four samples reporting concentrations above the PCIMP EH value of 40mg/kg (with the maximum concentration of 72.2mg/kg from WBI10 at a depth of 0.9m to 1.0m). All four of the samples over the PCIMP EH value were at depths below 0.5m. The 95% UCL was calculated at 31.82mg/kg, which is below the PCIMP EH value of 40mg/kg.

Angel et al. (2012) identified vanadium concentrations in sediments of Port Curtis ranging from 11 to 114mg/kg while vanadium concentrations in sediments ranged from 5.6 to 287mg/kg during the WBDDP (GHD 2009). The vanadium concentrations identified at West Banks Island DMPA had a very similar range with a lower median concentration of 27.7mg/kg and a 95% UCL (31.82mg/kg).

Terrestrial background values

In addition, AusIMM (2011) provides an average abundance value of 100mg/kg for vanadium observed in Australian soils. The maximum concentration of vanadium (72.2mg/kg) at West Banks Island DMPA is well below this value.

4.2.1.14 Zinc

Guideline values

Zinc was recorded above the NAGD PQL in all of the 61 samples collected with no exceedances recorded over the NAGD screening level of 200mg/kg. The minimum concentration of 11.3mg/kg was from WB2 at a depth of 0.5m to 1.0m while the maximum concentration recorded of 57.8mg/kg from WBI10 at a depth of 0.9m to 1.0m.

Locally derived reference values

Given zinc was below the NAGD (2009) screening level value in all samples, a comparison against locally derived reference values was not required.

4.2.1.15 Mercury

Guideline values

Mercury was recorded in four of the 61 samples at levels over the NAGD PQL, with all the elevated samples being located within deeper sediments (>0.5m). No exceedances were recorded over the NAGD screening level of 0.15mg/kg with a maximum concentration recorded of 0.04mg/kg from WB9 at a depth of 0.5m to 1.0m.

Locally derived reference values

Given mercury was below the NAGD (2009) screening level value in all samples, a comparison against locally derived reference values was not required.

4.2.2 Organics and BTEX

No PCBs, OCP or OPP concentrations were detected with all samples tested reporting below the laboratory LORs (and hence below guideline levels) for these contaminants.

Two of the 54 samples tested reported the sum of (11) PAHs above the laboratory LOR with the maximum concentration from WB7 at a depth of 0.0m to 0.5m reporting a value of 21µg/kg. This concentration is considerably below the NAGD screening level of 10,000µg/kg.

No TRH C_6-C_{10} fraction concentrations were detected although approximately two-thirds of the samples of the >C_{10}-C_{40} fraction above the NAGD PQL (34 values of 54 samples analysed). When adjusted to 1.0% TOC, the maximum concentration was 100mg/kg from WB8 at a depth of 0.0m to 0.5m with a 95% UCL of 39.48mg/kg, which is well below the NAGD screening level of 550mg/kg and the proposed Simpson et al. (2013) revised screening level of 280mg/kg.

Just under half the samples (24 samples from 54 samples) recorded TPH values over the LOR with the maximum concentration recorded being 80mg/kg (adjusted to 1.0% TOC) from WB8 at depths of 0.0m to 0.5m and 0.5m to 1.0m with the 95% UCL being 29.66mg/kg (adjusted to 1.0% TOC). BTEX was not detected above the laboratory LOR in any of the samples collected.

4.2.3 Organotins

No samples reported a concentration of tributyltin above the NAGD PQL of 1.0µg Sn/kg.

4.2.4 Nutrients and total organic carbon

No trigger limits exist for TOC and nutrients in sediments within the current NAGD (2009) guidelines although the PCIMP has set EH values derived from the 95th percentile of background data collected during the PCIMP monitoring with WCS values being set at 10 times the PCIMP EH values. The PCIMP EH and WCS values set for ammonia as N are 15mg/kg and 150mg/kg, respectively.

Simpson et al. (2013) (unpublished) provides revised sediment quality values, with a proposed screening level of 4.0mg/kg for ammonia.

All 61 samples for ammonia as N were recorded above the NAGD PQL of 0.1mg/kg with one sample recording ammonia above the PCIMP EH value of 15mg/kg with a value of 20.3mg/kg from WB8 at a depth of 0.5m to 1.0m. However, 17 samples recorded ammonia concentrations above the Simpson et al. (2013) screening level of 4.0mg/kg and the 95% UCL for ammonia, at 4.37mg/kg, also exceeded this screening level.

Sediment total ammonia as N concentrations are generally higher at locations with higher TOC and silt/clay content, compared to sites characterised by coarser material. The 95% UCLs for TOC and total ammonia as N were 0.17% and 4.37mg/kg, respectively, reflecting the relatively low clay content of most of the sampled locations, which comprised of approximately 90% of all samples being composed of >90% sand.

4.2.5 Dioxins

As previously discussed, minimal sampling for dioxins has been undertaken within Port Curtis to date. Two samples were collected within the West Banks Island DMPA itself (refer Figure 4.5). These results were analysed as part of the larger study as using the full 22 dioxin samples strengthened the analysis. The results were compared against the Canadian sediment quality guidelines and also compared against the previous Port Curtis investigation (EHP 2012). Details of this analysis are provided in Section 3.2.5.

4.3 Particle size distribution

PSD was analysed at all boreholes within the West Banks Island DMPA from the top 0.5m of sediment and from 0.5m to 1.0m.

The sediments within West Banks Island DMPA varied in texture with all samples containing sand material. In addition, approximately 88.9% of all samples collected containing over 90% of sand material. These proportions do not vary significantly with depth.

Figures 4.6 and 4.7 illustrate the PSD results across the West Banks Island DMPA.

Table 4.2 outlines the PSD for the West Banks Island DMPA, indicating that sand is the major component of the sediment with an average proportion of 94.1%.

Table 4.2 Summary of PSD results for West Banks Island DMPA

Statistics	Clay (<2 µm)	Silt (2-60 µm)	Sand (0.06-2mm)	Gravel (>2mm)	Cobbles (>6cm)
Minimum	1	<1	58	<1	<1
Mean	3.0	1.1	94.1	1.8	<1
Maximum	17	13	99	35	<1

All PSD laboratory results are included in Appendix G.

4.4 Acid sulfate soils

4.4.1 General

The full NATA certified laboratory report is provided in Appendix D while a summary of the results are provided in Appendix H.

The sections below discuss the ASS results and determine the likelihood of AASS and PASS being present in the sediment at West Banks Island DMPA.

The action criteria for ASS, as specified by Ahern et al. (1998) where more than 1,000t of sediment is to be disturbed, is as follows:

- Sulfur trail 0.03%S
- Acidity trail 18 mole H+/t.

4.4.2 Field testing

4.4.2.1 Screening criteria

For reasons of practicality and the avoidance of transporting and using oxidising chemicals on board the vessel, the pH tests were conducted by the primary laboratory. The primary laboratory utilised two different methods for obtaining pH measurements depending on if the pH tests were stand-alone or part of the SPOCAS suite. The same pH results are achieved, regardless of the method utilised.

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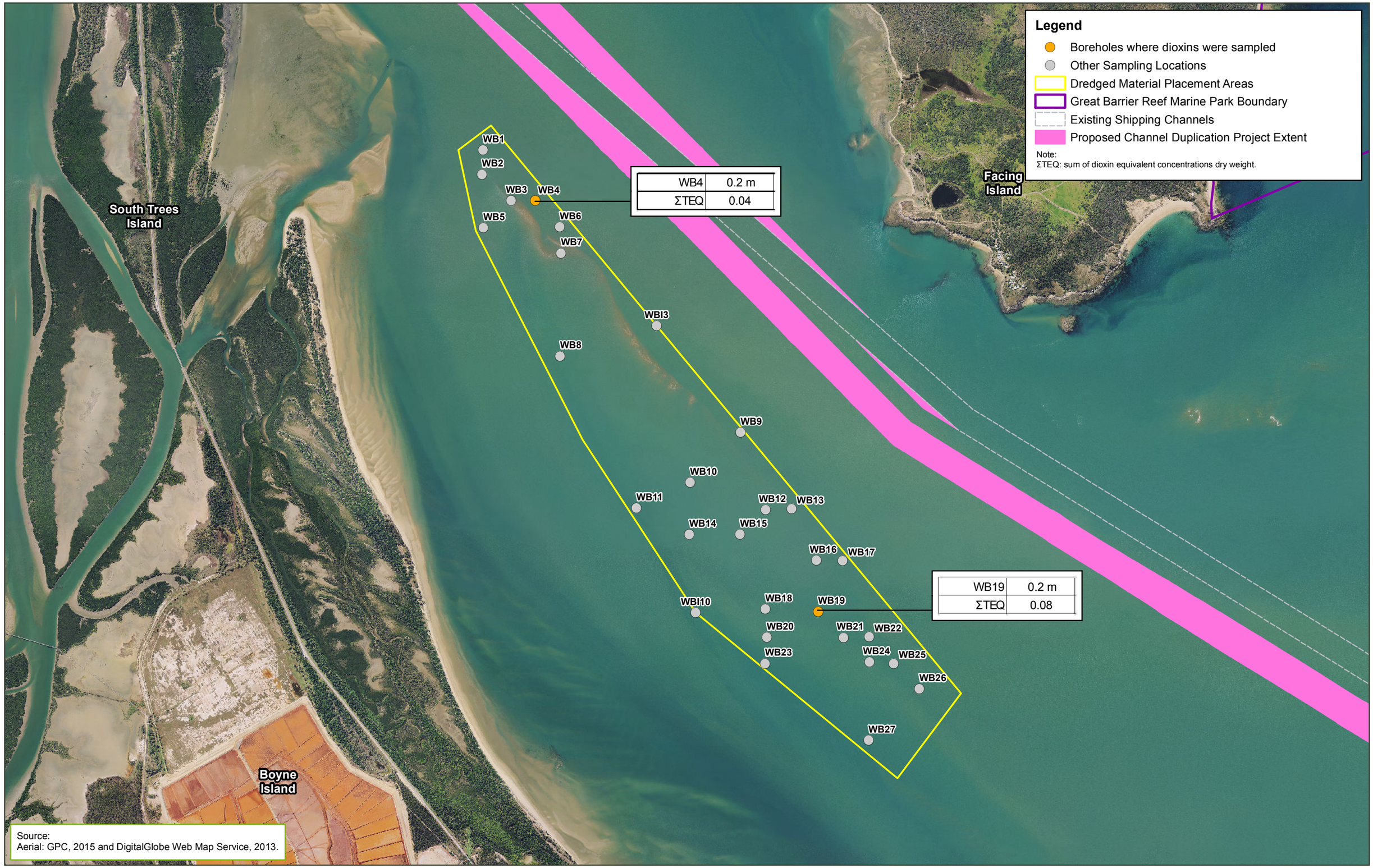

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Date: 26/11/2015 Version: 5 Job No: 237374

Coordinate system: GDA_1994_MGA_Zone_56

Figure 4.5: Dioxin concentrations within West Banks Island DMPA

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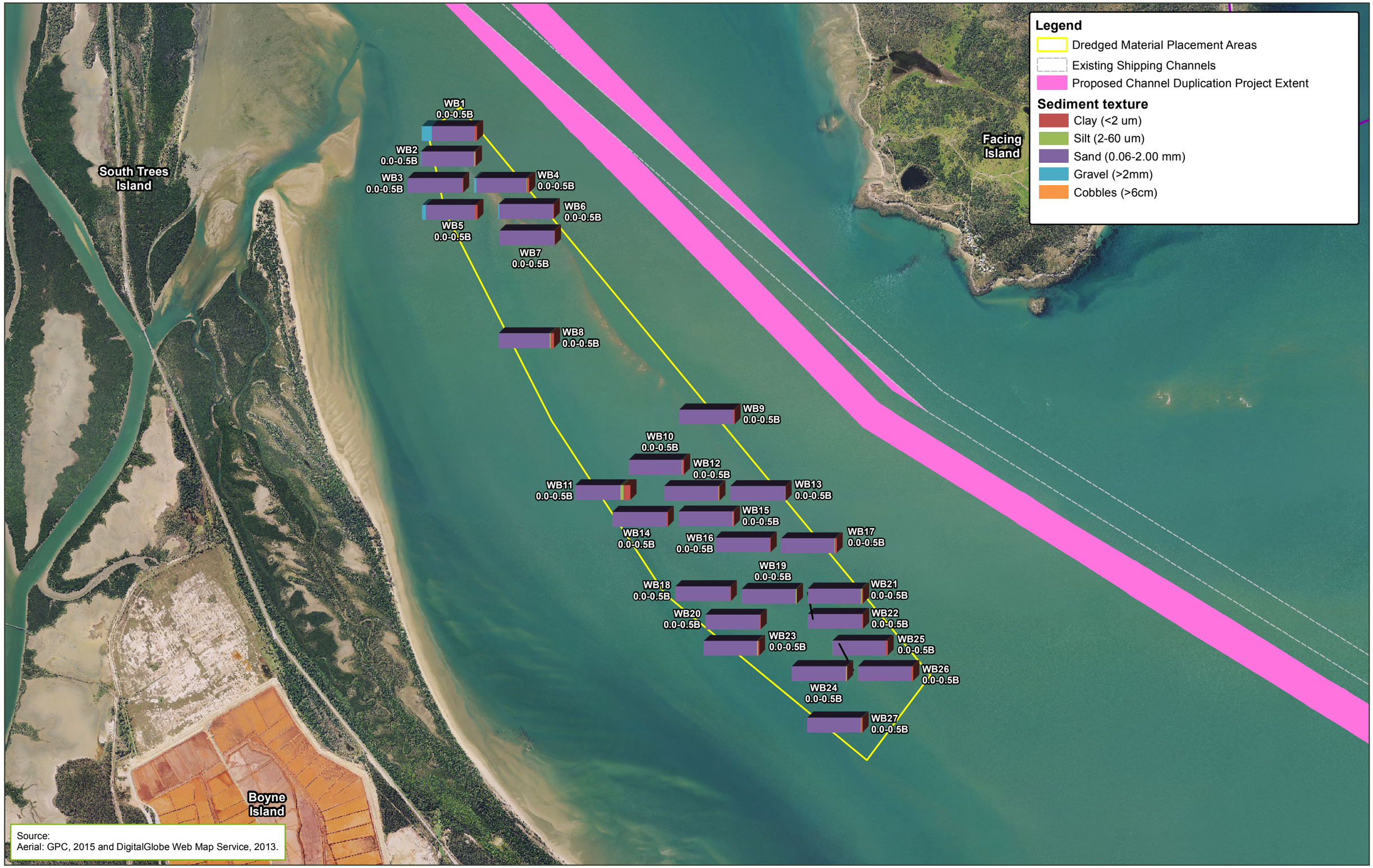

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Coordinate system: GDA_1994_MGA_Zone_56

Figure 4.6: Particle Size Distribution (shallow sediments) – West Banks Island DMPA

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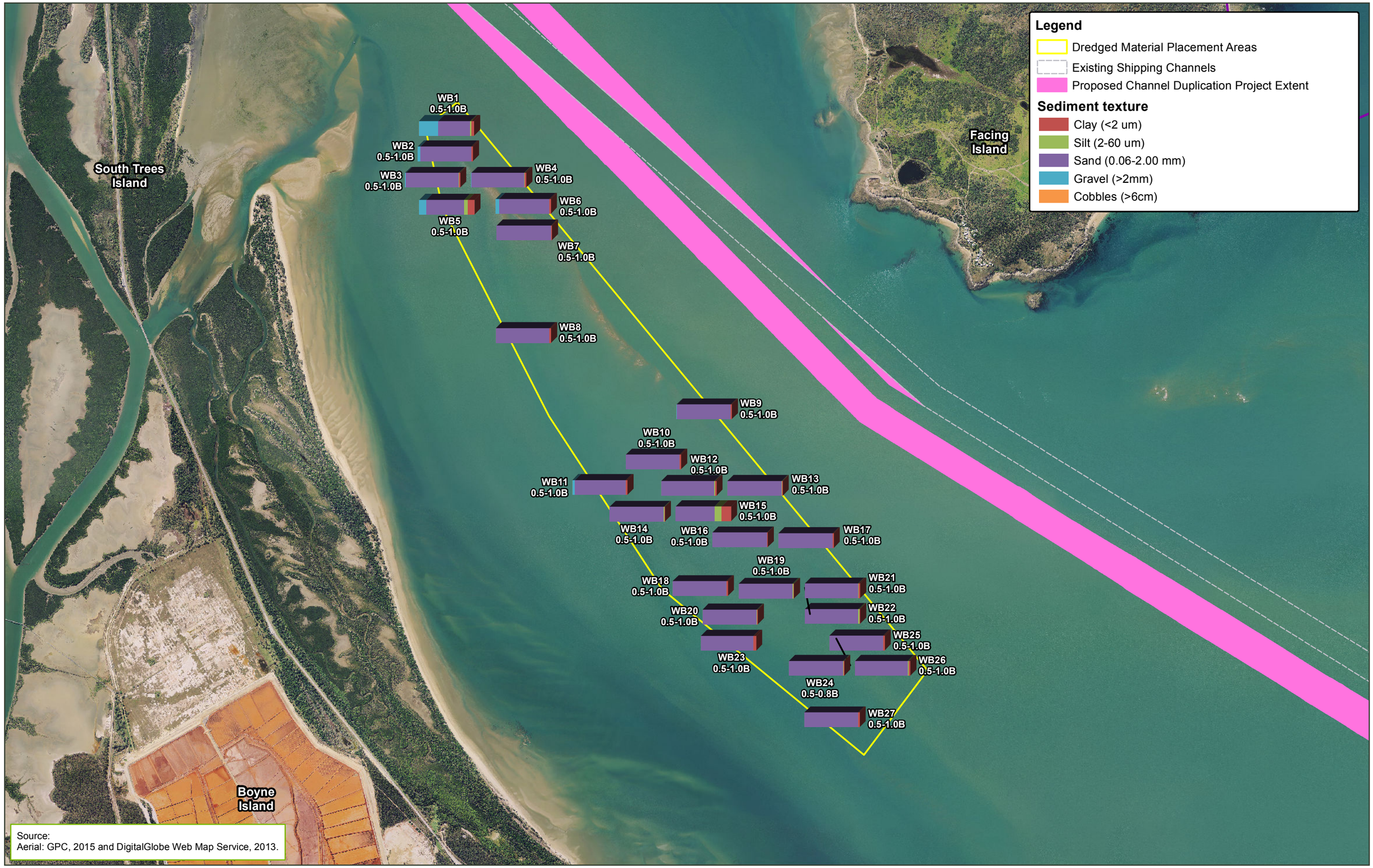

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Coordinate system: GDA_1994_MGA_Zone_56

Sediment Characterisation Plan Implementation Report (DMPAs)

Figure 4.7: Particle Size Distribution (deeper sediments) – West Banks Island DMPA

A typical value that may indicate the presence of AASS includes:

- A pH_F/pH_{KCL} value of 4 or less.

Values that indicate the presence of PASS may include:

- A pH_{FOX}/pH_{OX} value of 4 or less
- A ΔpH greater than 2 (from pH_F to pH_{FOX} and pH_{KCL} to pH_{OX})
- To a much lesser extent, a 'vigorous' observed reaction rate.

4.4.2.2 Field pH results

The pH test results provide an indication of the presence or absence of ASS in the sediment profile. The pH testing was conducted on each core, typically at 0.25m intervals along the core.

The pH tests were carried out on 142 sediment samples within West Banks Island DMPA. These tests were used to indicate the likelihood of sediment being non-ASS, AASS or PASS. The results of the pH testing are summarised as follows:

- The pH_F/pH_{KCL} values for the majority of samples ranged from pH 8.1 to pH 9.7 indicating that AASS were not present in the West Banks Island DMPA
- The results of the pH_{FOX}/pH_{OX} tests for all samples ranged from pH 6.2 to pH 10.7, indicating that PASS was not present in the sediment
- A drop in two or more pH units is considered potentially indicative of PASS presence in the sediment. This was observed in 2.8% of the sediment samples with the maximum drop in pH of 2.3 occurring in WB11 at a depth of 0.25m.

Interpretation of the pH results generally indicated an absence of ASS, including AASS and PASS, across the West Banks Island DMPA.

4.4.3 SPOCAS results

The results for each component of the SPOCAS analysis methods are utilised as input into the acid base accounting, which is used to calculate the net acidity.

The acid base accounting takes into consideration the acid generating/neutralising capacity of the sediment in both its existing and disturbed states. It also includes consideration of potential for the sulfur material present in the sediment matrix to exchange with ions such as calcium and magnesium.

SPOCAS analysis was carried out on 89 sediment samples taken from within the West Banks Island DMPA.

4.4.3.1 Acidity trail

The acidity trail component of the SPOCAS analysis is comprised of the following analytical methods:

- Titratable actual acidity (TAA) 23F (mole H+/t)
- Titratable peroxide acidity (TPA) 23G (mole H+/t)
- Titratable sulfidic acidity (TSA) 23H (mole H+/t).

These analytical methods assist in quantifying the level of acidity present within the sediment.

TAA quantifies the amount of existing acid in the sediment as measured in mole H^+/t. The expression of existing acidity within the sediment is generally indicated by the measured pH. TAA was not detected (<2 mole H^+/t) in all the samples.

TPA quantifies the amount of acid that is likely to be generated in the sediment if oxidation were to occur (e.g. during or as a result of disturbance). TPA was not detected (<2 mole H^+/t) in all the samples.

TSA quantifies the amount of acid (existing or potential) within the sediment that is attributable to pyritic material, which indicates the presence/absence of ASS material. TSA was not detected (<2 mole H^+/t) in all the samples.

4.4.3.2 Sulfur trail

The sulfur trail component of the SPOCAS analysis is comprised of the following analysis methods:

- Potassium chloride extractable sulfur (S_{KCl}) 23C (%S)
- Peroxide sulfur (S_P) 23D (%S)
- Peroxide oxidisable sulfur (S_{POS}) 23E (%S)
- Acidity – peroxide oxidisable sulfur (a-S_{POS}) a-23E (mole H+/t).

These analytical methods assist in quantifying the level of extractable sulfidic material present within the sediment, which includes soluble and adsorbed sulfate as well as sulfate from gypsum. These results are utilised as input into the acid base accounting for calculating the net acidity within the sediment attributable to the sulfur content available through oxidation.

S_{POS} was not detected (<0.02%S) in 77.5% of the samples. The maximum value for S_{POS} was 0.45%S, detected in WB5 at a depth of 1.0m. Approximately 13.5% of the samples were above the action criteria (≥0.03%S) and were observed in boreholes throughout the West Banks Island DMPA and at a range of depths.

4.4.3.3 Calcium values analysis

The calcium values analysis is comprised of the following analysis methods:

- KCl extractable calcium (Ca_{KCl}) method 23Vh (%Ca)
- Peroxide calcium (Ca_P) method 23Wh (%Ca)
- Acid reacted calcium (Ca_A) method 23X (%Ca).

These analysis methods assist in quantifying the level of extractable calcium present within the sediment. These results are utilised as input into the calculation of the neutralising capacity within the sediment that is attributable to the presence of calcium.

Ca_{KCl} results give an indication of the calcium that is soluble and exchangeable within the sediment. Ca_P results are utilised to calculate the reacted calcium (Ca_A), which indicates the acid neutralising capacity within the sediment that is attributable to the presence of soluble and exchangeable calcium.

All samples submitted to the laboratory for SPOCAS analysis were analysed for the presence of soluble and exchangeable calcium to calculate the acid reacted calcium. Results for Ca_{KCL} ranged from 0.12%Ca from WB9 (1.0m) to a maximum of 0.38%Ca in WB7 (0.5m).

4.4.3.4 Magnesium values analysis

The magnesium values analysis is comprised of the following analysis methods:

- KCl extractable magnesium (Mg_{KCl}) method 23Sm (%Mg)
- Peroxide magnesium (Mg_P) method 23Tm (%Mg)
- Acid reacted magnesium (Mg_A) method 23U (%Mg).

These analysis methods assist in quantifying the level of extractable magnesium present within the sediment. These results are utilised as input into the calculation of the neutralising capacity within the sediment that is attributable to the presence of magnesium.

Mg_{KCl} results give an indication of the magnesium that is soluble and exchangeable within the sediment. Mg_P results are utilised to calculate the reacted magnesium (Mg_A), which indicates the acid neutralising capacity within the sediment that is attributable to the presence of soluble and exchangeable magnesium.

All samples submitted to the laboratory for SPOCAS analysis were analysed for the presence of soluble and exchangeable magnesium in order to calculate the acid reacted magnesium. Results for Mg_{KCL} ranged between <0.02%Mg and 0.11%Mg in WB8 at a depth of 0.0m.

4.4.3.5 Excess acid neutralising capacity

All samples submitted to the laboratory for SPOCAS analysis were analysed for excess acid neutralising capacity (ANC_E). Results for ANC_E ranged from 0.72% $CaCO_3$ at WB7 (0.5m) to 14.7% $CaCO_3$ within ASS Duplicate 4 (WB4 1.0m).

4.4.3.6 Acid base accounting

The acid base accounting analysis component of the SPOCAS analysis is comprised of the following calculations:

- ANC fineness factor (1.5)
- Net acidity (sulfur units) (%S)
- Net acidity (acidity units) (mole H+/t)
- Liming rate (kg $CaCO_3$/t).

The results of these calculations provide the information required for the development of sediment management measures for the placement of dredged material within West Banks Island DMPA, should the existing sediment be disturbed during placement (or construction of a reclamation bundwall).

Net acidity (sulfur units) results for samples analysed were all below the LOR (<0.02%S). Net acidity (acidity units) results for samples analysed were all below the LOR (<10 mole H^+/t).

Based on laboratory results for net acidity, it is considered that the sediments within the West Banks Island DMPA do not contain AASS and are unlikely to contain PASS.

5 Port Central Expansion DMPA

5.1 General

Borehole logs for each of the sampling locations are presented in Appendix B and photographs of each of the cores collected are provided in Appendix C.

All laboratory results and laboratory QA/QC assessments are provided in Appendix D for the primary laboratory (ALS) and Appendix E for the secondary laboratory (Eurofins).

5.2 Geochemical

A statistical summary of the geochemical results, showing an assessment against relevant guideline values identified in Section 1.5.1 is provided in Table 5.1 and Appendix F. Analyte concentrations detected above the guideline values are highlighted in bold, along with the relevant assessment criteria. Where guideline values are not available, a comparison against locally derived reference values and terrestrial background values has been undertaken.

The distribution of the contaminants of concern (and observed exceedances) was ubiquitous throughout the sediment profile sampled and the spread was across the DMPA indicating that the metals are widespread and naturally occurring.

The analytical results and any exceedances are discussed in the following sections.

Sampling locations where guideline values have been exceeded are illustrated in Figures 5.1 to 5.3.

Table 5.1 Summary of geochemical results for Port Central Expansion DMPA compared with guideline values

Analytes (mg/kg)		Aluminium	Iron	Arsenic	Chromium	Copper	Cobalt	Lead	Manganese	Nickel	Selenium	Silver	Vanadium	Zinc	Mercury	Ammonia as N
Guideline values	PQL	50	50	1.0	1.0	1.0	0.5	1.0	10	1.0	0.1	0.1	2.0	1.0	0.01	0.2
	NAGD (2009) – screening level	-	-	**20**	80	**65**	-	50	-	21	-	1.0	-	200	0.15	-
	NAGD (2009) – high level	-	-	70	370	270	-	220	-	52	-	3.7	-	410	1.0	-
Locally derived reference values[3]	Anastasi and Wilson (2010)	-	-	-	-	-	-	-	29-8,960	-	-	-	-	-	-	-
	PCIMP EH value	15,000	21,000	-	-	-	6.9	-	260	-	1	-	40	-	-	15
	PCIMP WCS value	150,000	210,000	-	-	-	69	-	2,600	-	10	-	400	-	-	150
	Angel et al. (2012)	1,720-26,900 (8,770)	4,970-62,600 (17,450)	-	-	-	3-31 (10)	-	74-1,330 (382.5)	-	0.02-0.51 (0.135)	-	11-114 (40.5)	-	-	-
	WBDDP (GHD 2009)	530-20,600 (8,190)	560-76,000 (20,900)	-	-	-	0.5-77.4 (11.5)	-	10-7,680 (298)	-	0.1-5.4 (0.4)	-	5.6-287 (45.3)	-	-	-
Terrestrial background values	EPA (1998) EIL	-	-	-	-	-	-	-	500	-	-	-	-	-	-	-
	EPA (1998) background levels	-	-	-	-	-	2-170	-	4-12,600	-	-	-	-	-	-	-
	AusIMM (2011) average abundance	-	-	-	-	-	8.0	-	850	-	0.2	-	100	-	-	-
Samples collected		30	30	30	30	30	30	30	30	30	30	30	30	30	30	20
Number of detects		30	30	30	30	30	30	30	30	30	30	8	30	30	24	20
Minimum		3,850	5,670	2.71	10.3	2.9	2.1	2.5	35	3.5	0.1	<0.01	15.4	4.2	<0.01	1.3
Maximum		21,800	29,300	15	28.9	**67**	19.8	9.5	1,080	15.2	4.5	0.9	98.3	55.2	0.04	50.8
Mean		10,728	18,879	10.49	17.63	16.75	9.16	6.257	289.4	9.513	1.24	0.113	44.25	30.5	0.019	10.22
Median		10,750	17,150	10.8	16.4	12.9	8.95	6.6	290	9.35	0.7	0.2	39.2	31.5	0.02	5.45
Standard deviation		3,816	5,368	2.931	5.106	12.44	3.211	1.805	178.6	2.89	1.317	0.17	17.84	10.55	0.010	12.06
95% UCL		11,912	20,544	11.4	19.22	20.75	10.16	6.817	431.5	10.41	2.29	0.249	49.78	33.77	0.027	16.25
Number of exceedances[1, 2]		3	11	-	-	1	26	-	1	-	8	-	14	-	-	6

Table notes:
[1]Refers to exceedances over NAGD (2009) screening levels, the QLD contaminated land guideline value (EPA 1998) or the PCIMP (2011) EH values
[2]The distribution of the contaminants of concern (and observed exceedances) was ubiquitous throughout the sediment profile sampled and the spread was across the DMPA indicating that the metals are widespread and naturally occurring
[3]Values in brackets are the median value
Bold indicates an exceedance of the corresponding guideline value

Gladstone Ports Corporation
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aurecon

Barney Point Coal Terminal

South Trees Wharf

South Trees Island

South Gladstone

PC1
PCE3
PCE1
PC2
PC3
PC4
PC6
PC5
PC9
PC7
PC8
PC10
PC11

Legend

- Aluminium concentrations above PCIMP Ecosystem Health value (15,000 mg/kg)
- Iron concentrations above PCIMP Ecosystem Health value (21,000 mg/kg)
- Boreholes without elevated aluminium and iron concentrations
- Highest Astronomical Tide
- Lowest Astronomical Tide
- Dredged Material Placement Areas
- Existing Shipping Channels

Source:
Aerial: GPC, 2015 and DigitalGlobe Web Map Service, 2013.

Map by: RB
P:\GIS\Projects\237374_GPC_Channel_Duplication_EIS\237374_GPC_Geochem_Elevated_Aluminium_and_Iron_Distribution_in_Port_Central.mxd 26/11/2015 09:54

0 190 380 Metres

Date: 26/11/2015 Version: 5 Job No: 237374

Coordinate system: GDA_1994_MGA_Zone_56

Figure 5.1: Distribution of elevated aluminium and iron within Port Central Expansion DMPA

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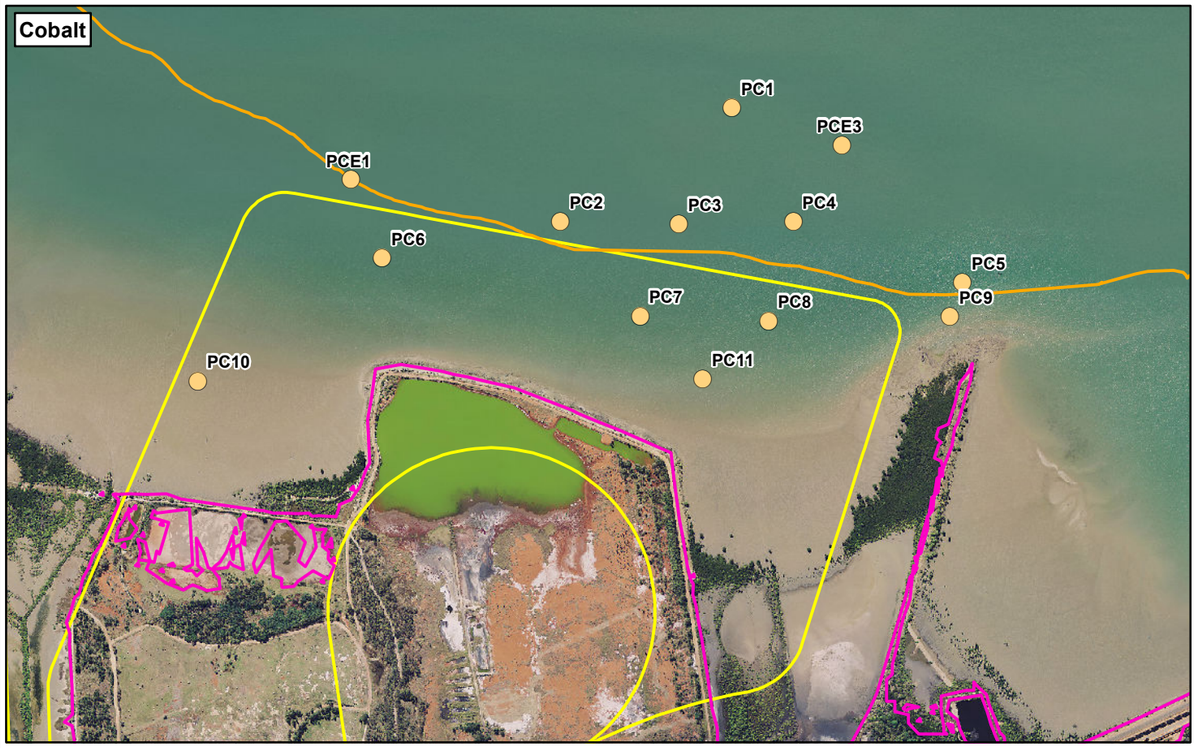

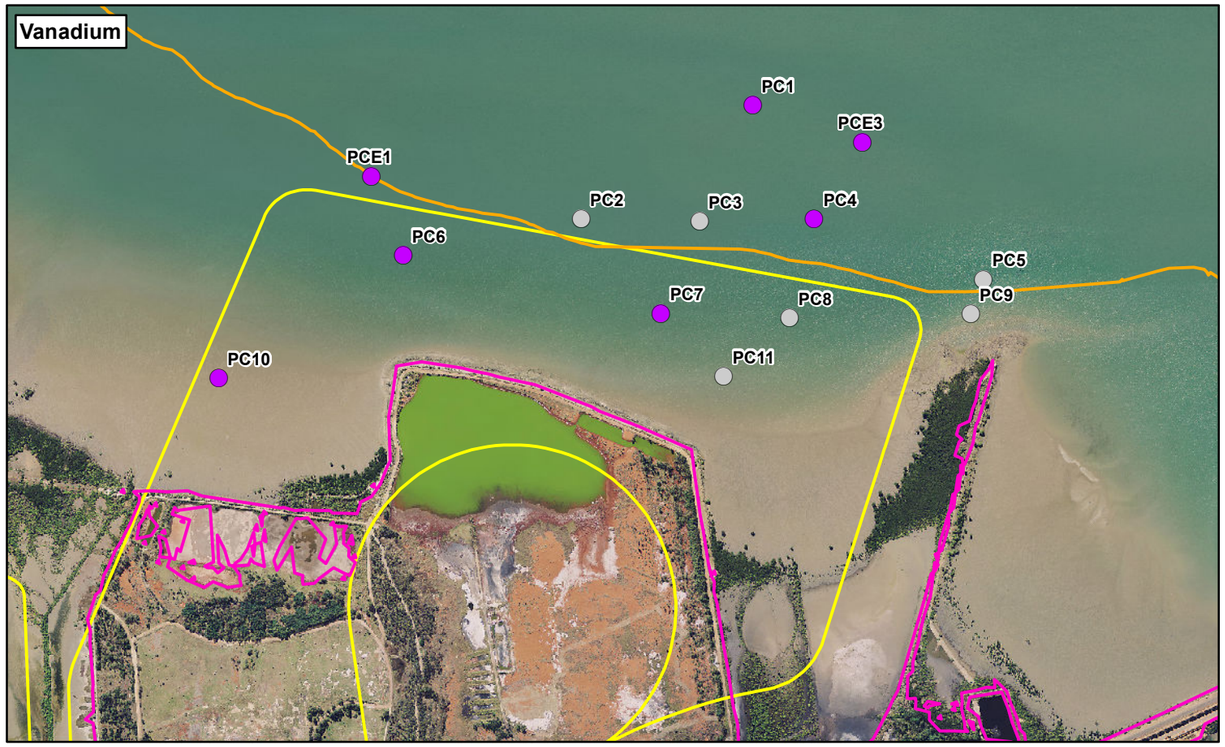

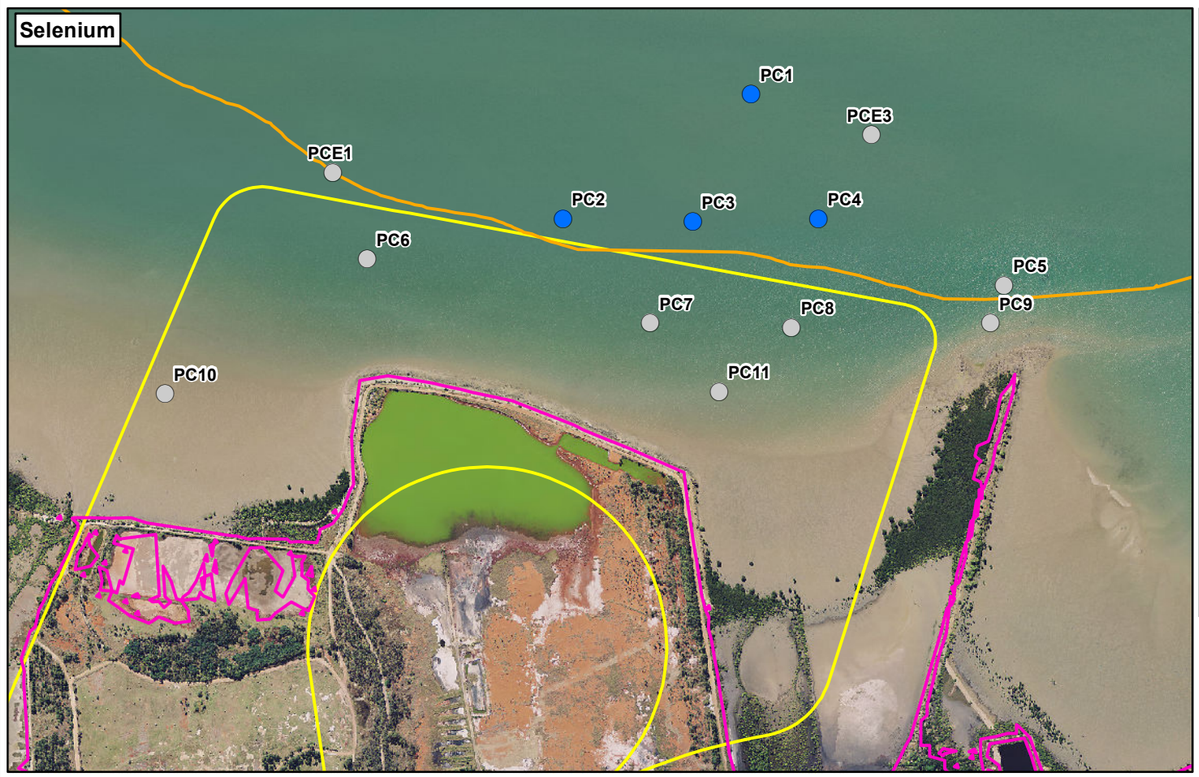

Legend

- Cobalt above PCIMP Ecosystem Health values (6.9 mg/kg)
- Vanadium above PCIMP Ecosystem Health values (40 mg/kg)
- Selenium above PCIMP Ecosystem Health values (1.0 mg/kg)
- Boreholes with metals below PCIMP Ecosystem Health values
- Highest Astronomical Tide
- Lowest Astronomical Tide
- Dredged Material Placement Areas

Source:
Aerial: GPC, 2015 and DigitalGlobe Web Map Service, 2013.

Map by: RB P:\GIS\Projects\237374_GPC_Channel_Duplication_EIS\237374_GPC_Geochem_Heavy_Metal_Exceedances_in_Port_Central.mxd 26/11/2015 09:57

Meters
0 2550 100 150 200 250

Date: 26/11/2015 Version: 4 Job No: 237374
Coordinate system: GDA_1994_MGA_Zone_56

Figure 5.2: Metals reported above PCIMP Ecosystem Health values within Port Central Expansion DMPA

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Growth, Prosperity, Community.

aurecon

Barney Point Coal Terminal

South Trees Wharf

South Trees Island

South Gladstone

Legend

- Manganese above guideline value of 500 mg/kg
- Boreholes without elevated manganese concentrations
- Highest Astronomical Tide
- Lowest Astronomical Tide
- Dredged Material Placement Areas
- Existing Shipping Channels

PC1, PCE3, PCE1, PC2, PC3, PC4, PC6, PC5, PC9, PC7, PC8, PC10, PC11

Source:
Aerial: GPC, 2015 and DigitalGlobe Web Map Service, 2013.

Map by: Moore NK\RB\GIS\Projects\237374_GPC_Channel_Duplication_EIS\237374_GPC_Geochem_Boreholes_with_Manganese_in_Port_Central.mxd 26/11/2015 09:46

0 190 380 Metres

Date: 26/11/2015 Version: 4 Job No: 237374

Coordinate system: GDA_1994_MGA_Zone_56

Figure 5.3: Distribution of elevated manganese within Port Central Expansion DMPA

5.2.1 Metals/metalloids

Aluminium, iron, arsenic, chromium, copper, cobalt, lead, manganese, nickel, selenium, vanadium and zinc were recorded above laboratory PQLs in all 30 samples collected. Eight samples reported silver above the LOR and 24 of the 30 samples tested reported mercury over the laboratory LOR.

No metals considered as contaminants of concern under the NAGD (2009) reported values over the NAGD screening levels and the 95% UCL of all metals and metalloids were below the NAGD screening levels for all samples.

When comparing metals with no NAGD screening level (i.e. aluminium, iron, cobalt, selenium and vanadium) to the PCIMP EH values, there were some exceedances over the PCIMP EH values and cobalt, selenium and vanadium reported 95% UCLs over their respective PCIMP EH values.

Metals with no NAGD screening level values (i.e. aluminium, iron, cobalt, manganese, selenium and vanadium) were compared against the locally derived reference values and terrestrial background values. There were some exceedances over the PCIMP EH values, comparison to other background investigations in Port Curtis, such as Angel et al. (2012), GHD 2009 and Anastasi and Wilson (2010), indicated that a number of metals were naturally elevated within Port Curtis.

No discussion has been presented for antimony and cadmium as no concentrations were reported above the NAGD (2009) PQL.

5.2.1.1 Aluminium

Guideline values

No NAGD screening level values are available for aluminium and as such, a comparison against locally derived reference values was conducted.

Locally derived reference values

Aluminium was reported over the laboratory LOR in all 30 samples collected, with a minimum concentration of 3,850mg/kg from PCE3 at a depth of 1.95-2.05m and a maximum concentration of 21,800mg/kg from PC4 at a depth of 0.0m to 0.5m. When the results for aluminium were compared with the PCIMP EH value, three of the 30 samples reported above the PCIMP EH value and the 95% UCL was 11,912mg/kg, which is below the PCIMP EH value of 15,000mg/kg.

Previous sediment investigations in Port Curtis recorded median aluminium concentrations of 8,770mg/kg (Angel et al. 2012) and 8,190mg/kg (GHD 2009). The median aluminium concentration recorded at Port Central Expansion DMPA (10,750mg/kg) is greater than these background medians.

However, all aluminium samples from Port Central Expansion DMPA were within the background range for aluminium in Port Curtis derived by Angel et al. (2012) (1,720-26,900mg/kg) and only a single sample exceeded the background range recorded during the WBDDP (530-20,600mg/kg) (GHD 2009).

5.2.1.2 Iron

Guideline values

No NAGD screening level values are available for iron and as such, a comparison against locally derived reference values was conducted.

Locally derived reference values

Iron was reported over the laboratory LOR within each of the 30 samples collected with a minimum concentration of 5,670mg/kg from PCE3 at a depth of 1.95-2.05m and a maximum concentration of 29,300mg/kg from PC7 at a depth of 0.5m to 1.0m. When the results for iron are compared with the PCIMP EH value, 11 of the 30 samples reported concentrations above the PCIMP EH value and the 95% UCL was 20,544mg/kg, which is slightly below the PCIMP EH value of 21,000mg/kg.

Previous sediment investigations in Port Curtis recorded median iron concentrations of 17,450mg/kg (Angel et al. 2012) and 20,900mg/kg (GHD 2009). The median iron concentration recorded at Port Central Expansion DMPA (17,150mg/kg) is consistent with these background values.

Iron concentrations in all samples at Port Central Expansion DMPA were within the background range for iron in Port Curtis derived by Angel et al. (2012) (4,970-62,600mg/kg) and recorded during the WBDDP (560-76,000mg/kg) (GHD 2009).

5.2.1.3 Arsenic

Guideline values

Arsenic was recorded above the PQL of 1.0mg/kg within each of the 30 samples collected, however none reported concentrations above the NAGD screening level of 20mg/kg. The minimum concentration reported was 2.7mg/kg from PCE3 at a depth of 1.95-2.05m and the maximum was 15mg/kg from PC11 at a depth of 0.0m to 0.5m. The 95% UCL reported a concentration of 11.4mg/kg, which is well below the NAGD screening level.

Locally derived reference values

Given all arsenic samples were below the NAGD (2009) screening level value, a comparison against locally derived reference values was not required.

5.2.1.4 Chromium

Guideline values

Chromium was recorded above the NAGD PQL in all 30 samples with a minimum concentration of 10.3mg/kg from PCE3 at a depth of 3.95-4.05m and maximum concentration of 28.9mg/kg from PC7 at a depth of 0.5m to 1.0m. No samples reported values above the NAGD screening level of 80mg/kg and the 95% UCL for all samples of 19.22mg/kg was significantly lower than the NAGD screening level of 80mg/kg.

Locally derived reference values

Given chromium was below the NAGD (2009) screening level value in all samples, a comparison against locally derived reference values was not required.

5.2.1.5 Copper

Guideline values

Copper was recorded above the NAGD PQL in all 30 samples with only one sample exceeding the NAGD screening level of 65mg/kg with a concentration of 67mg/kg from PCE1 at a depth of 2.9m to 3.0m. The minimum concentration of copper was 2.9mg/kg from PCE3 at a depth of 1.95-2.05m. The 95% UCL for copper was 20.75mg/kg, which is significantly below the NAGD screening level of 65mg/kg.

Locally derived reference values

Given the 95% UCL for copper was below the NAGD (2009) screening level value, a comparison against locally derived reference values was not required.

5.2.1.6 Cobalt

Guideline values

No NAGD screening level values are available for cobalt and as such, a comparison against locally derived reference values was conducted.

Locally derived reference values

Cobalt was recorded over the laboratory LOR in all 30 samples, with 26 of the samples reporting over the PCIMP EH value of 6.9mg/kg. The minimum concentration of 2.1mg/kg was from PCE3 at a depth of 1.95-2.05m and the maximum concentration was 19.8mg/kg from PCE1 at a depth of 2.9m to 3.0m. The 95% UCL of 10.16mg/kg, while over the PCIMP EH value, was significantly under the PCIMP WCS value of 69mg/kg.

All cobalt samples from Port Central Expansion DMPA were within the background range in Port Curtis, as recorded by Angel et al. (2012) and during the WBDDP (GHD 2009). In addition, the median concentration for cobalt at Port Central Expansion DMPA (8.95mg/kg) is less than the median concentration identified by both Angel et al. (2012) and GHD (2009).

Terrestrial background values

The cobalt concentrations in all samples from Port Central Expansion DMPA are within the terrestrial background values, which range from 2 to 170mg/kg (EPA 1998) and the median concentration is similar to the average abundance of cobalt in soil (8mg/kg), as determined by AusIMM (2011).

5.2.1.7 Lead

Guideline values

Lead was recorded in all 30 samples above the NAGD PQL. No samples were recorded above the NAGD screening level of 50mg/kg. The maximum concentration recorded was 9.5mg/kg from PC4 at a depth of 0.0m to 0.5m, which is well below the NAGD screening level (as was the 95% UCL of 6.8mg/kg). The minimum concentration of lead recorded was 2.5mg/kg from PCE3 at a depth of 2.95-3.05m.

Locally derived reference values

Given lead was below the NAGD (2009) screening level value in all samples, a comparison against locally derived reference values was not required.

5.2.1.8 Manganese

Guideline values

No NAGD screening level values are available for manganese and as such, a comparison against locally derived reference values and terrestrial background values was conducted.

Locally derived reference values

Manganese was reported above the NAGD PQL in all 30 samples at Port Central Expansion DMPA with a minimum concentration of 35mg/kg from PCE3 at a depth of 1.95-2.05m and a maximum concentration of 1,080mg/kg from PCE1 from a depth of 3.9m to 4.0m.

Investigations by Angel et al. (2012) and GHD (2009) recorded manganese concentrations ranging from 74-1,330mg/kg and 10-7,680mg/kg respectively. All manganese samples collected from Port Central Expansion DMPA fall within these ranges with a median of 290mg/kg, which is below the median of both previous investigations.

Terrestrial background values

Manganese was reported above the 500mg/kg EIL in only one sample of the 30 samples collected, with the sample taken at a depth of approximately 4.0m. The 95% UCL for manganese was 431.5mg/kg, which was below the QLD Contaminated Land Guideline EIL of 500mg/kg (EPA 1998).

All manganese samples collected from Port Central Expansion DMPA were within the background levels provided by the draft QLD contaminated land guideline of 4-12,600mg/kg (EPA 1998).

5.2.1.9 Nickel

Guideline values

Nickel was recorded over the NAGD PQL for all 30 samples collected with no samples reporting above the NAGD screening level of 21mg/kg. The 95% UCL reported a value of 10.41mg/kg, which is well below the NAGD screening level. The minimum concentration was 3.5mg/kg from PCE3 at a depth of 1.95-2.05m while the maximum concentration was 15.2mg/kg from PCE1 at a depth of 2.9m to 3.0m.

Locally derived reference values

Given all nickel samples were below the NAGD (2009) screening level, a comparison against locally derived reference values was not required.

5.2.1.10 Selenium

Guideline values

No NAGD screening level values are available for selenium and as such, a comparison against locally derived reference values was conducted.

Locally derived reference values

Selenium was detected above the laboratory LOR for all 30 samples with eight samples (from four boreholes) reporting concentrations over the PCIMP EH value of 1.0mg/kg. The minimum concentration was 0.1mg/kg from PCE3 at depths of 1.95-2.05m and 2.95-3.05m while the maximum was 4.5mg/kg from PC4 at a depth of 0.5m to 1.0m. The 95% UCL for selenium was 2.89mg/kg, nearly three times higher than the PCIMP EH value but significantly less than the PCIMP WCS value of 10mg/kg.

In addition, sediment investigations during the WBDDP recorded concentrations of selenium ranging from 0.1-5.4mg/kg with a median concentration of 0.4mg/kg (GHD 2009). These results are similar to concentrations from Port Central Expansion DMPA, which recorded a median concentration of 0.7mg/kg and a 95% UCL of 2.29mg/kg.

5.2.1.11 Silver

Guideline values

Silver was detected above the NAGD PQL within eight of the 30 samples. However, no samples were recorded above the NAGD screening level of 1.0mg/kg and the maximum concentration recorded was 0.9mg/kg from PC8 at a depth of 0.0m to 0.5m.

Locally derived reference values

Given silver was below the NAGD (2009) screening level value in all samples, a comparison against locally derived reference values was not required.

5.2.1.12 Vanadium

Guideline values

No NAGD screening level values are available for vanadium and as such, a comparison against locally derived reference values and terrestrial background values was conducted.

Locally derived reference values

Vanadium was detected above the laboratory LOR in all 30 samples, with 14 of the samples reporting concentrations above the PCIMP EH value of 40mg/kg (with a maximum concentration of 98.3mg/kg from PCE1 at a depth of 3.9m to 4.0m). The 95% UCL for vanadium was calculated as 49.78mg/kg, which is above the PCIMP EH value of 40mg/kg but significantly below the PCIMP WCS value of 400mg/kg. There was no pattern to the distribution of vanadium within the different sample depths and when considered with the ubiquitous nature of its distribution around Port Curtis, indicates that the vanadium is natural in origin rather than an introduced contaminant.

In addition, Angel et al. (2012) identified vanadium concentrations in sediments of Port Curtis ranging from 11 to 114mg/kg while vanadium concentrations in sediments ranged from 5.6 to 287mg/kg during the WBDDP (GHD 2009). The vanadium concentrations identified at Port Central Expansion DMPA had a very similar range with a median concentration of 39.2mg/kg, consistent with the previous investigations.

Terrestrial background values

In addition, AusIMM (2011) provides an average abundance value of 100mg/kg for vanadium observed in Australian soils. All vanadium samples from sediments at Port Central Expansion DMPA were below this concentration.

5.2.1.13 Zinc

Guideline values

Zinc was recorded above the NAGD PQL in all of the 30 samples collected and no samples exceeded the NAGD screening level of 200mg/kg. The minimum concentration was 4.2mg/kg from PCE3 at a depth of 1.95-2.05m while the highest concentration was 55.2mg/kg from PC4 at a depth of 0.0m to 0.5m.

Locally derived reference values

Given zinc was below the NAGD (2009) screening level value in all samples, a comparison against locally derived reference values was not required.

5.2.1.14 Mercury

Guideline values

Mercury was recorded above the NAGD PQL in 24 of the 30 samples, with the samples being located across depth horizons. No exceedances were recorded over the NAGD screening level of 0.15mg/kg with the highest concentration being 0.04mg/kg from PC4 (0.0m to 0.5m) and PCE1 (3.9m to 4.0m).

Locally derived reference values

Given mercury was below the NAGD (2009) screening level value in all samples, a comparison against locally derived reference values was not required.

5.2.2 Organics and BTEX

No PCBs, OCP or OPP concentrations were detected with all samples tested reporting below the laboratory LORs (and hence below guideline levels) for these contaminants.

Fifteen of the 20 samples analysed reported the sum of (eleven) PAHs above the laboratory LOR. The maximum concentration was 1,910µg/kg (adjusted to 1.0% TOC) from PC11 at a depth of 0.0m to 0.5m with a 95% UCL of 865.8µg/kg, which is well below the NAGD screening level of 10,000µg/kg.

No TRH C_6-C_{10} fraction concentrations were detected although over three-quarters of the >C_{10}-C_{40} fraction recorded concentrations above the NAGD PQL (17 values of 20 samples analysed). When adjusted to 1.0% TOC, the maximum concentration was 340mg/kg from PC4 at a depth of 0.0m to 0.5m with a 95% UCL of 191mg/kg, which is well below the NAGD screening level of 550mg/kg and the proposed Simpson et al. (2013) revised screening level of 280mg/kg.

Seventeen from 20 samples recorded TPH concentrations over the LOR with the maximum concentration recorded being 300mg/kg (adjusted to 1.0% TOC) from PC5 at a depth of 0.0m to 0.5m with the 95% UCL being 175.3mg/kg (adjusted to 1.0% TOC). BTEX was not detected above the laboratory LOR in any of the samples collected.

5.2.3 Organotins

No samples reported a concentration of tributyltin above the NAGD PQL of 1.0µg Sn/kg.

5.2.4 Nutrients and total organic carbon

No trigger limits exist for TOC and nutrients in sediments within the NAGD (2009) guidelines although the PCIMP has set EH values derived from the 95th percentile of background data collected during the PCIMP monitoring with WCS values being set at 10 times the EH values. The PCIMP EH and WCS values set for ammonia as N are 15mg/kg and 150mg/kg, respectively.

Simpson et al. (2013) (unpublished) provides revised sediment quality values, with a proposed screening level of 4.0mg/kg for ammonia.

All 20 samples for ammonia as N were recorded above the NAGD PQL of 0.1mg/kg with six of the samples recording concentrations over the PCIMP EH value of 15mg/kg. The maximum concentration was 50.8mg/kg from PC5 at a depth of 0.5m to 1.0m. The 95% UCL had a value of 16.25mg/kg, just above the PCIMP EH value of 15mg/kg but well below the PCIMP WCS value of 150mg/kg.

However, 12 samples recorded concentrations in excess of the Simpson et al. (2013) screening levels. The 95% UCL for ammonia was 16.25mg/kg, which is significantly greater than the screening level.

Sediment total ammonia as N concentrations are generally higher at locations with higher TOC and silt/clay content, compared to sites characterised by coarser material. The 95% UCLs for TOC and total ammonia as N were 0.77% and 16.25mg/kg, respectively, reflecting an increase in the clay content (over 50% of samples) and a subsequent increase in ammonia concentration in the sediments.

5.2.5 Dioxins

As previously discussed, minimal sampling for dioxins has been undertaken within Port Curtis to date. Two samples were collected within the Port Central Expansion DMPA itself (refer Figure 5.4). These results were analysed as part of the larger study as using the full 22 dioxin samples strengthened the analysis. The results were compared against the Canadian sediment quality guidelines and also compared against the previous Port Curtis investigation (EHP 2012). Details of this analysis are provided in Section 3.2.5.

As dredged material will be placed in a reclamation, it is considered more appropriate to compare the results to the Dutch Intervention Levels for dioxins (1,000pg/g) (Ministry of Housing, Spatial Planning and the Environment 2000). As the median concentration (and maximum) are several orders of magnitude below the Dutch Intervention Level, no risk is likely to future site users of the reclamation.

5.3 Particle size distribution

PSD was analysed at 10 of the boreholes within the Port Central Expansion DMPA from the top 0.5m of sediment and from 0.5m to 1.0m where practicable.

The sediments within the Port Central Expansion DMPA were predominately sand and fine material (i.e. clay and silt) with 68% of the samples containing more coarse material. The amount of fine material increased with depth in the Port Central Expansion DMPA, with fine material contributing to 42.8% of the shallow sediment, which increased to 55.1% in the deeper sediments.

Figures 5.5 and 5.6 illustrate the PSD results across Port Central Expansion DMPA.

Table 5.2 outlines the PSD for Port Central Expansion DMPA, indicating that sand is the major component of the sediment (49.3%), followed by fines with a combined clay and silt average of 47.2%.

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PC1	0.5 m
ΣTEQ	0.36

PC5	0.0 - 0.5 m
ΣTEQ	1.22

PC1 PCE3 PCE1 PC2 PC3 PC4 PC6 PC5 PC9 PC7 PC8 PC10 PC11

Legend

- Boreholes where dioxins were sampled
- Other Sampling Locations
- Highest Astronomical Tide
- Lowest Astronomical Tide
- Dredged Material Placement Areas
- Existing Shipping Channels

Note:
ΣTEQ: sum of dioxin equivalent concentrations dry weight.

Source:
Aerial: GPC, 2015 and DigitalGlobe Web Map Service, 2013.

Map by: RB P:\GIS\Projects\237374_GPC_Channel_Duplication_EIS\237374_GPC_Geochem_Dioxins_Concentrations_in_Port_Central.mxd 26/11/2015 09:51

0 190 380 Metres

Date: 26/11/2015 Version: 5 Job No: 237374

Coordinate system: GDA_1994_MGA_Zone_56

Sediment Characterisation Plan Implementation Report (DMPAs)

Figure 5.4: Dioxin concentrations within Port Central Expansion DMPA

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Legend

Dredged Material Placement Areas

Existing Shipping Channels

Sediment texture

- Clay (<2 um)
- Silt (2-60 um)
- Sand (0.06-2.00 mm)
- Gravel (>2mm)
- Cobbles (>6cm)

PC1 0.0-0.5B

PC2 0.0-0.5B

PC3 0.0-0.5B

PC4 0.0-0.5B

PC5 0.0-0.5B

PC6 0.0-0.5B

PC7 0.0-0.5B

PC8 0.0-0.5B

PC10 0.0-0.5B

PC11 0.0-0.5B

Source:
Aerial: GPC, 2015 and DigitalGlobe Web Map Service, 2013.

Map by: Moore NK/RB\GIS\Projects\237374_GPC_Channel_Duplication_EIS\237374_GPC_Geochem2_19.mxd 26/11/2015 10:13

0 190 380 Metres

Date: 26/11/2015 Version: 5 Job No: 237374

Coordinate system: GDA_1994_MGA_Zone_56

Sediment Characterisation Plan Implementation Report (DMPAs)

Figure 5.5: Particle Size Distribution (shallow sediments) – Port Central Expansion DMPA

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South Trees Wharf

South Trees Island

South Gladstone

Legend

Dredged Material Placement Areas

Existing Shipping Channels

Sediment texture

Clay (<2 um)

Silt (2-60 um)

Sand (0.06-2.00 mm)

Gravel (>2mm)

Cobbles (>6cm)

PC1 0.5-1.0B

PC2 0.5-1.0B

PC3 0.5-1.0B

PC4 0.5-1.0B

PC5 0.5-1.0B

PC6 0.5-1.0B

PC7 0.5-1.0B

PC8 0.5-1.0B

PC10 0.5-1.0B

Source:
Aerial: GPC, 2015 and DigitalGlobe Web Map Service, 2013.

Map by: Moore NK/RB\GIS\Projects\237374_GPC_Channel_Duplication_EIS\237374_GPC_Geochem2_20.mxd 26/11/2015 10:13

0 190 380 Metres

Date: 26/11/2015 Version: 5 Job No: 237374

Coordinate system: GDA_1994_MGA_Zone_56

Sediment Characterisation Plan Implementation Report (DMPAs)

Figure 5.6: Particle Size Distribution (deeper sediments) – Port Central Expansion DMPA

Table 5.2 **Summary of PSD results for Port Central Expansion**

Statistics	Clay (<2 µm)	Silt (2-60 µm)	Sand (0.06-2mm)	Gravel (>2mm)	Cobbles (>6cm)
Minimum	13	9	30	<1	<1
Mean	24	23.2	49.3	3.5	<1
Maximum	38	41	76	25	<1

All PSD laboratory results are included in Appendix G.

5.4 Acid sulfate soils

5.4.1 General

The full NATA certified laboratory report is provided in Appendix D while a summary of the results are provided in Appendix H.

The sections below discuss the ASS results and determine the likelihood of AASS and PASS being present in the sediment at Port Central Expansion.

The action criteria for ASS, as specified by Ahern et al. (1998) where more than 1,000t of sediment is to be disturbed, is as follows:

- Sulfur trail 0.03% S
- Acidity trail 18 mole H+/t.

5.4.2 Field testing

5.4.2.1 Screening criteria

For reasons of practicality and the avoidance of transporting and using oxidising chemicals on board the vessel, the pH tests were conducted by the primary laboratory. The primary laboratory utilised two different methods for obtaining pH measurements depending on if the pH tests were stand-alone or part of the SPOCAS suite. The same pH results are achieved, regardless of the method utilised.

A typical value that may indicate the presence of AASS includes:

- A pH_F/pH_{KCL} value of 4 or less.

Values that indicate the presence of PASS may include:

- A pH_{FOX}/pH_{OX} value of 4 or less
- A ΔpH greater than 2 (from pH_F to pH_{FOX} and pH_{KCL} to pH_{OX})
- To a much lesser extent, a 'vigorous' observed reaction rate

5.4.2.2 Field and laboratory pH results

The pH test results provide an indication of the presence or absence of ASS in the sediment profile. The pH testing was conducted on each core, typically at 0.25m intervals along the core.

The pH tests were carried out on 54 sediment samples within the Port Central Expansion DMPA. These tests were used to indicate the likelihood of sediment being non-ASS, AASS or PASS. The results of the pH testing are summarised as follows:

- The pH_F/pH_{KCL} values for the majority of samples ranged from pH 8.1 to pH 9.3 indicating that AASS were not present at the Port Central Expansion DMPA
- The results of the pH_{FOX}/pH_{OX} tests for all samples ranged from pH 2.4 to pH 9.2. The potential for the presence of PASS was identified at the following locations:
  - PC6 0.75m: pH 2.7
  - PC10 0.75m: pH 2.4

- PC10 1.0m: pH 2.8
- ASS Duplicate 24 (PC10 1.0m): pH 2.5

- A drop in two or more pH units is considered potentially indicative of PASS presence in the sediment. This was observed in 27.8% the samples with a reduction of greater than 5.5 pH units at the following locations:

  - PC6 0.75m: pH 5.8
  - PC10 0.75m: pH 5.7
  - PC10 1.0m: pH 5.9
  - ASS Duplicate 24 (PC10 1.0m): pH 6.2.

Interpretation of the field data generally indicated an absence of ASS across the majority of the Port Central Expansion DMPA. Selected samples from discrete locations and sediment horizons did however indicate a likely PASS presence at PC6 and PC10 at depths below 0.75m.

5.4.3 SPOCAS results

The results for each component of the SPOCAS analysis methods are utilised as input into the acid base accounting, which is used to calculate the net acidity.

The acid base accounting takes into consideration the acid generating/neutralising capacity of the sediment in both its existing and disturbed states. It also includes consideration of potential for the sulfur material present in the sediment matrix to exchange with ions such as calcium and magnesium.

SPOCAS analysis was carried out on 35 sediment samples taken from within the Port Central Expansion DMPA.

5.4.3.1 Acidity trail

The acidity trail component of the SPOCAS analysis is comprised of the following analytical methods:

- Titratable actual acidity (TAA) 23F (mole H+/t)
- Titratable peroxide acidity (TPA) 23G (mole H+/t)
- Titratable sulfidic acidity (TSA) 23H (mole H+/t).

These analytical methods assist in quantifying the level of acidity present within the sediment.

TAA quantifies the amount of existing acid in the sediment as measured in mole H^+/t. The expression of existing acidity within the sediment is generally indicated by the measured pH. TAA was not detected (<2 mole H^+/t) in all the samples.

TPA quantifies the amount of acid that is likely to be generated in the sediment if oxidation were to occur (e.g. during or as a result of disturbance). TPA was only detected at PC10 (1.0m) with a value of 272 mole H^+/t.

TSA quantifies the amount of acid (existing or potential) within the sediment that is attributable to pyritic material, which indicates the presence/absence of ASS material. TSA was only detected at PC10 (1.0m) with a value of 272 mole H^+/t.

5.4.3.2 Sulfur trail

The sulfur trail component of the SPOCAS analysis is comprised of the following analysis methods:

- Potassium chloride extractable sulfur (S_{KCl}) 23C (%S)
- Peroxide sulfur (S_P) 23D (%S)
- Peroxide oxidisable sulfur (S_{POS}) 23E (%S)
- Acidity – peroxide oxidisable sulfur (a-S_{POS}) a-23E (mole H+/t).

These analytical methods assist in quantifying the level of extractable sulfidic material present within the sediment, which includes soluble and adsorbed sulfate as well as sulfate from gypsum. These

results are utilised as input into the acid base accounting for calculating the net acidity within the sediment attributable to the sulfur content available through oxidation.

S_{POS} was detected all of the samples, ranging from 0.11%S to 1.5%S. The maximum value for S_{POS} was detected in PC10 at a depth of 1.0m while the minimum value was detected in PC1 at a depth of 0.0m. All samples analysed for Port Central Expansion DMPA exceeded the action criteria (≥ 0.03%S).

5.4.3.3 Calcium values analysis

The calcium values analysis is comprised of the following analysis methods:

- KCl extractable calcium (Ca_{KCl}) method 23Vh (%Ca)
- Peroxide calcium (Ca_P) method 23Wh (%Ca)
- Acid reacted calcium (Ca_A) method 23X (%Ca).

These analysis methods assist in quantifying the level of extractable calcium present within the sediment. These results are utilised as input into the calculation of the neutralising capacity within the sediment that is attributable to the presence of calcium.

Ca_{KCl} results give an indication of the calcium that is soluble and exchangeable within the sediment. Ca_P results are utilised to calculate the reacted calcium (Ca_A), which indicates the acid neutralising capacity within the sediment that is attributable to the presence of soluble and exchangeable calcium.

All samples submitted to the laboratory for SPOCAS analysis were analysed for the presence of soluble and exchangeable calcium to calculate the acid reacted calcium. Results for Ca_{KCL} ranged from 0.2%Ca in PC1 (1.0m) to a maximum value of 0.39%Ca in PC5 (0.0m).

5.4.3.4 Magnesium values analysis

The magnesium values analysis is comprised of the following analysis methods:

- KCl extractable magnesium (Mg_{KCl}) method 23Sm (%Mg)
- Peroxide magnesium (Mg_P) method 23Tm (%Mg)
- Acid reacted magnesium (Mg_A) method 23U (%Mg).

These analysis methods assist in quantifying the level of extractable magnesium present within the sediment. These results are utilised as input into the calculation of the neutralising capacity within the sediment that is attributable to the presence of magnesium.

Mg_{KCl} results give an indication of the magnesium that is soluble and exchangeable within the sediment. Mg_P results are utilised to calculate the reacted magnesium (Mg_A), which indicates the acid neutralising capacity within the sediment that is attributable to the presence of soluble and exchangeable magnesium.

All samples submitted to the laboratory for SPOCAS analysis were analysed for the presence of soluble and exchangeable magnesium in order to calculate the acid reacted magnesium. Results for Mg_{KCL} ranged between 0.06%Mg at PC1 (1.0m), PC2 (1.0m) and PC3 (0.5m) and 0.23%Mg in PC4 and PC5 at depths of 0.0m.

5.4.3.5 Excess acid neutralising capacity

The majority of samples submitted to the laboratory for SPOCAS analysis were analysed for ANC_E. Results for ANC_E ranged from 0.31% $CaCO_3$ from PC10 (0.5m) to 18% $CaCO_3$ in PC10 (0.0m), indicating that the sediment within the Port Central Expansion DMPA possesses acid neutralising capacity.

5.4.3.6 Acid base accounting

The acid base accounting analysis component of the SPOCAS analysis is comprised of the following calculations:

- ANC fineness factor (1.5)
- Net acidity (sulfur units) (%S)
- Net acidity (acidity units) (mole H+/t)
- Liming rate (kg $CaCO_3$/t).

The results of these calculations provide the information required for the development of sediment management measures for the placement of dredged material within Port Central Expansion, should the existing sediment be disturbed during placement (or construction of a reclamation bundwall).

Net acidity (sulfur units) results for samples analysed ranged from below the LOR (<0.02%S) to 0.81%S. Net acidity (acidity units) results for samples analysed ranged from below the LOR (<10 mole H^+/t) to 504 mole H^+/t. The maximum net acidity (sulfur and acidity units) was detected in ASS Duplicate 24 (PC10 1.0m).

Based on laboratory results for net acidity in sulfur units and acidity units, four sediment samples were above the action criteria and exhibited values indicative of the presence of ASS. These samples include PC7 (1.0m), PC10 (0.5m and 1.0m) and ASS Duplicate 24 (PC10 1.0m), and are presented in Figure 5.7

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Legend

- Net Acidity exceeding 18 moles H+/tonne
- Sampling Locations
- Dredged Material Placement Areas
- Existing Shipping Channels

PC1, PCE3, PCE1, PC2, PC3, PC4, PC6, PC5, PC7, PC8, PC9, PC10, PC11

Source:
Aerial: GPC, 2015 and DigitalGlobe Web Map Service, 2013.

Map by: Moore NK/FB\GIS\Projects\237374_GPC_Channel_Duplication_EIS\237374_GPC_Geochem2_18.mxd 26/11/2015 10:12

0 190 380 Metres

Date: 26/11/2015 Version: 6 Job No: 237374

Coordinate system: GDA_1994_MGA_Zone_56

Sediment Characterisation Plan Implementation Report (DMPAs)

Figure 5.7: Acid Sulfate Soils within Port Central Expansion DMPA

6 Western Basin Expansion DMPA

6.1 General

Borehole logs for each of the sampling locations are presented in Appendix B and photographs of each of the cores collected are provided in Appendix C.

All laboratory results and laboratory QA/QC assessments are provided in Appendix D for the primary laboratory (ALS) and Appendix E for the secondary laboratory (Eurofins).

6.2 Geochemical

A statistical summary of the geochemical results, showing an assessment against relevant guideline values identified in Section 1.5.1 is provided in Table 6.1 and Appendix F. Analyte concentrations detected above the guideline values are highlighted in bold, along with the relevant assessment criteria. Where guideline values are not available, a comparison against locally derived reference values and terrestrial background values has been undertaken.

The distribution of the contaminants of concern (and observed exceedances) was ubiquitous throughout the sediment profile sampled and the spread was across the DMPA indicating that the metals are widespread and naturally occurring. The analytical results and any exceedances are discussed in the following sections.

Sampling locations where guideline values have been exceeded are illustrated in Figures 6.1 to 6.3.

Table 6.1 Summary of geochemical results for the Western Basin Expansion DMPA compared with guideline values

Analytes (mg/kg)		Aluminium	Iron	Arsenic	Chromium	Copper	Cobalt	Lead	Manganese	Nickel	Selenium	Silver	Vanadium	Zinc	Mercury	Ammonia as N
Guideline values	PQL	50	50	1.0	1.0	1.0	0.5	1.0	10	1.0	0.1	0.1	2.0	1.0	0.01	0.2
	NAGD (2009) – screening level	-	-	**20**	80	65	-	50	-	21	-	1.0	-	200	0.15	-
	NAGD (2009) – high level	-	-	70	370	270	-	220	-	52	-	3.7	-	410	1.0	-
Locally derived reference values[3]	Anastasi & Wilson (2010)	-	-	-	-	-	-	-	29-8,960	-	-	-	-	-	-	-
	PCIMP EH value	15,000	21,000	-	-	-	6.9	-	260	-	1	-	40	-	-	15
	PCIMP WCS value	150,000	210,000	-	-	-	69	-	2,600	-	10	-	400	-	-	150
	Angel et al. (2012)	1,720-26,900 (8,770)	4,970-62,600 (17,450)	-	-	-	3-31 (10)	-	74-1,330 (382.5)	-	0.02-0.51 (0.135)	-	11-114 (40.5)	-	-	-
	WBDDP (GHD 2009)	530-20,600 (8,190)	560-76,000 (20,900)	-	-	-	0.5-77.4 (11.5)	-	10-7,680 (298)	-	0.1-5.4 (0.4)	-	5.6-287 (45.3)	-	-	-
Terrestrial background values	EPA (1998) EIL	-	-	-	-	-	-	-	500	-	-	-	-	-	-	-
	EPA (1998) background levels	-	-	-	-	-	2-170	-	4-12,600	-	-	-	-	-	-	-
	AusIMM (2011) average abundance	-	-	-	-	-	8.0	-	850	-	0.2	-	100	-	-	-
Samples collected		41	41	41	41	41	41	41	41	41	41	41	41	41	41	41
Number of detects		41	41	41	41	41	41	41	41	41	41	12	41	41	41	41
Minimum		6,800	14,800	3.1	14.1	10.8	2.1	4.9	49	1.8	0.6	<0.1	35.2	7.7	0.01	0.9
Maximum		21,300	81,000	**37.8**	37.2	54.8	25.3	12.9	472	18.2	1.5	0.5	172	58.1	0.06	**19.4**
Mean		14,543	27,895	12.85	22.4	25	12.2	8.4	250	11.4	0.9	0.16	59.89	37.91	0.026	6.53
Median		14,400	26,100	11.3	22.4	25	12.2	8.4	250	11.4	0.9	0.1	55.3	37.8	0.02	**5.9**
Standard deviation		3,160	10,940	6.804	4.967	10.86	4.74	1.555	98.18	2.94	0.22	0.12	21.44	10.22	0.012	3.37
95% UCL		15,374	30,772	14.64	23.46	29.98	14	8.748	292.9	12.06	0.96	0.24	65.53	40.6	0.029	7.42
Number of exceedances[1, 2]		18	34	4	-	-	38	-	-	-	16	-	39	-	-	1

Table notes:
[1]Refers to exceedances over NAGD (2009) screening levels, the QLD contaminated land guideline value (EPA 1998) or the PCIMP (2011) EH values
[2]The distribution of the contaminants of concern (and observed exceedances) was ubiquitous throughout the sediment profile sampled and the spread was across the DMPA indicating that the metals are widespread and naturally occurring
[3]Values in brackets are the median value
Bold indicates an exceedance of the corresponding guideline

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Legend

- Metals reported above NAGD (2009) Screening Levels
- Other Sampling Locations
- Highest Astronomical Tide
- Lowest Astronomical Tide
- Dredged Material Placement Areas

WBE4	0.0 - 0.5 m	0.5 - 1.0 m
Arsenic (mg/kg)	27.2	23.1

WBE15	0.5 - 1.0 m
Arsenic (mg/kg)	25.3

WBE19	0.0 - 0.5 m
Arsenic (mg/kg)	37.8

WBE1
WBE2
WBE3
WBE4
WBE5
WBE6
WBE7
WBE8
WBE9
WBE10
WBE11
WBE12
WBE13
WBE14
WBE15
WBE16
WBE17
WBE18
WBE19
WBE20
WBE21

Curtis Island

Existing Western Basin Reclamation Area

Fisherman's Landing

Source:
Aerial: GPC, 2014

Map by: RB P:\GIS\Projects\237374_GPC_Channel_Duplication_EIS\237374_GPC_Geochem_Heavy_Metal_Exceedances_in_Western_Basin.mxd 26/11/2015 10:00

0 255 510 Metres

Date: 26/11/2015 Version: 5 Job No: 237374

Coordinate system: GDA_1994_MGA_Zone_56

Figure 6.1: Metals reported above NAGD (2009) screening levels within Western Basin Expansion DMPA

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Legend

- Aluminium concentrations above PCIMP Ecosystem Health value (15,000 mg/kg)
- Iron concentrations above PCIMP Ecosystem Health value (21,000 mg/kg)
- Highest Astronomical Tide
- Lowest Astronomical Tide
- Dredged Material Placement Areas

WBE1
WBE2
WBE3
WBE4
WBE5
WBE6
WBE7
WBE8
WBE9
WBE10
WBE11
WBE12
WBE13
WBE14
WBE15
WBE16
WBE17
WBE18
WBE19
WBE20
WBE21

Curtis Island

Existing Western Basin Reclamation Area

Fisherman's Landing

Source:
Aerial: GPC, 2015 and DigitalGlobe Web Map Service, 2013.

Map by: RB
P:\GIS\Projects\237374_GPC_Channel_Duplication_EIS\237374_GPC_Geochem_Elevated_Aluminium_and_Iron_Distribution_in_Western_Basin.mxd 26/11/2015 09:56

Metres
0 255 510

Date: 26/11/2015 Version: 4 Job No: 237374
Coordinate system: GDA_1994_MGA_Zone_56

Figure 6.2: Distribution of elevated aluminium and iron within Western Basin Expansion DMPA

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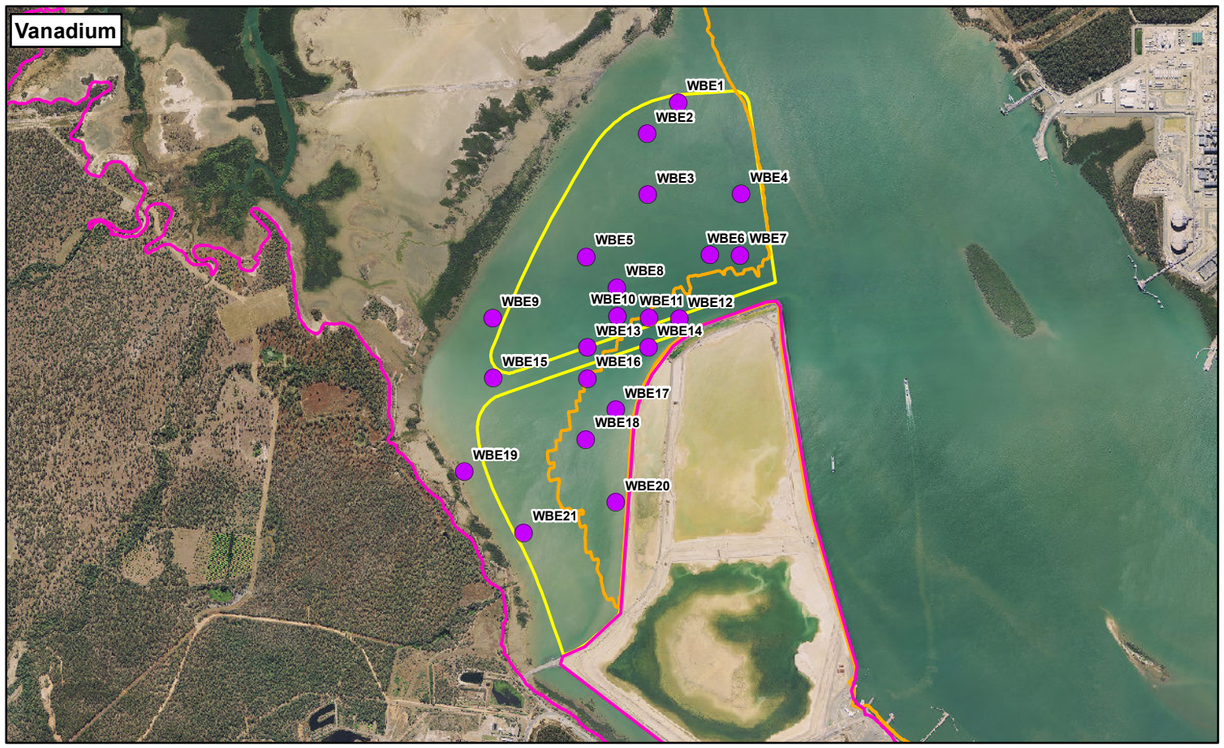



Legend

- Cobalt above PCIMP Ecosystem Health values (6.9 mg/kg)
- Vanadium above PCIMP Ecosystem Health values (40 mg/kg)
- Selenium above PCIMP Ecosystem Health values (1.0 mg/kg)
- Boreholes with metals below PCIMP Ecosystem Health values
- Highest Astronomical Tide
- Lowest Astronomical Tide
- Dredged Material Placement Areas

Source:
Aerial: GPC, 2015 and DigitalGlobe Web Map Service, 2013.

Map by: RB P:\GIS\Projects\237374_GPC_Channel_Duplication_EIS\237374_GPC_Geochem_Metals_in_Western_Basin.mxd 26/11/2015 10:04

0 125250 500 750 1,000 1,250 Meters

Date: 26/11/2015 Version: 4 Job No: 237374

Coordinate system: GDA_1994_MGA_Zone_56

Figure 6.3: Metals reported above PCIMP Ecosystem Health values within Western Basin Expansion DMPA

6.2.1 Metals/metalloids

Aluminium, iron, arsenic, chromium, copper, cobalt, lead, manganese, nickel, selenium, vanadium, zinc and mercury were recorded above laboratory PQLs in all 41 samples undertaken. Twelve samples also reported silver above the LOR.

Of the metals considered as contaminants of concern under the NAGD (2009), only arsenic reported any values over the NAGD screening level (with four exceedances of the NAGD screening level) and the 95% UCL of all metals and metalloids for all samples were below the NAGD screening levels.

Metals with no NAGD screening level values (i.e. aluminium, iron, cobalt, manganese, selenium and vanadium) were compared against the locally derived reference values and terrestrial background values. There were exceedances observed over the PCIMP EH values with aluminium, iron, cobalt and vanadium reported 95% UCLs over their respective PCIMP EH values.

No discussion has been presented for antimony and cadmium as no values were reported above the NAGD (2009) PQL.

6.2.1.1 Aluminium

Guideline values

No NAGD screening level values are available for aluminium and as such, a comparison against locally derived reference values was conducted.

Locally derived reference values

Aluminium was reported over the laboratory LOR in all 41 samples collected, with a minimum concentration of 6,800mg/kg from WBE21 at a depth of 0.0m to 0.5m and a maximum concentration of 21,300mg/kg from WBE17 at a depth of 0.5m to 1.0m. When the results for aluminium were compared with the PCIMP EH value, 18 of the 41 samples reported concentrations above the PCIMP EH value and the 95% UCL was 15,374mg/kg which is slightly above the PCIMP EH value of 15,000mg/kg. There appears little relationship between depth horizon and distribution in relation to aluminium.

Previous sediment investigations in Port Curtis recorded median aluminium concentrations of 8,770mg/kg (Angel et al. 2012) and 8,190mg/kg (GHD 2009). The median aluminium concentration recorded at Western Basin Expansion DMPA (15,374mg/kg) is greater than these background values.

However, the 95% UCL was within the background ranges for aluminium from both investigations, although the maximum concentration recorded (21,300mg/kg) was slightly above the concentrations recorded during the WBDDP (GHD 2009).

6.2.1.2 Iron

Guideline values

No NAGD screening level values are available for iron and as such, a comparison against locally derived reference values was conducted.

Locally derived reference values

Iron was reported over the laboratory LOR within each of the 41 samples collected with a minimum concentration of 14,800mg/kg from WBE11 at a depth of 0.0m to 0.5m and a maximum concentration of 81,000mg/kg from WBE19 at a depth of 0.0m to 0.5m. When the results for iron are compared with the PCIMP EH value, 34 of the 41 samples reported above the PCIMP EH value of 21,000mg/kg and the 95% UCL was 30,722mg/kg, which was higher than the PCIMP EH value although much lower than the PCIMP WCS value of 210,000mg/kg. There was no pattern to the distribution and iron appears to be widespread across the Western Basin Expansion DMPA.

Previous sediment investigations in Port Curtis recorded median iron concentrations of 17,450mg/kg (Angel et al. 2012) and 20,900mg/kg (GHD 2009). The median iron concentration recorded at Western Basin Expansion DMPA (26,100mg/kg) is greater than both these background values.

However, iron concentrations at Western Basin Expansion DMPA ranged from 14,800mg/kg to 81,000mg/kg, which is similar to the range recorded during the WBDDP (GHD 2009), indicating that elevated concentrations of iron are typical and widespread across Port Curtis.

6.2.1.3 Arsenic

Guideline values

Arsenic was recorded above the NAGD PQL of 1.0mg/kg within each of the 41 samples collected, with four samples reporting concentrations above the NAGD screening level of 20mg/kg. The minimum concentration reported was 3.1mg/kg from WBE11 at a depth of 0.0m to 0.5m and the maximum was 37.8mg/kg from WBE19 at a depth of 0.0m to 0.5m. The 95% UCL reported a value of 14.64mg/kg, which is well below the NAGD screening level.

Locally derived reference values

Given the 95% UCL for arsenic was below the NAGD (2009) screening level value, a comparison against locally derived reference values was not required.

6.2.1.4 Chromium

Guideline values

Chromium was recorded above the NAGD PQL in all 41 samples with a minimum concentration of 14.1mg/kg from WBE21 at a depth of 0.0m to 0.5m and maximum concentration of 37.2mg/kg from WBE19 at a depth of 0.0m to 0.5m. No samples reported concentrations above the NAGD screening level of 80mg/kg and the 95% UCL for all samples of 23.46mg/kg was significantly lower than the NAGD screening level of 80mg/kg.

Locally derived reference values

Given chromium was below the NAGD (2009) screening level value in all samples, a comparison against locally derived reference values was not required.

6.2.1.5 Copper

Guideline values

Copper was recorded above the NAGD PQL in all 41 samples with no samples exceeding the NAGD screening level of 65mg/kg. The minimum concentration was 10.8mg/kg from WBE9 at a depth of 0.0m to 0.5m, while the maximum concentration was 54.8mg/kg from WBE11 at a depth of 0.5m to 1.0m. The 95% UCL of 29.98mg/kg is significantly lower than the NAGD screening level.

Locally derived reference values

Given copper was below the NAGD (2009) screening level value in all samples, a comparison against locally derived reference values was not required.

6.2.1.6 Cobalt

Guideline values

No NAGD screening level values are available for cobalt and as such, a comparison against locally derived reference values was conducted.

Locally derived reference values

Cobalt was recorded over laboratory LORs in all 41 samples, with all except three samples (totalling 38 samples) reporting over the PCIMP EH value of 6.9mg/kg. The minimum concentration was 2.1mg/kg from WBE19 at a depth of 0.0m to 0.5m and the maximum was 25.3mg/kg from WBE16 at a depth of 0.0m to 0.5m. The 95% UCL of 14mg/kg was over the PCIMP EH value but significantly under the PCIMP WCS value of 69mg/kg.

The background range determined during previous investigations recorded cobalt concentrations up to 31mg/kg (Angel et al. 2012) and 77.4mg/kg (GHD 2009). All cobalt concentrations recorded in

Western Basin Expansion DMPA are below these values. The median concentration of cobalt from this investigation (12.2mg/kg) is also similar to the medians determined during previous investigations.

Terrestrial background values

The cobalt concentrations in all samples are within the terrestrial background values, which range from 2 to 170mg/kg (EPA 1998) and the median concentration is similar to the average abundance of cobalt in soil (8mg/kg), as determined by AusIMM (2011).

6.2.1.7 Lead

Guideline values

Lead was recorded in all 41 samples above the NAGD PQL. No samples were recorded above the NAGD screening level of 50mg/kg and the highest concentration recorded was 12.9mg/kg from WBE20 at a depth of 0.0m to 0.5m, which is well below the NAGD screening level (as was the 95% UCL of 8.75mg/kg).

Locally derived reference values

Given lead was below the NAGD (2009) screening level value in all samples, a comparison against locally derived reference values was not required.

6.2.1.8 Manganese

Guideline values

No NAGD screening level values are available for manganese and as such, a comparison against locally derived reference values and terrestrial background values was conducted.

Locally derived reference values

Manganese was reported above the NAGD PQL in all 41 samples at Western Basin Expansion DMPA with the minimum concentration of 49mg/kg from WBE19 at a depth of 0.0m to 0.5m and the maximum concentration of 472mg/kg from WBE11 at a depth of 0.5m to 1.0m. The 95% UCL value of 292.9mg/kg, which is slightly above the PCIMP EH value of 260mg/kg.

Background concentrations of manganese in the sediments of Port Curtis were recorded up to 1,330mg/kg (Angel et al. 2012) and 7,680mg/kg (GHD 2009). All manganese samples collected from Western Basin Expansion DMPA fall below these values.

Terrestrial background values

There were no manganese concentrations reported over the QLD Contaminated Land Guideline EIL of 500mg/kg within Western Basin Expansion DMPA.

6.2.1.9 Nickel

Guideline values

Nickel was recorded over the NAGD PQL within all 41 samples collected with no samples reporting above the NAGD screening level of 21mg/kg. The 95% UCL reported a value of 12.06mg/kg, which is well below the NAGD screening level. The minimum concentration was 1.8mg/kg from WBE19 at a depth of 0.0m to 0.5m while the maximum concentration was 18.2mg/kg from WBE15 at a depth of 0.5m to 1.0m.

Locally derived reference values

Given nickel was below the NAGD (2009) screening level value in all samples, a comparison against locally derived reference values was not required.

6.2.1.10 Selenium

Guideline values

No NAGD screening level values are available for selenium and as such, a comparison against locally derived reference values was conducted.

Locally derived reference values

Selenium was detected above the laboratory LOR for all 41 samples with 16 samples reporting concentrations above the PCIMP EH value of 1mg/kg. The minimum concentration was 0.6mg/kg from WBE3, WBE9 and WBE21 at a depth of 0.0m to 0.5m and the maximum was 1.5mg/kg from WBE20 at a depth of 0.0m to 0.5m. The 95% UCL was 0.96mg/kg which is just below the PCIMP EH value of 1.0mg/kg.

In addition, during the WBDDP selenium concentrations were detected in sediments ranging from 0.1-5.4mg/kg, with a median concentration of 0.4mg/kg (GHD 2009). While this is slightly below the median selenium concentration from Western Basin Expansion DMPA (0.9mg/kg), all selenium results collected fall within the range recorded during the WBDDP.

6.2.1.11 Silver

Guideline values

Silver was detected above the NAGD PQL within 12 of the 41 samples. However, no samples were recorded above the NAGD screening level of 1.0mg/kg and the maximum concentration recorded was 0.5mg/kg from WBE3 at a depth of 0.0m to 0.5m and WBE21 at a depth of 0.5m to 1.0m.

Locally derived reference values

Given silver was below the NAGD (2009) screening level value in all samples, a comparison against locally derived reference values was not required.

6.2.1.12 Vanadium

Guideline values

No NAGD screening level values are available for vanadium and as such, a comparison against locally derived reference values and terrestrial background values was conducted.

Locally derived reference values

Vanadium was detected above the laboratory LOR in all 41 samples, with 39 of the 41 samples reporting values above the PCIMP EH value of 40mg/kg. The minimum concentration was 35.2mg/kg from WBE3 at a depth of 0.0m to 0.5m while the maximum concentration was 172mg/kg from WBE19 at a depth of 0.0m to 0.5m. The 95% UCL was calculated at 65.53mg/kg which is above the PCIMP EH value of 40mg/kg but significantly below the PCIMP WCS value of 400mg/kg.

Angel et al. (2012) identified vanadium concentrations in sediments of Port Curtis ranging from 11 to 114mg/kg while vanadium concentrations in sediments ranged from 5.6 to 287mg/kg during the WBDDP (GHD 2009). The vanadium concentrations identified at Western Basin Expansion DMPA had a very similar distribution to those recorded during WBDDP, with a median concentration of 55.3mg/kg and a 95% UCL of 65.53mg/kg.

There was no pattern to the distribution of vanadium within the different sample depths and when considered with the ubiquitous nature of its distribution around Port Curtis, it is highly likely that the vanadium is natural in origin rather than an introduced contaminant.

Terrestrial background values

In addition, AusIMM (2011) provides an average abundance value of 100mg/kg for vanadium observed in Australian soils. The 95% UCL for vanadium (65.53mg/kg) at Western Basin Expansion DMPA is well below this value.

6.2.1.13 Zinc

Guideline values

Zinc was recorded above the NAGD PQL in all of the 41 samples collected and no exceedances were recorded over the NAGD screening level of 200mg/kg. The minimum concentration was 7.7mg/kg from WBE19 at a depth of 0.0m to 0.5m while the maximum concentration of zinc was 58.1mg/kg from WBE20 at a depth of 0.0m to 0.5m.

Locally derived reference values

Given zinc was below the NAGD (2009) screening level value in all samples, a comparison against locally derived reference values was not required.

6.2.1.14 Mercury

Guideline values

Mercury was recorded in all 41 samples at levels over the NAGD PQL, with the samples being located across all depth horizons. No exceedances were recorded over the NAGD screening level of 0.15mg/kg with the highest value being 0.06mg/kg from WBE15 (0.5m to 1.0m) and WBE20 (0.0m to 0.5m).

Locally derived reference values

Given mercury was below the NAGD (2009) screening level value in all samples, a comparison against locally derived reference values was not required.

6.2.2 Organics and BTEX

No PCBs, OCP or OPP concentrations were detected with all samples tested reporting below the laboratory LORs (and hence below guideline levels) for these contaminants.

Approximately one quarter (10) of the 41 samples analysed reported the sum of (11) PAHs above the laboratory LOR. The maximum concentration was 2,680µg/kg from WBE16 at a depth of 0.5m to 1.0m (adjusted to 1% TOC) with a 95% UCL of 609.5µg/kg, which is well below the NAGD screening level of 10,000µg/kg.

No TRH C_6-C_{10} fraction concentrations were detected, however all of the 41 samples of the >C_{10}-C_{40} fraction recorded concentrations over the NAGD PQL. When adjusted to 1.0% TOC, the maximum concentration was 3,850mg/kg from WBE11 at a depth of 0.5m to 1.0m with a 95% UCL of 927.6mg/kg, which is well above the NAGD screening level of 550mg/kg.

Only one sample, of the 41 samples collected, recorded TPH concentrations over the LOR of 3mg/kg with the maximum concentration recorded being 3,360mg/kg from WBE11 at a depth of 0.5m to 1.0m (adjusted to 1.0% TOC) with the 95% UCL being 798.1mg/kg (adjusted to 1.0% TOC). BTEX was not detected above the laboratory LOR in any of the samples collected.

It should be noted that the results for the TRHs and TPHs were made higher by the inclusion of one sample (WBE11 0.5m to 1.0m), which demonstrated the highest results for both of the oil fractions (3,850mg/kg and 3,360mg/kg adjusted to 1.0% TOC). If this sample outlier is excluded from the data, the 95% UCL for TRH (adjusted to 1.0% TOC) is 533.5mg/kg, and the 95% UCL for TPH (adjusted to 1.0% TOC) is 530.9mg/kg, both of which are below the NAGD screening level of 550mg/kg. The other sample taken from the 0.0m to 0.5m horizon at the same borehole also demonstrated elevated results for both TRHs and TPHs (1,210mg/kg and 1,060mg/kg adjusted to 1.0% TOC, respectively), which indicates that the borehole is likely a one-off hydrocarbon hotspot of unknown origin.

6.2.3 Organotins

No samples reported a concentration of tributyltin above the NAGD PQL of 1.0 µgSn/kg.

6.2.4 Nutrients and total organic carbon

No trigger limits exist for TOC and nutrients in sediments within the NAGD (2009) guidelines although the PCIMP has set EH values derived from the 95th percentile of background data collected during the PCIMP monitoring with WCS values being set at 10 times the PCIMP EH values. The PCIMP EH and WCS values set for ammonia as N are 15mg/kg and 150mg/kg, respectively.

Simpson et al. (2013) (unpublished) provides revised sediment quality values, with a proposed screening level of 4.0mg/kg for ammonia.

All 41 samples for ammonia as N were recorded above the NAGD PQL of 0.1mg/kg with only one sample recording an ammonia concentration above the PCIMP EH value of 15mg/kg with a concentration of 19.4mg/kg from WBE20 at a depth of 0.0m to 0.5m. The 95% UCL for ammonia as N was 7.41mg/kg, below the PCIMP EH value.

However, 33 samples recorded ammonia concentrations exceeding the Simpson et al. (2013) screening level of 4.0mg/kg. In addition, the 95% UCL for ammonia as N was 7.41mg/kg, which is in exceedance of the screening level.

The 95% UCLs for TOC and total ammonia as N were 2.37% and 7.41mg/kg, respectively, reflecting the high clay and silt content of the sediments within the Western Basin Expansion DMPA, where 80.5% of samples were mainly clay (42%) and silty (28%) compared with the other DMPAs.

6.2.5 Dioxins

As previously discussed, little sampling for dioxins has been undertaken within Port Curtis to date. A total of 22 samples were taken as part of this study across Port Curtis (although none were located within the Western Basin Expansion DMPA). The results were compared against the Canadian sediment quality guidelines and also compared against the previous Port Curtis investigation (EHP 2012). Details of this analysis are provided in Section 3.2.5.

As dredged material will be placed in a reclamation, it is considered more appropriate to compare the results to the Dutch Intervention Levels for dioxins (1,000pg/g) (Ministry of Housing, Spatial Planning and the Environment 2000). As the median concentration (and maximum) are several orders of magnitude below the Dutch Intervention Level, no risk is likely to future site users of the reclamation.

6.3 Particle size distribution

PSD was analysed at all boreholes within the Western Basin Expansion DMPA, generally from the top 0.5m of sediment and from 0.5m to 1.0m where practicable.

The sediments within the Western Basin Expansion DMPA comprised predominately fine material with 80.5% of samples containing mostly clays and silts. In addition, the top 0.5m of sediment sampled comprised 60.0% fine material, which increased to 79.9% at depth.

Figures 6.4 and 6.5 illustrate the PSD results across the Western Basin Expansion DMPA.

Table 6.2 outlines the PSD for the entire Western Basin Expansion DMPA, indicating that clay is the major component of the sediment (41.8%), followed by silt (27.9%) and sand (24.0%).

Table 6.2 Summary of PSD results for Western Basin Expansion DMPA

Statistics	Clay (<2 µm)	Silt (2-60 µm)	Sand (0.06-2mm)	Gravel (>2mm)	Cobbles (>6cm)
Minimum	20	8	2	<1	<1
Mean	41.8	27.9	24.0	6.3	<1
Maximum	74	46	56	31	<1

All PSD laboratory results are included in Appendix G.

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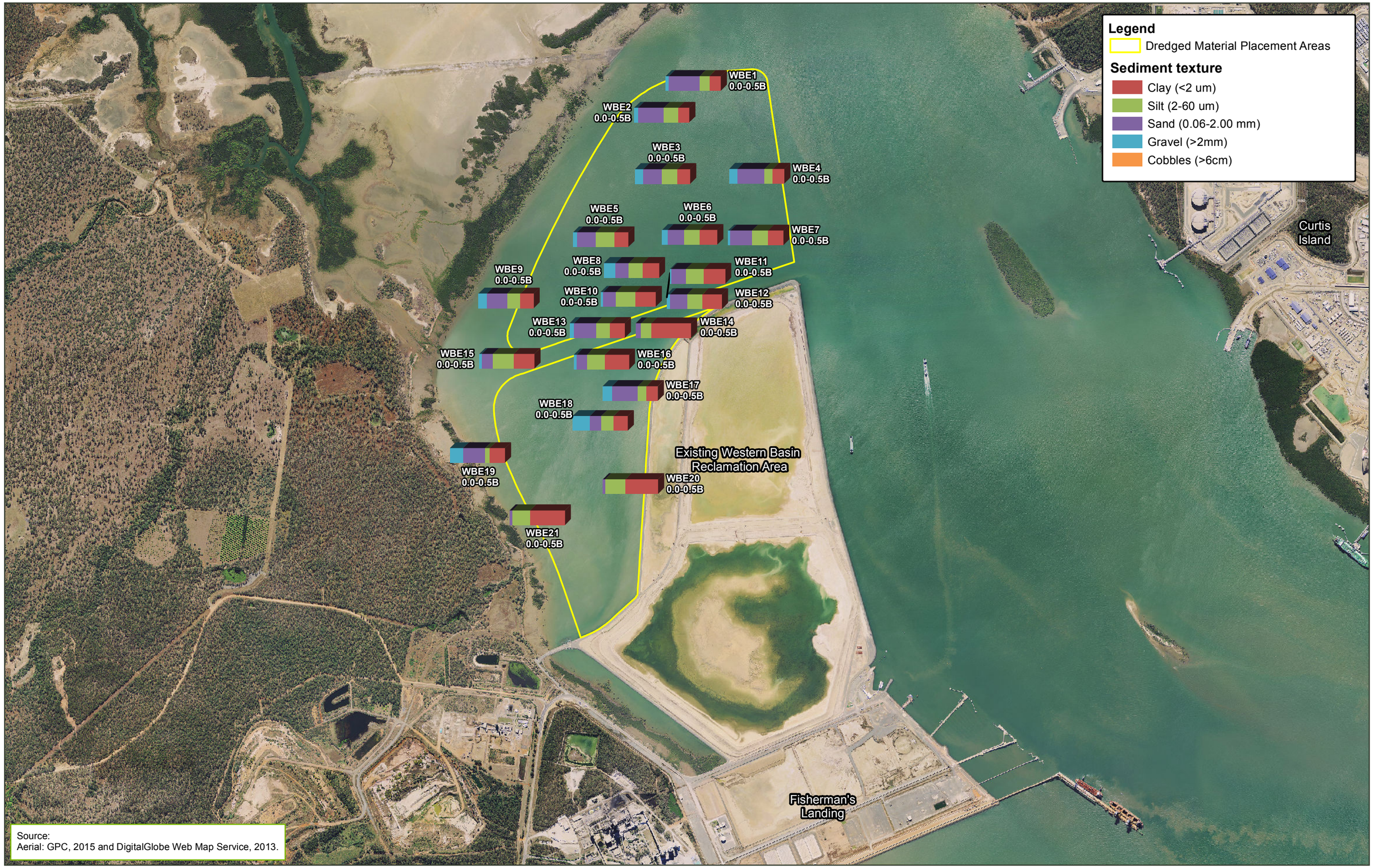

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Aerial: GPC, 2015 and DigitalGlobe Web Map Service, 2013.

Map by: Moore NK/RB\GIS\Projects\237374_GPC_Channel_Duplication_EIS\237374_GPC_Geochem2_24.mxd 26/11/2015 10:15

0 255 510 Metres

Date: 26/11/2015 Version: 5 Job No: 237374

Coordinate system: GDA_1994_MGA_Zone_56

Figure 6.4: Particle Size Distribution (shallow sediments) – Western Basin Expansion DMPA

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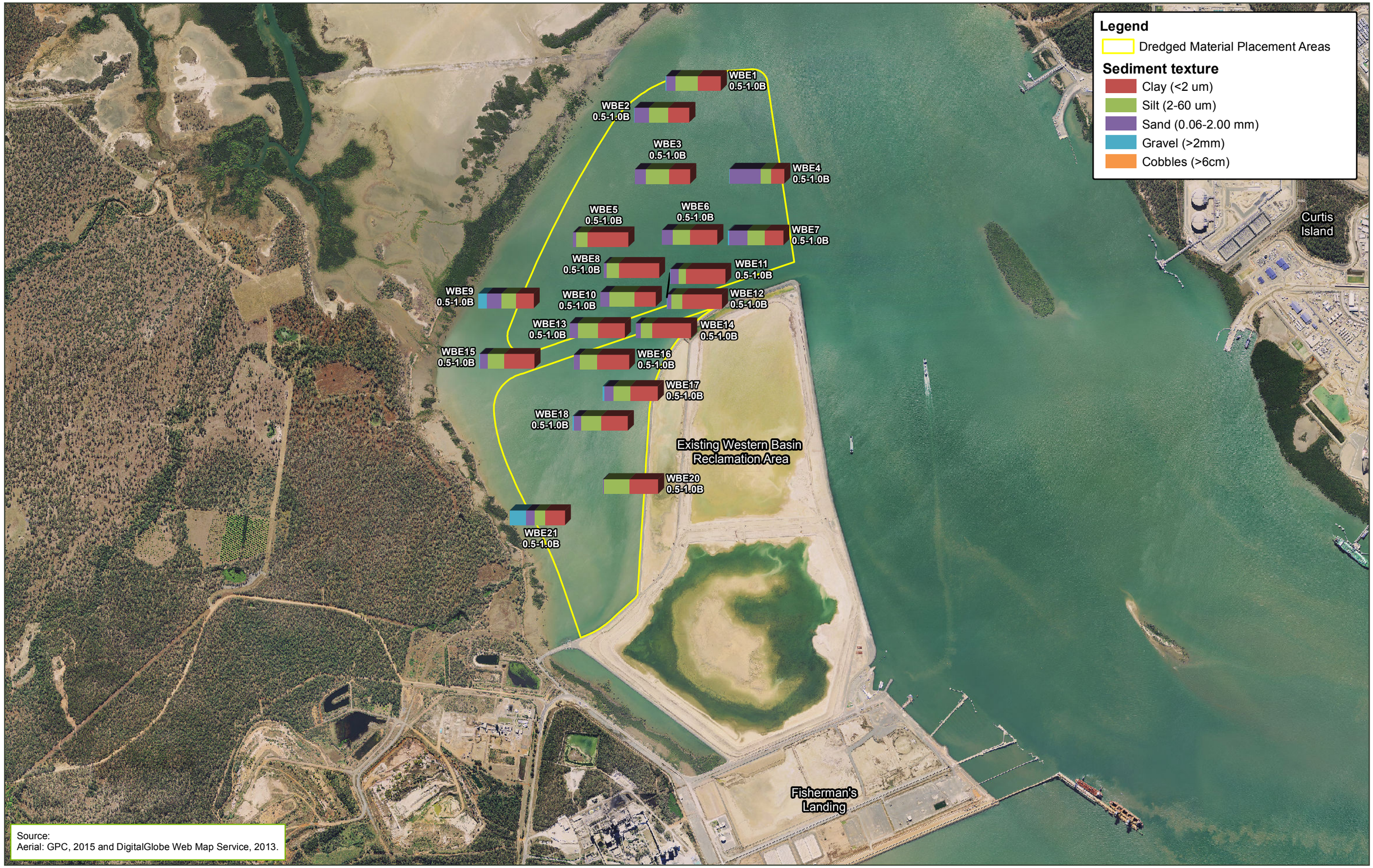

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Coordinate system: GDA_1994_MGA_Zone_56

Sediment Characterisation Plan Implementation Report (DMPAs)

Figure 6.5: Particle Size Distribution (deeper sediments) – Western Basin Expansion DMPA

6.4 Acid sulfate soils

6.4.1 General

The full NATA certified laboratory report is provided in Appendix D while a summary of the results are provided in Appendix H.

The sections below discuss the ASS results and determine the likelihood of AASS and PASS being present in the sediment at the Western Basin Expansion DMPA.

The action criteria for ASS, as specified by Ahern et al. (1998) where more than 1,000t of sediment is to be disturbed, is as follows:

- Sulfur trail 0.03%S
- Acidity trail 18 mole H+/t.

6.4.2 Field testing

6.4.2.1 Screening criteria

For reasons of practicality and the avoidance of transporting and using oxidising chemicals on board the vessel, the pH tests were conducted by the primary laboratory. The primary laboratory utilised two different methods for obtaining pH measurements depending on if the pH tests were stand-alone or part of the SPOCAS suite. The same pH results are achieved, regardless of the method utilised.

A typical value that may indicate the presence of AASS includes:

- A pH_F/pH_{KCL} value of 4 or less.

Values that indicate the presence of PASS may include:

- A pH_{FOX}/pH_{OX} value of 4 or less
- A ΔpH greater than 2 (from pH_F to pH_{FOX} and pH_{KCL} to pH_{OX})
- To a much lesser extent, a 'vigorous' observed reaction rate.

6.4.2.2 Field and laboratory pH results

The pH test results provide an indication of the presence or absence of ASS in the sediment profile. The pH testing was conducted on each core, typically at 0.25m intervals along the core.

The pH tests were carried out on 112 sediment samples. These tests were used to indicate the likelihood of sediment being non-ASS, AASS or PASS. The results of the pH testing are summarised as follows:

- The pH_F/pH_{KCL} values for the majority of samples ranged from pH 6.0 to pH 9.1 indicating that AASS were not present in the Western Basin Expansion DMPA
- The results of the pH_{FOX}/pH_{OX} tests for all samples ranged from pH 1.4 to pH 8.3. The potential for the presence of PASS ($pH_{FOX}/pH_{OX} < 4.0$) occurred in 48.2% of samples from the Western Basin Expansion DMPA, generally from samples collected at 0.75m or below.
- A drop in two or more pH units is considered potentially indicative of PASS presence in the sediment. This was observed in 61.6% of samples with a maximum reduction of 7.0 pH units in WBE15 1.0m. A drop of more than 6.0 pH units upon oxidation was observed in 21.4% of the samples collected with a 'vigorous' reaction rate observed.

Interpretation of the pH results generally indicated the presence of ASS across the majority of the Western Basin Expansion DMPA. While no samples exhibited the presence of AASS, almost all sampling locations indicated the presence of PASS at most depths below the surface.

6.4.3 SPOCAS results

The results for each component of the SPOCAS analysis methods are utilised as input into the acid base accounting, which is used to calculate the net acidity.

The acid base accounting takes into consideration the acid generating/neutralising capacity of the sediment in both its existing and disturbed states. It also includes consideration of potential for the sulfur material present in the sediment matrix to exchange with ions such as calcium and magnesium.

SPOCAS analysis was carried out on 71 sediment samples taken from within the Western Basin Expansion DMPA.

6.4.3.1 Acidity trail

The acidity trail component of the SPOCAS analysis is comprised of the following analytical methods:

- Titratable actual acidity (TAA) 23F (mole H+/t)
- Titratable peroxide acidity (TPA) 23G (mole H+/t)
- Titratable sulfidic acidity (TSA) 23H (mole H+/t).

These analytical methods assist in quantifying the level of acidity present within the sediment.

TAA quantifies the amount of existing acid in the sediment as measured in mole H^+/t. The expression of existing acidity within the sediment is generally indicated by the measured pH. TAA was not detected (<2 mole H^+/t) in all the samples, except WBE17 at a depth of 1.0m, with a TAA value of 8 mole H^+/t. These values are below the action criteria of 18 mole H^+/t for TAA.

TPA quantifies the amount of acid that is likely to be generated in the sediment if oxidation were to occur (e.g. during or as a result of disturbance). TPA ranged between not detected (<2 mole H^+/t) and 1,830 mole H^+/t. The maximum TPA value occurred at WBE8 (1.0m).

TSA quantifies the amount of acid (existing or potential) within the sediment that is attributable to pyritic material, which indicates the presence/absence of ASS material. TSA ranged between not detected (<2 mole H^+/t) and 1,830 mole H^+/t. The maximum TSA value occurred at WBE8 (1.0m).

6.4.3.2 Sulfur trail

The sulfur trail component of the SPOCAS analysis is comprised of the following analysis methods:

- Potassium chloride extractable sulfur (S_{KCl}) 23C (%S)
- Peroxide sulfur (S_P) 23D (%S)
- Peroxide oxidisable sulfur (S_{POS}) 23E (%S)
- Acidity – peroxide oxidisable sulfur (a-S_{POS}) a-23E (mole H+/t).

These analytical methods assist in quantifying the level of extractable sulfidic material present within the sediment, which includes soluble and adsorbed sulfate as well as sulfate from gypsum. These results are utilised as input into the acid base accounting for calculating the net acidity within the sediment attributable to the sulfur content available through oxidation.

S_{POS} was above the LOR in all samples. The maximum value for S_{POS} was 3.53%S, detected in WBE8 at a depth of 1.0m. All samples recorded S_{POS} values above the action criteria (≥ 0.03%S).

6.4.3.3 Calcium values analysis

The calcium values analysis is comprised of the following analysis methods:

- KCl extractable calcium (Ca_{KCl}) method 23Vh (%Ca)
- Peroxide calcium (Ca_P) method 23Wh (%Ca)
- Acid reacted calcium (Ca_A) method 23X (%Ca).

These analysis methods assist in quantifying the level of extractable calcium present within the sediment. These results are utilised as input into the calculation of the neutralising capacity within the sediment that is attributable to the presence of calcium.

Ca_{KCl} results give an indication of the calcium that is soluble and exchangeable within the sediment. Ca_P results are utilised to calculate the reacted calcium (Ca_A), which indicates the acid neutralising capacity within the sediment that is attributable to the presence of soluble and exchangeable calcium.

All samples submitted to the laboratory for SPOCAS analysis were analysed for the presence of soluble and exchangeable calcium to calculate the acid reacted calcium. Results for Ca_{KCL} ranged from 0.08%Ca to a maximum of 0.42%Ca in WBE10 (1.0m) and WBE18 (1.0m).

6.4.3.4 Magnesium values analysis

The magnesium values analysis is comprised of the following analysis methods:

- KCl extractable magnesium (Mg_{KCl}) method 23Sm (%Mg)
- Peroxide magnesium (Mg_P) method 23Tm (%Mg)
- Acid reacted magnesium (Mg_A) method 23U (%Mg).

These analysis methods assist in quantifying the level of extractable magnesium present within the sediment. These results are utilised as input into the calculation of the neutralising capacity within the sediment that is attributable to the presence of magnesium.

Mg_{KCl} results give an indication of the magnesium that is soluble and exchangeable within the sediment. Mg_P results are utilised to calculate the reacted magnesium (Mg_A), which indicates the acid neutralising capacity within the sediment that is attributable to the presence of soluble and exchangeable magnesium.

All samples submitted to the laboratory for SPOCAS analysis were analysed for the presence of soluble and exchangeable magnesium in order to calculate the acid reacted magnesium. Results for Mg_{KCL} ranged between 0.08%Mg and 0.33%Mg in WBE8 (1.0m) and WBE15 (1.0m).

6.4.3.5 Excess acid neutralising capacity

Approximately 54% of samples submitted to the laboratory for SPOCAS analysis were analysed for ANC_E. Results for ANC_E ranged from 0.35% $CaCO_3$ to 32.8% $CaCO_3$ in WBE10 (0.0m), indicating that the sediment within Western Basin Expansion possesses acid neutralising capacity.

6.4.3.6 Acid base accounting

The acid base accounting analysis component of the SPOCAS analysis is comprised of the following calculations:

- ANC fineness factor (1.5)
- Net acidity (sulfur units) (%S)
- Net acidity (acidity units) (mole H+/t)
- Liming rate (kg $CaCO_3$/t).

The results of these calculations provide the information required for the development of sediment management measures for the placement of dredged material within the Western Basin Expansion, should the existing sediment be disturbed during placement (or construction of a reclamation bundwall).

Net acidity (sulfur units) results for samples analysed ranged from below the LOR (<0.02%S) to 3.13%S. Net acidity (acidity units) results for samples analysed ranged from below the LOR (<10 mole H^+/t) to 1,950 mole H^+/t.

Based on laboratory results for net acidity in sulfur units and acidity units, 33 sediment samples (46.5%) were above the action criteria and exhibited values indicative of the presence of ASS at a range of depths. The sampling locations where the action criteria was exceeded are presented in Figure 6.6.

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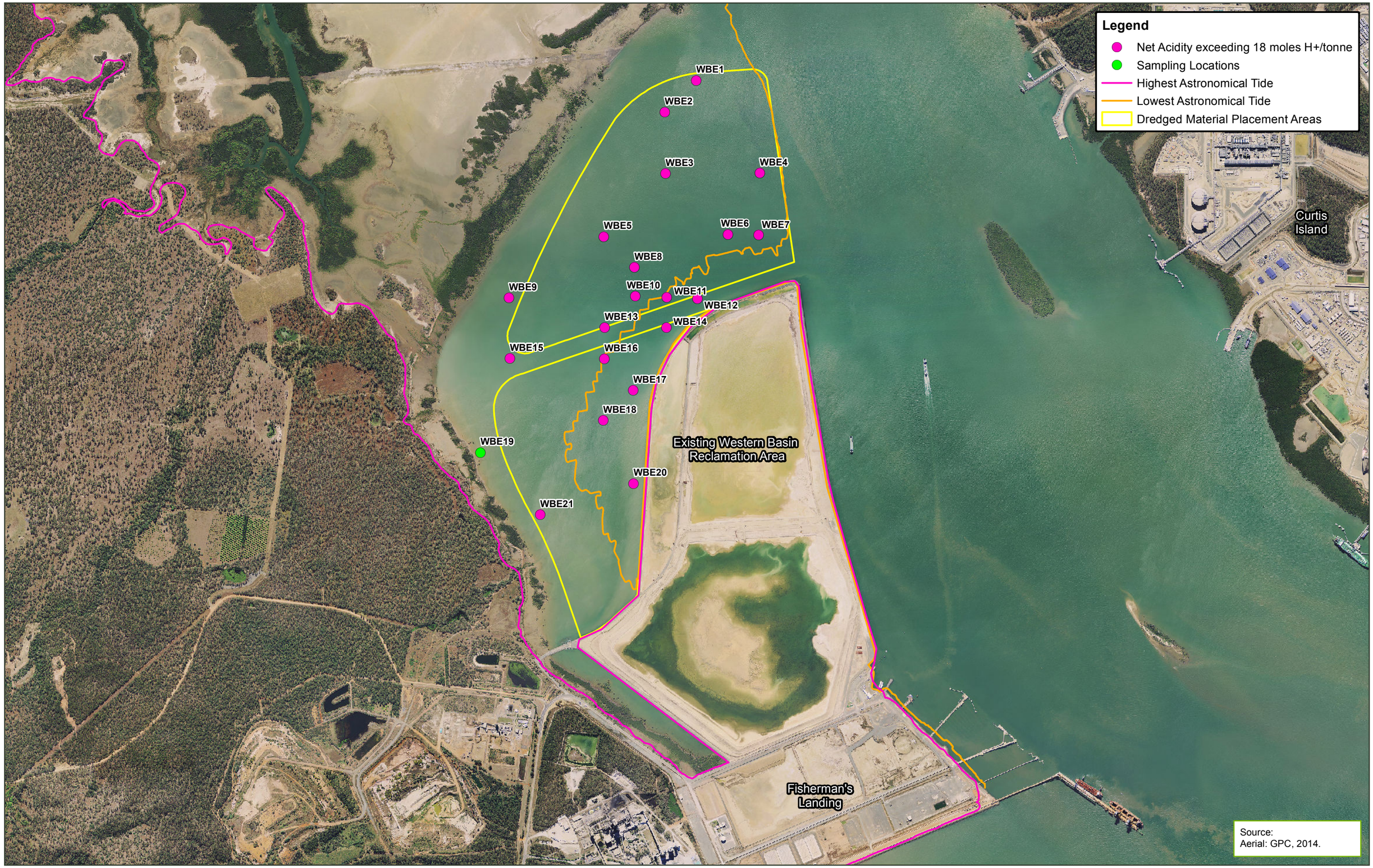

Map by: Moore NK/FB\GIS\Projects\237374_GPC_Channel_Duplication_EIS\237374_GPC_Geochem2_23.mxd 26/11/2015 10:14

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Coordinate system: GDA_1994_MGA_Zone_56

Sediment Characterisation Plan Implementation Report (DMPAs)

Figure 6.6: Acid Sulfate Soils within Western Basin Expansion DMPA

7 Data validation

7.1 Laboratory QA/QC

7.1.1 General

Details of the primary and secondary laboratory QA/QC are provided in Appendices D and E. A description of the laboratory QA/QC procedures implemented is provided in Section 2.7.

7.1.2 Sample conditions

All samples were received by the laboratories in appropriate sample containers that were pre-treated and preserved. Samples were stored in a chilled esky with ice bricks whilst in the field and were frozen upon receipt by the laboratory. All samples were delivered to the laboratories within the recommended holding times.

All samples were analysed within the recommended holding times, with the exception of the following:

- Nitrite as N:
  - RINSATE 2 (2 days overdue)
  - RINSATE 3 (1 day overdue)
  - RINSATE 4 (1 day overdue)
  - RINSATE 8 (4 days overdue)
  - RINSATE 10 (3 days overdue)
  - RINSATE 11 (1 day overdue)
  - RINSATE 12 (1 day overdue)
  - RINSATE 17 (4 days overdue)
  - RINSATE 18 (3 days overdue)
- Organotin compounds
  - RINSATE 2 (1 day overdue)
- TPH/TRH/BTEX:
  - PC9 0.0m to 0.3m A (1 day overdue)
  - TRIP BLANK 17 (8 days overdue).

Given the majority of samples were analysed within the recommended holding times and the above exceptions are generally for QA/QC purposes, it is considered that these samples conditions are acceptable.

7.1.3 Laboratory blanks

The assessment of the laboratory blank samples reported by ALS and Eurofins reported concentrations of all parameters below the LOR, indicating that the samples were not contaminated during laboratory analysis.

7.1.4 Laboratory duplicates

The assessment of laboratory duplicates is considered generally acceptable, although some exceedances of the NAGD recommended RPD of ±35% were recorded. These exceedances were recorded in the following analytes:

- Anonymous sample (4 February 2015):
  - Total Phosphorus as P
  - PAH
- PC5 0.0-0.5A:
  - PAH
- Anonymous sample (11 February 2015):
  - Total Phosphorus as P
- EB8 0.0-0.5A:
  - Manganese
- Anonymous sample (23 February 2015):
  - Copper
- EB22 0.0-0.5A:
  - Copper.

The remaining laboratory duplicates are compliant with the RPD criteria. Given the large volume of samples analysed and that only seven samples/analytes exceeded the RPD criteria, it is considered that the level of precision for the geochemical data is acceptable.

7.1.5 Surrogate and matrix spikes

The laboratory control spikes were within the recovery limits for all analytes, with the exception of organotins in a few samples, which were only slightly above the recommended limit and were considered to be within range of the laboratory's data quality objectives.

The percent recovery of matrix spikes for ammonia was not reported for some samples due to primary dilution requirements and the high ammonia concentrations in the samples. Matrix spike recovery for organotins (mainly, monobutyltin) was less than the NAGD criteria. However, this is not considered to be an issue given organotin concentrations were below the LOR in the actual samples. Matrix spike recovery for phosphorus was also slightly above the recovery limit in some instances.

Given these variations from the NAGD criteria were minor and the samples were below NAGD screening levels, it is considered that the surrogate and matrix spikes from the analysis are acceptable.

7.2 Field QA/QC

7.2.1 Trip blanks

Trip blank samples were utilised at a rate of one sample per day. The majority of trip blank results reported no concentrations above the LOR indicating negligible QA issues are evident in relation to the storage and transport of samples.

A single trip blank recorded a contaminant concentration for TRH slightly above the LOR. However, given the detected concentrations were significantly below NAGD screening levels, this result is considered negligible. QA/QC summary tables are provided in Appendix F.

7.2.2 Rinsates

Rinsate samples were collected at a rate of one sample per day from the sampling equipment after undergoing a standard decontamination. The majority of rinsate samples report no concentrations above the LOR indicating negligible QA issues are evident in relation to the decontamination process. QA/QC summary tables are provided in Appendix F.

However, some rinsates recorded a single contaminant concentration slightly above the LOR. These included:

- Monobutyltin:
  - Rinsate 2
- Manganese:
  - Rinsate 17
- Cadmium:
  - Rinsate 18
- Ammonia
  - Rinsate 7
  - Rinsate 8
  - Rinsate 10
  - Rinsate 11.

It should be noted that nine of the rinsate samples were analysed between one and four days beyond the recommended holding times, due to laboratory delays.

However, the detected concentrations in the rinsate were below the PQLs for these contaminants in sediment and for each rinsate, only a single contaminant exceeded the LOR. Therefore, these exceedances are considered negligible and as such, the rinsate results indicate an acceptable level of decontamination.

7.2.3 Field triplicates

Field triplicates were collected to determine the spatial variability in the physical and chemical characteristics of the sediments. The relative standard deviation (RSD) was calculated for each contaminant. NAGD (2009) recommends the RSD of field triplicates should fall within ±50%.

A total of 10 field triplicates were sampled within the DMPAs during the geochemical investigations. RSDs were calculated and reported within this threshold with the exception of the samples presented in Table 7.1. QA/QC summary tables are provided in Appendix F.

Table 7.1 Field triplicates exceeding the recommended RSD

Contaminant	Primary sample	Triplicate A	Triplicate B	RSD (%)
PC3 0.0-0.5m A				
Selenium	4.2	3.9	0.7	66.1
Ammonia as N	18.2	1.1	12.7	81.8
WB3 0.5-1.0m A				
The RSDs did not exceed 50% for the selected analytes				
PC6 0.0-0.5m A				
Silver	0.2	1.1	0.2	103.9
WB15 0.5-1.0m A, B				
Total organic carbon	0.39	0.24	0.13	51.5
Clay (<2 µm)	17	4	3	97.6
WB23 0.0-0.5m A				
Nitrate as N	<0.1	0.4	1	60.6
Nitrite + Nitrate as N	<0.1	0.4	1	60.6
Total Kjeldahl Nitrogen as N	160	70	70	52.0
Total Nitrogen as N	160	70	70	52.0
Ammonia as N	7.7	3.6	2.1	64.9
>C10 - C40 Fraction (sum)	3	4	8	52.9

Contaminant	Primary sample	Triplicate A	Triplicate B	RSD (%)
WBE6 0.0-0.5m A				
Total Kjeldahl Nitrogen as N	360	360	990	63.8
Total Nitrogen as N	360	360	990	63.8
Total Phosphorus as P	154	157	666	90.5
Ammonia as N	4.5	1.2	1.9	68.6
>C10 - C40 Fraction (sum)	20	5	21	58.5
WBE12 0.0-0.5m A				
Total organic carbon	2.92	1.04	1.51	53.7
EB10 0.0-0.5m A				
C10 - C36 Fraction (sum)	7	<3	<3	53.3
EB26 0.0-0.5m A				
Total organic carbon	0.04	0.09	0.03	60.3
EB32 0.0-0.5m A				
Lead	10.1	3.5	4.5	59.0
Selenium	0.5	1.9	3.2	72.3
Vanadium	74.4	22	31.1	65.9

A total of 22 field triplicate results (out of 566 field triplicate results) exceeded the recommended target RSD, which equates to 3.9% of the total field triplicate results. However, these exceedances are likely due to the variation in particle and grain sizes of the sediments, low analyte concentrations and variability in organic analyte concentrations. Therefore, it is considered that there was adequate precision from sample collection, handling and the primary laboratory analytical techniques.

7.2.4 Inter-laboratory duplicates

Inter-laboratory duplicates were collected to assess variation between the laboratories. The primary laboratory (ALS Environmental) analysed the Duplicate A samples while the secondary laboratory (Eurofins) analysed the Duplicate B samples.

The RSD was calculated for each contaminant. NAGD (2009) recommends the RSD of inter-laboratory duplicates should fall within ±50%. RPDs were calculated where the secondary laboratory had a greater LOR than the primary sample or in the instances where a contaminant was not analysed by the secondary laboratory.

A total of five inter-laboratory duplicates were sampled within the DMPAs during the geochemical investigation. RSDs were calculated and reported within this threshold with the exception of the samples presented in Table 7.2. QA/QC summary tables are provided in Appendix F.

Table 7.2 **Inter-laboratory duplicates exceeding the recommended RSD**

Contaminant	Primary sample	Duplicate A	Duplicate B	RSD/RPD (%)
PC4 0.0-0.5m A				
Silver	<0.1	1.1	0.1	118
Nitrate as N	0.1	0.1	0.8	121
TRH >C10 - C16	4	5	57	138
TPH C15 - C28	14	12	87	114
TPH C29 - C36	11	10	52	99
TPH C10 - C36 (sum)	29	26	140	100
WB18 0.0-0.5m A				
Lead	2.6	2.9	14	100
Ammonia as N	1.8	1.8	6.4	80
WBE18 0.5-1.0m A				
Nitrate as N	<0.1	0.1	0.9	113
EB25 0.0-0.6m A				
Aluminium	18,700	4,930	-	116.5
Iron	28,400	13,000	-	74.4
Copper	25.6	2.4	2.8	129.4
Lead	9.5	3	3	72.6
Nickel	13.5	4.3	4.9	68.0
Vanadium	61.4	26.2	-	80.4
Zinc	37.1	11.1	13	71.0
EB14 0.0-0.5m A				
Aluminium	21,200	7,800	-	92.4
Iron	34,100	14,500	-	80.7
Copper	35.8	8.1	24	61.4
Cobalt	13.1	5.8	-	77.2
Nickel	21.3	6.9	< 10	59.5
Selenium	0.9	0.4	-	76.9
Vanadium	73	35	-	70.4
Zinc	67.1	19.5	40	56.6
Ammonia as N	2.2	0.2	3.8	87.3

A total of 25 inter-laboratory duplicate results (out of 224 inter-laboratory results) exceeded the recommended target RSD and RPD, which equates to approximately 11.2% of the total inter-laboratory duplicate results. However, these exceedances are likely due to the variation in particle and grain sizes of the sediments, the low analyte concentrations and variability in organic analyte concentrations. Therefore, it is considered that there is adequate consistency between the laboratories, including handling and analytical techniques.

7.2.5 Acid sulfate soil duplicates

Duplicate ASS samples were collected to assess the variability and precision of both the sampling procedure and the analytical laboratory. The RPD was calculated for each ASS parameter and is recommended to fall within the following limit:

- For values < 10 x LOR, any RPD value is acceptable
- For values between 10 and 20 times LOR, 0% to 50% RPD is acceptable
- For values > 20 times LOR, 0% to 20% is acceptable.

A total of 34 ASS duplicates were sampled within the DMPAs during the geochemical investigation. RPDs were calculated and reported within the threshold with the exception of the samples presented in Appendix I.

While 149 ASS duplicate results fell outside the recommended RPD limits, this equates to approximately 15.1% of the total ASS duplicate results within the DMPAs.

As such, the review of the ASS duplicates indicated an overall consistency between primary and duplicate samples suggesting adequate precision from sample collection, handling and laboratory analytical techniques.

7.3 Summary of data validation

A total of 22 field triplicate results and 25 inter-laboratory duplicate results exceeded the recommended target RSD. These exceedances are likely due to the inherent heterogeneity of the sediment samples (i.e. variable mixture of particles and grain sizes). Higher variations can also be expected for samples with low analyte concentrations and higher for organic analytes than for inorganics.

The laboratory and field QA/QC are considered to comply with the NAGD requirements. The analytical results are therefore considered representative of the physical and chemical characteristics of the sediment.

Aurecon deems the quality of the analytical component for this geochemical investigation acceptable.

8 Discussion and conclusions

8.1 Discussion

Sediment sampling was undertaken in order to characterise the geochemical and physical nature of the sediments at four potential dredged material placement sites within Port Curtis. These sites included:

- East Banks Expansion DMPA (at sea)
- West Banks Island DMPA
- Port Central Expansion DMPA
- Western Basin Expansion DMPA.

These potential DMPAs varied in their sediment types, which ranged from clay and silt dominated sediments through to sand dominated sediments.

Where guideline value exist under NAGD (2009), an assessment against these was undertaken. Where no values are present under NAGD (2009), a comparison against locally derived reference values and other locally derived reference data (equivalent to the NAGD (2009) term regional ambient baseline levels) was undertaken.

Generally, the chemical composition across all four DMPAs within the marine investigation area demonstrated low levels of contaminants of concern and very few exceedances of the NAGD (2009) screening levels for contaminants of concern, including metals, metalloids and organics. All sites showed similar characteristics in having low levels (i.e. greater than laboratory PQLs/LORs but lower than NAGD screening levels or locally derived reference values) of many metals, including arsenic, chromium, copper, lead, nickel, selenium, vanadium, zinc and mercury. The distribution of these metals was ubiquitous throughout the sediment profile sampled and the spread was across the four DMPAs indicating that these metals are widespread and naturally occurring.

The difference in sediment types did result in differences between the chemical composition of the sediments within the DMPAs. Those with clay dominated sediments demonstrated higher aluminium, iron and ammonia (as N) concentrations and those with more mixed sediments having lower nutrients and TOC and higher manganese concentrations.

No PCBs, organotins or pesticides were detected above laboratory LORs within any sample from any DMPA. However, the opposite was true of the hydrocarbons with PAHs, TRHs and TPHs being widespread both spatially and vertically at low concentrations at all DMPAs, although no BTEX were detected during the investigation.

Generally, most samples recorded hydrocarbons concentrations below the NAGD screening level although at Western Basin Expansion DMPA, two samples within one borehole were reported with what appears to be a 'hotspot' of hydrocarbon contamination. This borehole demonstrated TRH and TPH concentrations of 3,850 and 3,360mg/kg, respectively (nearly six times over the NAGD screening level of 550mg/kg) and contributed significantly to the 95% UCL being greater than the NAGD screening level. If the 'hotspot' outliers are removed from the calculation, the 95% UCL falls below the NAGD screening level for both TRH and TPHs. The other sample taken from the same borehole also demonstrated elevated concentrations making it highly likely that this is a one-off hotspot of unknown origin. Management strategies will be outlined in the Project Environmental Management Plan.

Both the West Banks Island DMPA and East Banks Expansion DMPA demonstrated a number of exceedances of metals over their NAGD screening levels (namely arsenic, copper and nickel) although their 95% UCLs were below the respective NAGD screening levels. It may be that this relationship is linked to both sites having higher proportion of sandy sediments (especially the case at the West Banks Island DMPA).

The presence of ASS varied between the DMPAs. Samples from East Banks Expansion DMPA and West Banks Island DMPA did not contain AASS and sediments are unlikely to contain PASS, mainly due to the higher proportion of sand at these locations. At Port Central Expansion DMPA, acidity was detected within some samples at depths of 0.5m and greater. At Western Basin Expansion DMPA, ASS was widespread throughout the site both laterally and vertically. Management measures will be developed in the Project ASS Management Plan.

8.2 Conclusions

Geochemical results from this investigation have demonstrated that the sediment from the DMPAs have low concentrations of metals distributed throughout the sediment profile, and despite the exceedances of screening levels for some contaminants in some samples, overall, the sediments would be considered **clean** as per NAGD (2009).

Given the sediments from the area to be dredged are also **clean** as per NAGD (2009), as reported in the Sampling and Analysis Plan Implementation Report (area to be dredged) (Aurecon 2015), the DMPAs are considered to be chemically suitable to receive dredged material from the area to be dredged. Further testing such as elutriates and bioavailability testing is not required.

The appraisal of laboratory and field QA/QC procedures and assessments indicates that the results comply with the NAGD (2009) requirements. The analytical results are therefore representative of the physical and chemical characteristics of the sediment.

Compliance of the Project geochemical investigation with the approved SCP and NAGD (2009) is demonstrated by:

- Drilling and sampling has been undertaken to full depth of sediment that has the potential to be contaminated and is considered to have potential to interact with the dredged material. The vibrocorer achieved refusal in consolidated natural geological materials (i.e. rock, dense sands/gravels or stiff to very stiff clays).
- Sampling used a vibrocoring process, a NAGD recognised approved device for undertaking geochemical sampling
- Additional sediment sampling and laboratory analysis for metals and metalloids was undertaken in the underlying consolidated natural geological materials, in conjunction with the geotechnical investigation in four additional locations (two locations in West Banks Island DMPA and two locations in Port Central Expansion DMPA) to collect information on metals and metalloids that have previously been demonstrated to be naturally occurring within Port Curtis.

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Appendices



Appendix A
Sediment Characterisation Plan

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Port of Gladstone Gatcombe and Golding Cutting Channel Duplication Project

Dredge Material Placement Area Sediment Characterisation Plan

Gladstone Ports Corporation

8 April 2015
Revision: 1
Reference: 237374

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Acronyms

Acronym	Definition
Ag	Silver
ANZECC	Australian and New Zealand Environment and Conservation Council
ARMCANZ	Agriculture and Resources Management Council of Australia and New Zealand
As	Arsenic
Aurecon	Aurecon Australasia Pty Ltd
BTEX	Benzene, toluene, ethyl-benzene, xylene
Cd	Cadmium
CQPA	Central Queensland Ports Authority
CQU	Central Queensland University
Cr	Chromium
CSD	Cutter suction dredge
Cu	Copper
DEHP	Department of Environment and Heritage Protection
DMPA	Dredge material placement area
DoE	Department of the Environment
DQI	Data quality indicator
DQO	Data quality objective
DWT	Dead weight tonnage
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
GBRMP	Great Barrier Reef Marine Park
GBRWHA	Great Barrier Reef World Heritage Area
GPC	Gladstone Ports Corporation
Hg	Mercury
LAT	Lowest astronomical tide
LNG	Liquefied Natural Gas
LOR	Limit of Reporting
Mn	Manganese
MSQ	Maritime Safety Queensland
NAGD	National Assessment Guidelines for Dredging
NATA	National Association of Testing Authorities
Ni	Nickel
NODGDM	National Ocean Disposal Guidelines for Dredged Material

Acronym	Definition
OCP	Organochlorine pesticides
OPP	Organophosphate pesticides
PAH	Polycyclic aromatic hydrocarbons
Pb	Lead
PCB	Polychlorinated biphenyl
PQL	Practical Quantification Limit
QA	Quality assurance
QAL	Queensland Alumina Ltd
QC	Quality control
RPD	Relative percent deviation
Sb	Antimony
SCP	Sediment Characterisation Plan
Sea Dumping Act	*Environment Protection (Sea Dumping) Act 1981*
TOC	Total organic carbon
TRH	Total recoverable hydrocarbons
TSHD	Trailer suction hopper dredge
WICET	Wiggins Island Coal Export Terminal
Zn	Zinc

1 Introduction

1.1 Background

The Port of Gladstone has been identified by the Queensland Government as a major industrial centre for the future of Australia. It is Queensland's largest multi-commodity port, the world's fifth largest coal export terminal, and one of the busiest ports in Australia, vital to the local, state and national economies. Major exports from the port include coal, alumina, cement, petroleum, aluminium and agricultural resources. It is estimated that 250-300 million tonnes of product will be handled annually by the Port within the next 50 years (GPC 2012).

The introduction of the Liquefied Natural Gas (LNG) industry to the Gladstone region and the commencement of the Wiggins Island Coal Export Terminal (WICET) will substantially increase the throughput of the Port of Gladstone in the near future.

The current ability of the Port to accommodate high volumes of shipping traffic is limited by the channel depth and lack of passing capacity in the one way channel. Due to increasing development pressures and access demands from present and future Port developments, there is a need to duplicate the channel to support the growth of the Gladstone region.

The duplicate channel is proposed to be developed parallel to the existing Gatcombe and Golding shipping channels, facilitating a two-way rite of passage from the outer harbour, around East Banks, to the western side of Facing Island. This will release a bottleneck which will likely result with the increase in the total number of vessels handled annually in order to meet the committed trade.

1.2 Channel duplication and subsequent dredge material placement options

A Sediment Analysis Plan under the National Assessment Guidelines for Dredging (NAGD) (2009) for the characterisation of the sediments relating to the channel duplication dredge footprint has been prepared and submitted to the Regulatory Authorities separately.

This document outlines the investigation proposed to characterise the sediments at the potential dredge material placement areas (DMPAs), three of which are currently being investigated as part of the Environmental Impact Statement (EIS) for dredge material placement. The four potential DMPA options for the Channel Duplication Project as illustrated in Figure 1.1 are:

- East Banks Expansion
- West Banks Island reclamation
- Port Central Expansion reclamation
- Western Basin Expansion reclamation

The potential DMPAs are discussed separately within Sections 2, 3, 4 and 5. The number of samples proposed differs between options and, as such, the individual sampling programs are contained within the specific Section. Reporting and quality assurance and quality control (QA/QC) will be consistent for each of the placement options and will follow the same protocols and are discussed in Sections 6 and 7.

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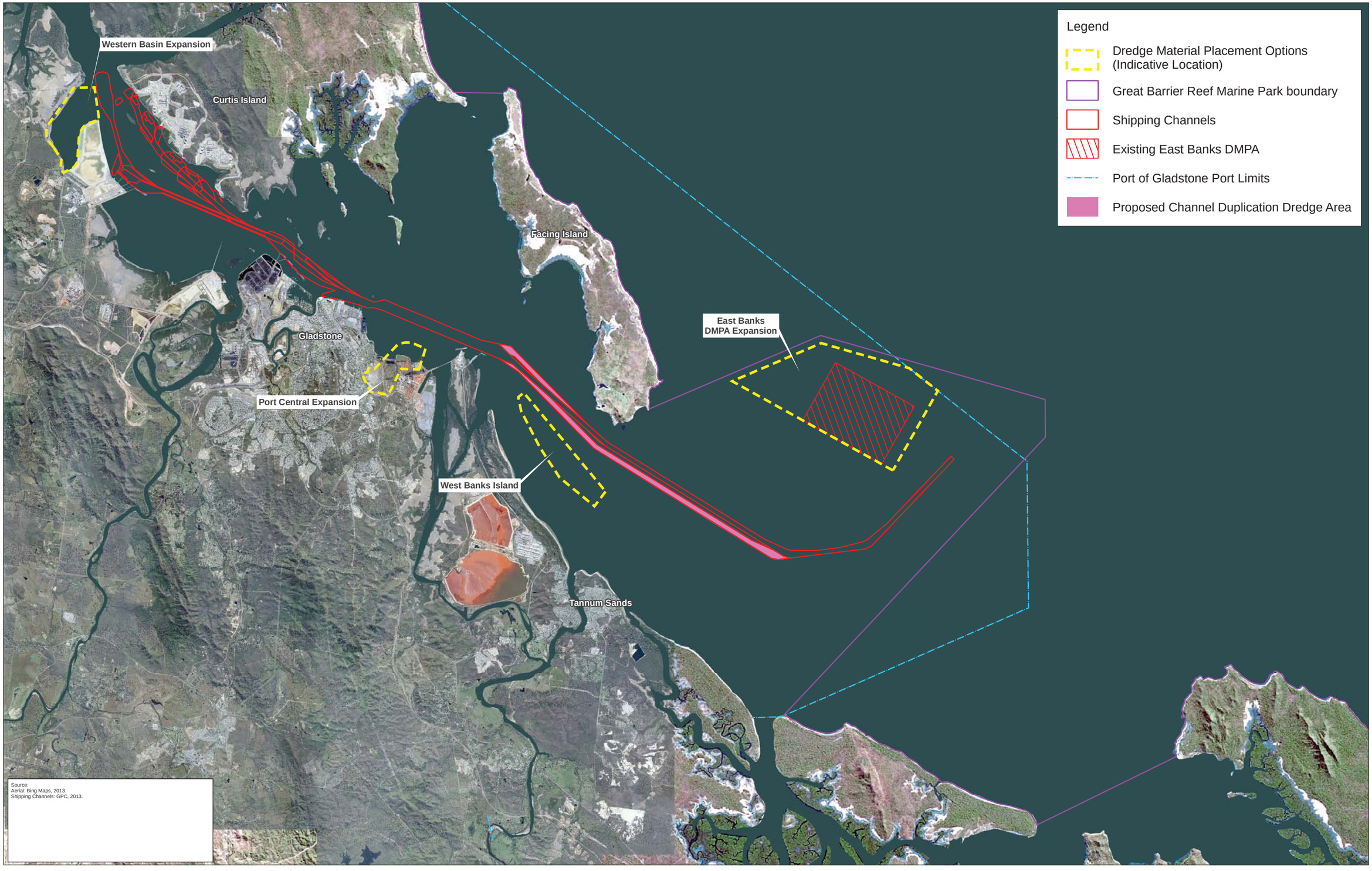

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Date: 16/02/2015 Version: 0 Job No: 237374

Coordinate system: GDA_1994_MGA_Zone_56

Port of Gladstone Channel Duplication

Figure 1.1: Dredge Area and Indicative Dredge Material Placement Options

1.3 Purpose of the Sediment Characterisation Plan

The primary purpose of this Sediment Characterisation Plan (SCP) is to establish ambient geochemical baseline conditions in terms of sediment character at the potential DMPAs, to an Environmental Impact Assessment (EIA) level, in order to provide sufficient information to achieve approval of the Gladstone Ports Corporation (GPC) Environmental Impact Statement (EIS) for Port of Gladstone Gatcombe and Golding Channel Duplication Project under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and the *State Development and Public Works Organisation Act 1971* (SDPWO Act).

Sediment characterisation at the DMPAs will be constrained to testing at various locations of the top 1 m of the site/s as there will be limited, if any, interaction between the dredge sediments and those found within the deeper layers of the DMPAs. Previous sediment sampling and analysis undertaken within the Port of Gladstone is presented in Figure 1.2.

This SCP outlines the proposed sampling program required to characterise the sediments within the DMPAs. The results of the sampling program will be used to determine the suitability of the area/s to receive dredge material from the Channel Duplication Project and to inform any application for a Sea Dumping Permit (if required) under the *Environment Protection (Sea Dumping) Act 1981* (Sea Dumping Act) or Operational Works (Tidal Works) under the *Sustainable Planning Act 2009*.

The SCP has been prepared by Aurecon Australasia Pty Ltd (Aurecon) on behalf of GPC with reference to the following guidelines:

- National Assessment Guidelines for Dredging 2009 (NAGD 2009)
- *National Environment Protection (Assessment of Site Contamination) Measure 1999* as amended in April 2013 (National Environment Protection Council 2013)
- Australian and New Zealand Water Quality Guidelines (ANZECC/ARMCANZ 2000a)
- Revision of the ANZECC/ARMCANZ Sediment Quality Guidelines, May 2013 (unpublished) (Simpson *et al* 2013)
- Monitoring and Sampling Manual (Environmental Protection (Water) Policy 2009) (DEHP 2010)

1.4 Sampling program methodology development

NAGD primarily focusses on the sampling and assessment of material proposed to be dredged. Section 4.3.1 (Site Assessment) of NAGD details qualitative assessment measures for sites where dredging and material placement are proposed to occur, and Appendix D of NAGD (Sampling Methods and Design of Sampling Programs) provides a detailed methodology for the design of sampling programs and calculation of sampling densities for dredge material. A methodology for the development of sampling programs and calculation of sampling densities for characterisation of sediment in dredge material placement sites is not provided in NAGD.

Although not specified in NAGD, the sediment sampling methodology contains appropriate procedures to partly adopt for the classification of sediment at a dredge material placement site, as it deals with the identification of potential contaminants in sediment. As a result, the design of this SCP and the proposed sampling program has been developed based upon the principles of 'design of sampling programs' found in NAGD (2009).

NAGD (2009) suggests that a power analysis be conducted on existing data to determine the number of samples required to adequately document the ambient baseline concentrations. However, there is limited data available on the potential DMPAs which precludes the undertaking of a power analysis.

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Curtis Island

Facing Island

Gladstone

Western Basin Expansion

Port Central Expansion

East Banks DMPA Expansion

West Banks Island Reclamation

Tannum Sands

Legend

- Dredge Material Placement Area (Indicative Location)
- Great Barrier Reef Marine Park boundary
- Shipping Channels
- Existing East Banks DMPA
- Port of Gladstone Port Limits
- Proposed Channel Duplication Dredge Area

Previous Sampling Locations

- WBM 1996
- WBM 2000
- Apte et al 2005
- GHD 2006
- BMT WBM 2007 (PSD only)
- BMT WBM 2012a
- BMT WBM 2012b (PSD only)

Source:
Aerial: Bing Maps, 2013.
Shipping Channels: GPC, 2013.
WBM Oceanics Australia 1996, Gladstone Harbour - Channel Sediment Analyses September 1996, Prepared for Gladstone Port Authority.
Apte S, Duivenvoorden L, Johnson R, Jones M, Revill A, Simpson S, Stauber J and Vincente-Beckett V. 2005, Contaminants in Port Curtis: Screening Level Risk Assessment, Cooperative Research Centre for Coastal Zone, Estuary and Waterway Management. Technical Report No. 25
WBM Oceanics Australia 2000, Gladstone Harbour Channel Sediment Analyses May 2000, Prepared for Gladstone Ports Corporation.
GHD 2006, Report for Sediment Sampling for Sea Disposal of Maintenance Dredging, Port of Gladstone, Prepared for Central Queensland Port Authority.
BMT WBM 2007, Benthic Macroinvertebrate Monitoring - Port of Gladstone, Dredged Material Ocean Disposal Site, Prepared for Gladstone Ports Corporation.
BMT WBM 2012, Port of Gladstone Maintenance Dredging – SAP Implementation Report, Prepared for Gladstone Ports Corporation.
BMT WBM 2012, Port of Gladstone - Offshore Disposal Monitoring Program, Prepared for Gladstone Ports Corporation.

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Port of Gladstone Channel Duplication EIS - Sediment Characterisation Plan

Figure 1.2: Previous Sampling Locations within the Port of Gladstone

The number and location of samples collected in a sampling program is also dependent on the:

- Size of the area to be investigated
- Homogeneity of samples
- Precision of estimates required
- Funds available

> ANZECC Volume 2 Aquatic ecosystems, rationale and background information (2000b). Appendix 8, Collection and analysis of sediment samples.

The dispersion of potential chemical contaminants within individual DMPAs is expected to be relatively uniform as the individual DMPAs are generally under uniform hydrodynamic processes and therefore deposition rates.

A summary of the process used to calculate the sampling density for the DMPAs is provided below.

1. Use the NAGD calculation to determine the 'full' sampling requirement under NAGD (2009) using the DMPA investigation area. As NAGD sampling requirements are calculated using volumes to be disturbed, a depth of 1.0 m of sediment at each DMPA will be used for the calculation. The top 1.0 m of sediment is the maximum depth of DMPA sediment considered to have potential to interact with the dredged material from the Channel Duplication dredge area.

   The number of proposed sample locations in accordance with the NAGD (2009), where Table 6 of the NAGD (2009) will linearly extended with:

   $$y = 0.025x + 15.547$$

   where: y is the number of sampling stations; and
   x is the volume of dredge material (x 1,000 m^3).

2. Assess previous sediment sampling and analysis results to determine if the sediment at the DMPA could be classed as *'probably clean'* under NAGD (2009). If so, the number of sample locations can be halved.
3. Apply NAGD (2009) *'pilot study'* approach to determining contaminants likely to be found in dredge materials. The NAGD *'pilot study'* approach is recommended where insufficient current information on contaminant groups exists. It recommends approximately 20% of *'full'* sampling requirements be undertaken.

This level of sampling is considered to be of a sufficient scale and level of resolution to provide representative samples for an EIS level of assessment for informing the preferred dredge material placement options and to allow input into the Government approval process.

1.5 Dredging equipment and material placement methodology

The Channel Duplication dredging is expected to commence in late 2017 or later, with the commencement date being dependent on shipping demand from expansion of existing and new projects in Gladstone. The total duration of dredging is expected to be approximately 20 months with dredging equipment expected to operate 24 hours per day, 7 days per week.

Two dredging options are proposed and will be selected upon availability of dredging equipment and operations within the Port of Gladstone. The likely dredge volumes and timing of each dredging option is outlined in Table 1.1.

Table 1.1 Dredging options, location, volumes and timing

Stage	Location	Design depth (m LAT)	Timing (months)	Volume (Mm^3)*
Option 1				
1	Gatcombe and Golding Cutting	-13.5	12	7.25
2	Gatcombe and Golding Cutting	-16.1	8	5.34
Option 2				
-	Gatcombe and Golding Cutting	-16.1	20	12.59

Table note: *Includes 0.3 m (depth) allowance for potential over-dredging

The dredge methodology adopted will be subject to Maritime Safety Queensland's (MSQ) Regional Harbour Master acceptance of the successful dredge contractor's detailed execution plan. The dredge contractor will also need to comply with MSQ's Standard for Marine Construction Activities within Gladstone Harbour (Department of Transport and Main Roads 2012).

1.5.1 Differences between the DMPAs in dredging and placement method

Trailer suction hopper dredges (TSHDs) will be used as the preferred method of dredging the material for all DMPA options. Backhoe or grab dredgers and secondary barges may also be used where the water depth restricts access for the TSHDs.

For the East Banks DMPA Expansion, the dredge material will be loaded within the TSHD's internal hopper and the vessel will steam directly to the designated at sea placement location. Dredge material will be placed on the seabed within the East Banks DMPA Expansion from either the TSHD or barge via the opening of underkeel doors or valves as the vessel steams at low speed within the placement area.

Compared with alternate dredges, such as backhoe or grab dredges, TSHDs are preferred for offshore dredge material placement due to the higher efficiencies, lower costs and shorter dredging timeframes, provided there are no operational constraints (ie shallow water depths). GPC generally engages the TSHD Brisbane to carry out maintenance dredging within the Port of Gladstone, as sufficient depths are already established in areas to be maintained, and material is usually placed within the East Banks DMPA under existing approvals.

For the West Banks Island reclamation and Port Central Expansion reclamation options, the transportation of the dredge material is likely to require a combination of:

- Direct pumping from a cutter suction dredge (CSD) into a reclamation area
- Direct pumping from a TSHD hopper into a reclamation area
- Double handling of dredge material into a reclamation area (ie initial dredging using a TSHD, temporary sea floor placement near to the reclamation area and re-dredging using a CSD for placement in the reclamation area)

The final dredging option and dredge material transportation method/s for the reclamation options will be determined following the completion of the detailed geotechnical investigation for the Channel Duplication Project.

2 East Banks DMPA Expansion

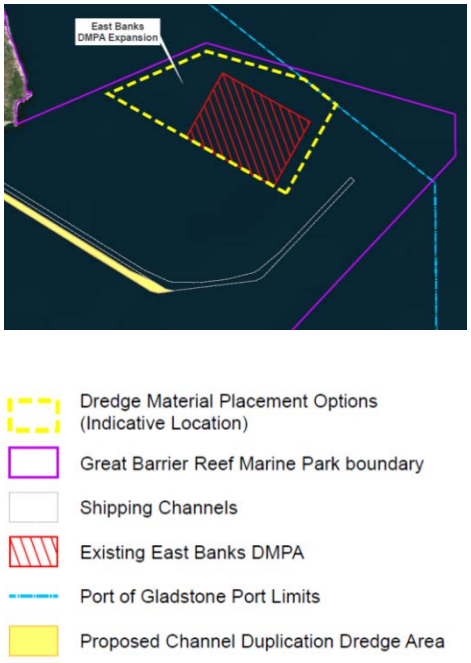
2.1 Summary of placement area

The East Banks DMPA Expansion investigation area is located within Port limits and outside the Great Barrier Reef Marine Park (GBRMP) and extends from the boundary of the existing East Banks DMPA to the north, east and west (refer Figure 2.1). The East Banks DMPA Expansion investigation area has a footprint of 1,288 ha and an estimated capacity to receive dredge material of 65 Mm^3.

Should placement of dredge material be undertaken within the East Banks DMPA Expansion, a Sea Dumping Permit under the Sea Dumping Act will be obtained.

Table 2.1 provides a summary of the East Banks DMPA Expansion.

Table 2.1 Summary of East Banks DMPA Expansion

East Banks DMPA Expansion		
	**Placement type**	Offshore (at sea)
	Investigation area estimated capacity	65 Mm^3
	Investigation Area	1,288 ha
	Likely dredge equipment	TSHD for dredge area and placement
	Placement method	Material placed on sea floor through TSHD under-keel doors
	Establishment of placement site	No site establishment required
	Management of placement site	No ongoing operational management
	Notes	■ Site adjoins GPC's existing approved East Banks DMPA ■ Site located outside of the GBRMP

2.2 Summary of existing East Banks DMPA

Seal Rocks DMPA, located 1 km to the south-east of Wild Cattle Channel, received dredge material in 1975 from maintenance dredging of existing shipping channels. It was recognised in 1979 during preparation for capital dredging to accommodate 120,000 dead weight tonnage (dwt) (Cape size) vessels, that Seal Rocks would not have sufficient capacity for the dredge material and that an alternate placement site was required. The existing East Banks placement site was proposed and its suitability investigated (GPA 2002).

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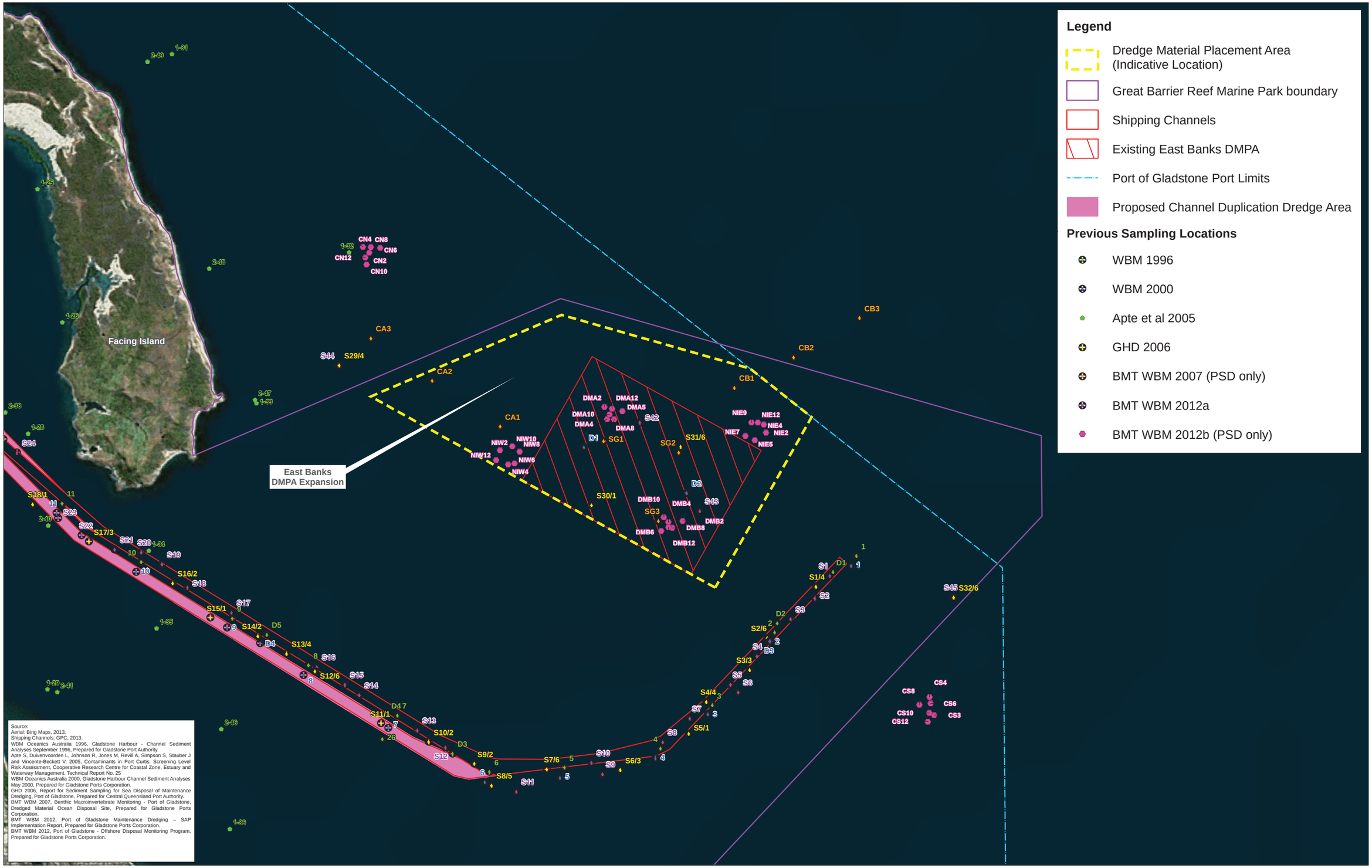

Legend

- Dredge Material Placement Area (Indicative Location)
- Great Barrier Reef Marine Park boundary
- Shipping Channels
- Existing East Banks DMPA
- Port of Gladstone Port Limits
- Proposed Channel Duplication Dredge Area

Previous Sampling Locations

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WBM Oceanics Australia 1996, Gladstone Harbour - Channel Sediment Analyses September 1996, Prepared for Gladstone Port Authority.
Apte S, Duivenvoorden L, Johnson R, Jones M, Revill A, Simpson S, Stauber J and Vincente-Beckett V. 2005, Contaminants in Port Curtis: Screening Level Risk Assessment, Cooperative Research Centre for Coastal Zone, Estuary and Waterway Management. Technical Report No. 25
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BMT WBM 2012, Port of Gladstone Maintenance Dredging – SAP Implementation Report, Prepared for Gladstone Ports Corporation.
BMT WBM 2012, Port of Gladstone - Offshore Disposal Monitoring Program, Prepared for Gladstone Ports Corporation.

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Date: 29/10/2014 Version: 1 Job No: 237374
Coordinate system: GDA_1994_MGA_Zone_56

Port of Gladstone Channel Duplication EIS - Sediment Characterisation Plan

Figure 2.1: Previous Sampling within East Banks DMPA Expansion

The existing East Banks DMPA first received material during the 1980/1981 dredging program, following approval under Section 86 of the Queensland *Harbours Act 1955*. The existing East Banks DMPA is located to the north-east of the proposed Channel Duplication dredge footprint, within Port limits and the Great Barrier Reef World Heritage Area (GBRWHA) and outside the GBRMP. The existing East Banks DMPA has a footprint of approximately 1,050 ha and a remaining capacity of approximately 9 Mm^3 (BMT WBM 2012a), which has been allocated for maintenance dredge material placement. The existing East Banks DMPA has a depth that varies between approximately -9 m to -15.5 m (ie 9 m to 15.5 m below datum).

While alternative offshore (at sea) DMPAs were investigated, the existing East Banks DMPA was selected due to the following:

- It was within reasonable distance of the shipping channels
- It was sheltered from the strong currents of the South and East Channels
- It was protected by the naturally occurring East Banks that reduces current flow across the DMPA during ebb tides
- It was clear of the shipping transit and anchorage areas
- It was clear of the areas trawled by commercial fisheries

The initial approval for the site was obtained under the Queensland *Harbours Act 1955*. While the Sea Dumping Act and ANZECC Guidelines (2000a) were not in place at that time, a similar process was carried out.

Table 2.2 details the various dredging campaigns and the associated volumes of material placed at the existing East Banks DMPA.

Table 2.2 History of dredge material placement at the existing East Banks DMPA

Type of Dredging	Dates	Volume (m^3)
Maintenance	December 2013 – December 2014	350,000
Capital – Western Basin Dredging and Disposal Project	May 2011 – September 2013	4,430,000
Capital – Clinton Bypass Channel	September 2008 – September 2009	100,000
Maintenance	November 2007 – November 2011	1,000,000
Capital – Clinton Bypass Channel and Targinie Channel	March 2003 – September 2003	20,000
Maintenance	July 2002 – July 2007	1,000,000
Maintenance	July 2001 – July 2002	300,000
Maintenance	June 1999 – June 2000	100,000
Maintenance/Capital	April 1998 – April 1999	60,100 (capital) & 100,000 (maintenance)
Maintenance/Capital – deepening outer harbour channels	September 1997 – March 1998	Extension of permit period
Maintenance/Capital – deepening outer harbour channels	April 1997 – October 1997	900,000 – Extension of volume

Type of Dredging	Dates	Volume (m^3)
Maintenance	October 1996 – October 1997	100,000
Maintenance	May 1995 – June 1995	3,000
Maintenance	February 1994 – March 1995	Extension of permit period
Maintenance/Capital deepening outer harbour channels	March 1993 – April 1994	1,000,000
Capital dredging	1986 – 1987	2,500,000
Capital – deepening and widening port channels and constructing Gladstone Marina	1980 – 1982	12,000,000

Source: Aurecon (2010)

2.3 Previous investigations

The first detailed study to characterise the existing East Banks DMPA was carried out in 1992 for a Sea Dumping Permit application for offshore dredge material placement. Several studies have since been carried out that further characterise the area. Table 2.3 outlines the previous investigations undertaken within and adjacent to the existing East Banks DMPA. Previous sediment sampling locations are presented in Figure 1.2 and Figure 2.1.

Table 2.3 Previous investigations within the East Banks DMPA

Report	Purpose	Sampling type	Timing of sampling
Port of Gladstone Maintenance Dredging – SAP Implementation Report (BMT WBM 2012a)	Assess sediment quality for maintenance dredging material offshore placement	■ Particle grain size analysis ■ Sediment contamination	19 – 23 June 2012
Port of Gladstone - Offshore Disposal Monitoring Program (BMT WBM 2012b)	Collect data to assess the sedimentation and turbid plumes from offshore dredge material placement	■ Particle grain size analysis ■ Wave and current speed and direction ■ Turbidity	4 November 2011 – 14 January 2010
Update on the Quality of Sediment from Port Curtis and Tributaries (DEHP 2012)	Assess the impacts of water quality within Port Curtis, particularly in relation to fish health	■ Sediment contamination	6 – 10 February 2012
Water Quality of Port Curtis and Tributaries – Supplementary Report Based on Data Collected in the week of 26 September 2011 (DERM 2011)	Assess the water and sediment quality impacts in Port Curtis	■ Water quality measurements ■ Sediment contamination	27 – 30 September 2011
Second Update on the Water Quality of Port Curtis and Tributaries - Including Data Collected in the Week of 24 October 2011 (DERM 2012a)	Assess the water quality impacts in Port Curtis	■ Water quality measurements	24 – 28 October 2011

Report	Purpose	Sampling type	Timing of sampling
Third Update on the Water Quality of Port Curtis and Tributaries Including Data Collected in the Weeks of 21 November and 12 December 2011 (DERM 2012b)	Assess the water quality impacts in Port Curtis	▪ Water quality measurements	21 – 25 November 2011 12 – 16 December 2011
Fourth Update on the Water Quality of Port Curtis and Tributaries Including Data Collected in the Week of 9 January 2012 (DERM 2012c)	Assess the water quality impacts in Port Curtis	▪ Water quality measurements	9 – 13 January 2012
Fifth Update on the Water Quality of Port Curtis and Tributaries Including Data Collected in the Week of 6 February 2012 (DERM 2012d)	Assess the water quality impacts in Port Curtis	▪ Water quality measurements	6 – 10 February 2012
Sixth Update on the Water Quality of Port Curtis and Tributaries Including Data Collected in the Week of 5 March 2012 (DERM 2012e)	Assess the water quality impacts in Port Curtis	▪ Water quality measurements	5 – 9 March 2012
Seventh Update on the Water Quality of Port Curtis and Tributaries Including Data Collected in the Week of 2 April 2012 (DERM 2012f)	Assess the water quality impacts in Port Curtis	▪ Water quality measurements	2 – 6 April 2012
Eighth Update on the Water Quality of Port Curtis and Tributaries Including Data Collected in the Week of 8 May 2012 (DERM 2012g)	Assess the water quality impacts in Port Curtis	▪ Water quality measurements	8 – 11 May 2012
Ninth Update on the Water Quality of Port Curtis and Tributaries Including Data Collected in the Week of 5 June 2012 (DERM 2012h)	Assess the water quality impacts in Port Curtis	▪ Water quality measurements	5 – 8 June 2012
Tenth Update on the Water Quality of Port Curtis and Tributaries Including Data Collected in the Week of 3 July 2012 (DERM 2012i)	Assess the water quality impacts in Port Curtis	▪ Water quality measurements	3 – 6 July 2012
Eleventh Update on the Water Quality of Port Curtis and Tributaries Including Data Collected in the Week of 1 August 2012 (DERM 2012j)	Assess the water quality impacts in Port Curtis	▪ Water quality measurements	1 – 3 August 2012
Benthic Macroinvertebrate Monitoring - Port of Gladstone, Dredged Material Ocean Disposal Site (BMT WBM 2007)	Assess the short-term and long-term impacts of offshore dredge material placement on benthic macroinvertebrates	▪ Particle size distribution ▪ Benthic macroinvertebrates	Two weeks before 15 October 2006 Two weeks before 12 December 2006

Report	Purpose	Sampling type	Timing of sampling
Report for Sediment Sampling for Sea Disposal of Maintenance Dredging Material – Port of Gladstone (GHD 2006a)	Assess sediment quality for maintenance dredging material placement	■ Particle grain size analysis ■ Sediment contamination	17 – 24 July 2006
Report for Macrobenthic Sampling Pre and Post 2005 Maintenance Dredging (GHD 2006b)	Assess the impacts of offshore dredge material placement on benthic communities and sediment characteristics	■ Particle size distribution ■ Benthic macroinvertebrates	19 – 20 October 2005 21 – 22 November 2005
Contaminants in Port Curtis: Screening Level Risk Assessment, Cooperative Research Centre for Coastal Zone, Estuary and Waterway Management (Apte *et al.* 2005)	Collect data, identify data gaps and identify contaminants that pose a risk to humans and the environment	■ Water quality ■ Sediment contamination ■ Seagrass and marine biota contamination	August/October 2001 February 2002
Gladstone Harbour Channel – Sediment Analyses May 2000 (WBM Oceanics Australia 2000)	Assess sediment quality for maintenance dredging offshore material placement	■ Sediment contamination	26 May 2000
Gladstone Harbour - Channel Sediment Analyses September 1996 (WBM 1996)	Assess sediment quality for maintenance dredging offshore material placement	■ Sediment contamination	24 – 25 September 1996
Port of Gladstone Turbidity Measurement Study (WBM 1993)	Assess ambient turbidity levels surrounding reef communities of Facing Island	■ Water quality	7 – 23 March 1993
Environmental Studies of Proposed Channel Dredging (WBM 1992)	Assess baseline conditions of offshore material placement sites for maintenance dredging offshore material placement	■ Particle size distribution ■ Sediment contamination ■ Water quality, wave and current ■ Benthic macroinvertebrates	22 – 29 June 1992

Prior to the establishment of the existing East Banks DMPA, GPC (then called the Gladstone Port Authority) as part of the initial selection process, described the East Banks DMPA as a 'marine desert'. It is unclear whether this conclusion was based upon ecological surveys, however subsequent surveys since then (CQU 2003; 2005; GHD 2006b; BMT WBM 2007) have indicated that the area of the East Banks DMPA is predominantly a sandy sediment area that is depauperate in nature. Adjacent areas were also found to be limited in diversity although did have slightly higher mean species richness with higher abundances.

The marine ecology values and potential impacts within and adjoining the DMPA options will be addressed as part of the EIS.

2.4 Physical and chemical characteristics of sediments

As outlined in Section 2.3, there have been numerous investigations undertaken at the existing East Banks DMPA, largely related to the Port maintenance dredge deposition monitoring (and as such have comprised sediment and/or benthic ecological surveys). It is clear from the reports that the DMPA is dominated by sand fraction with relatively little fine sediments when combined with adjacent areas (BMT WBM 2007). BMT WBM (2009) demonstrated (through acoustic mapping of the seabed) that 88% of all acoustic records were comprised of medium to coarse sands (Class 1) with the remaining 12% being comprised of highly variable fine sand and silts (Class 2) with these records usually being located in the north and eastern corners of the DMPA. Ground truthing of the acoustic mapping indicated that a third type of substrate comprising of rubble and semi-exposed reef habitat (Class 3) was also present and more typically identified in the acoustic mapping of the Class 2 sediments (although also found in the Class 1 sediments).

The BMT WBM (2009) study also examined the presence of marine habitats and species during the ground truthing exercise. The Class 3 rubble did occasionally have associated epibenthic flora and fauna but in other locations was bare. Soft sediment associated epifauna was very sparse and most of the DMPA showed limited levels of bio-turbation (ie holes, burrows etc.). The exception to this was one site in the south eastern corner of the DMPA which had high levels of bio-turbation as well as extensive micro-topographical variation due to ripple formation.

A review of the studies relevant to the East Banks DMPA Expansion area indicate that sediments within this area can be considered '*probably clean'*, under the NAGD (2009) sediment quality guidelines with most trace metals below the screening levels and all other contaminants below the level of detection.

Four separate studies (BMT WBM 2009; DERM 2011; DEHP 2012; BMT WBM 2012a) have reported exceedances at or adjacent to the site in relation to arsenic where a single sample per study exceeded the NAGD Screening Level of 20 mg/kg (with values of 21 mg/kg, 42 mg/kg, 24 mg/kg and 22 mg/kg, respectively). It should be noted however, that no exceedances over the NAGD Trigger Value were recorded and that two of the samples were located outside of the dredge material placement zone of influence. Elevated levels of arsenic have also been previously identified within the Port Curtis area and studies by the Cooperative Research Centre (CRC) for Coastal Zone, Estuary and Waterway Management undertook a screening level risk assessment of contaminants in sediments within Port (Apte *et al.* 2005). The CRC research concluded that elevated levels of arsenic in Port Curtis were the result of natural local geology rather than metal contamination from anthropogenic sources.

Sediment investigations conducted by the Department of Environment and Heritage Protection (DEHP) collected two sediment samples in 2011 and followed up one of the sample locations in 2012. Results from these investigations found that manganese exceeded the Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland (EPA 1998) during both years (DERM 2011; DEHP 2012). Manganese, as with arsenic, has been recorded previously at varying sediment depths and water quality samples within Port Curtis (Vision Environment 2009) and historical records (and a mining history at Auckland Point and Boat Creek) clearly demonstrate it is naturally occurring, although how much the historic mining of manganese has contributed to the elevated levels within the Port Curtis area is unknown. Manganese however is generally considered to have a low level of toxicity to marine biota (Anastasi and Wilson 2010) and currently has no trigger level within the NAGD (2009), although the draft Queensland contaminated land guidelines (EPA 1998) use the value of 500 mg/kg.

2.5 Sampling locations calculation

The East Banks DMPA Expansion investigation footprint (excluding the existing East Banks DMPA) is 1,288 ha. The volume of DMPA sediment considered to have potential for interaction with the dredged material and to be assessed as part of this SCP is 12.88 Mm^3.

Previous investigations have found sediment at the existing East Banks DMPA to be compliant with NAGD (2009) (BMT WBM 2012a; GHD 2006a). It is considered that the sediments can be categorised as '*probably clean'* under NAGD (2009) and, as such, the number of samples required for this SCP can be halved.

Table 2.4 provides a summary of the inputs to calculate the number of sampling locations to be sampled. The methodology used to calculate the number of sample locations is provided in Section 1.4.

Table 2.4 Summary of proposed sampling locations for East Banks DMPA Expansion

Site	Volume of sediment likely to interact (m^3)	Full number of sample locations required under NAGD (2009)	Number of sample locations as sediments are classed as 'probably clean'	Number of sample locations for SCP
East Banks DMPA Expansion (excluding existing East Banks)	12.88 million	338	169	34

An additional two samples (EB35 and EB36) will be collected at reference points beyond the boundary of the East Banks DMPA Expansion, to the north-east and south-west. In addition, the data previously collected from the two existing reference sites for the GPC maintenance dredging will be used to inform the background levels of sediment contamination in Port Curtis (BMT WBM 2012a; GHD 2006a).

The sampling locations have been randomly allocated in accordance with the method outlined in NAGD (2009). A square grid was lain over the East Banks DMPA Expansion with at least five times the number of grid squares as there is sampling locations (ie 170 grids squares) (refer Figure 2.2). The 34 sample locations were randomly allocated between the grid squares using ArcGIS 10.1 Advanced – Great Random Points Tool.

The sampling locations are displayed in Figure 2.2 and listed in Table 2.5. Samples will be collected at the centre of each grid square with the actual sampling to be taken as close as possible to the GPS coordinates generated.

Table 2.5 Location of sediment sampling locations

Sampling location	Easting	Northing	Sampling location	Easting	Northing
EB1	342528.7159	7360958.733	EB19	340602.2529	7359582.688
EB2	343354.3429	7360683.524	EB20	341703.0889	7359582.688
EB3	344179.9699	7360683.524	EB21	341978.2979	7359582.688
EB4	341427.8799	7360408.315	EB22	347207.2689	7359582.688
EB5	344730.3879	7360408.315	EB23	340602.2529	7359307.479
EB6	345005.5969	7360408.315	EB24	340877.4619	7359307.479
EB7	345556.0149	7360408.315	EB25	341703.0889	7359307.479
EB8	340327.0439	7360133.106	EB26	346106.4329	7359307.479

Sampling location	Easting	Northing	Sampling location	Easting	Northing
EB9	342253.5069	7360133.106	EB27	346381.6419	7359307.479
EB10	343354.3429	7360133.106	EB28	347757.6869	7359307.479
EB11	345280.8059	7360133.106	EB29	341703.0889	7359032.27
EB12	346381.6419	7360133.106	EB30	342528.7159	7359032.27
EB13	342803.9249	7359857.897	EB31	347482.4779	7359032.27
EB14	345280.8059	7359857.897	EB32	347207.2689	7358757.061
EB15	345831.2239	7359857.897	EB33	346932.0599	7358206.643
EB16	346106.4329	7359857.897	EB34	346106.4329	7357105.807
EB17	346381.6419	7359857.897	EB35*	338776.0000	7360403.0000
EB18	340051.8349	7359582.688	EB36*	350755.0000	7355889.0000

Table note: * denotes samples collected at previous reference point locations

Further details regarding the sampling program, QA/QC and reporting requirements are provided in Sections 6 and 7.

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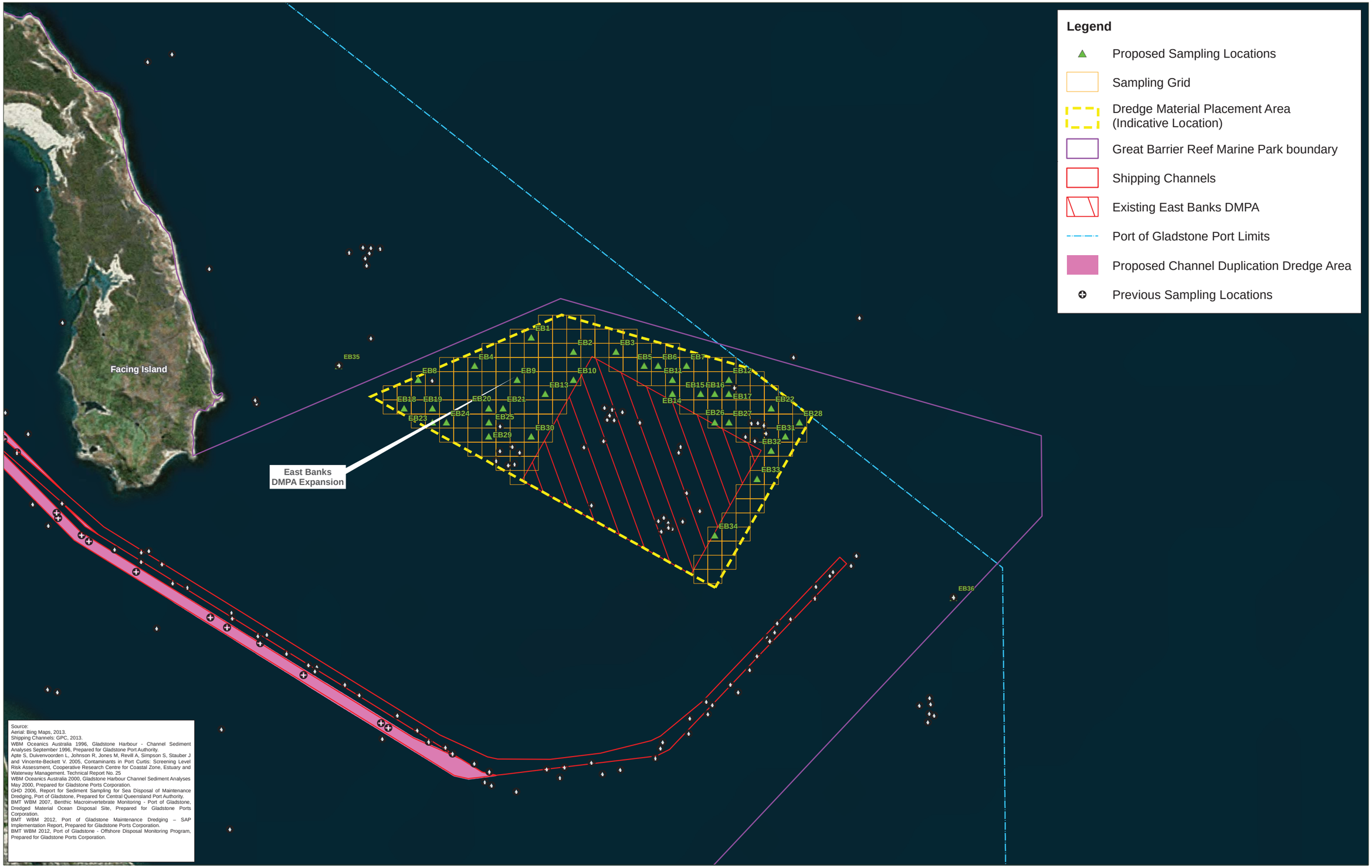

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Source:
Aerial: Bing Maps, 2013.
Shipping Channels: GPC, 2013.
WBM Oceanics Australia 1996, Gladstone Harbour - Channel Sediment Analyses September 1996, Prepared for Gladstone Port Authority.
Apte S, Duivenvoorden L, Johnson R, Jones M, Revill A, Simpson S, Stauber J and Vincente-Beckett V. 2005, Contaminants in Port Curtis: Screening Level Risk Assessment, Cooperative Research Centre for Coastal Zone, Estuary and Waterway Management. Technical Report No. 25
WBM Oceanics Australia 2000, Gladstone Harbour Channel Sediment Analyses May 2000, Prepared for Gladstone Ports Corporation.
GHD 2006, Report for Sediment Sampling for Sea Disposal of Maintenance Dredging, Port of Gladstone, Prepared for Central Queensland Port Authority.
BMT WBM 2007, Benthic Macroinvertebrate Monitoring - Port of Gladstone, Dredged Material Ocean Disposal Site, Prepared for Gladstone Ports Corporation.
BMT WBM 2012, Port of Gladstone Maintenance Dredging – SAP Implementation Report, Prepared for Gladstone Ports Corporation.
BMT WBM 2012, Port of Gladstone - Offshore Disposal Monitoring Program, Prepared for Gladstone Ports Corporation.

A1 scale: 1:35,000

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Date: 29/10/2014 Version: 1 Job No: 237374

Coordinate system: GDA_1994_MGA_Zone_56

Port of Gladstone Channel Duplication EIS - Sediment Characterisation Plan

Figure 2.2: East Banks DMPA Expansion - Proposed Sampling Program

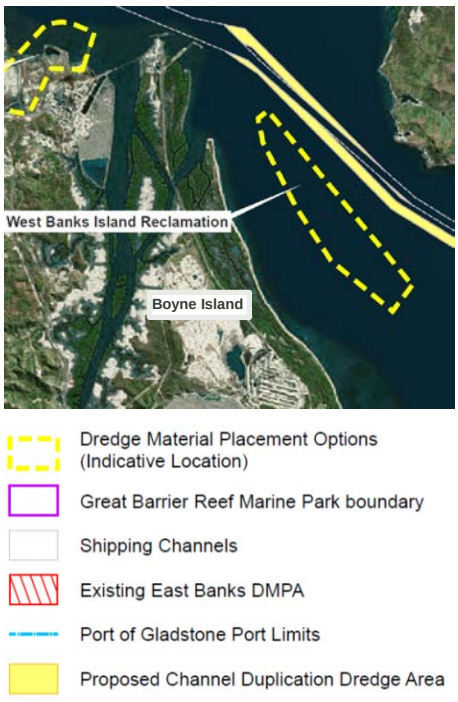
3 West Banks Island reclamation

3.1 Summary of placement area

The West Banks Island reclamation DMPA is located between Boyne Island and the Gatcombe Channel, to the south of the existing shipping channel. It is south-east of the South Trees Wharves and Boyne Wharf (refer Figure 3.1). The West Banks Island reclamation is situated on a known sand bank, with some areas exposed during low tide. Depths within the West Banks Island reclamation range from 0 to -5 m.

Table 3.1 provides a summary of the West Banks Island reclamation.

Table 3.1 Summary of West Banks Island reclamation

West Banks Island reclamation		
	**Placement type**	Island reclamation
	Investigation area estimated capacity	27-30 Mm^3
	Investigation area	468 ha
	Beneficial use/end land use	Port land with potential for development of 16 wharves
	Likely dredge equipment	TSHD and CSD for dredge area
	Placement method	■ Small portion of Golding Channel and most of Gatcombe Channel can be dredged by CSD and material directly pumped into reclamation area with assistance of boosters ■ Material unlikely to be pumped directly from a TSHD, rehandling with a CSD would be required for some material
	Establishment of placement site	■ Bund wall construction on marine and sub-tidal area of varying depths ■ Bund material would be required to be sourced from a mainland quarry, trucked and/or barged or causeway/bridge constructed to the site
	Management of placement site	■ Dewatering of dredge decant water ■ Material settlement 2-3 years

Industries located on Boyne Island include:

- Queensland Alumina Ltd (QAL) – Alumina refinery

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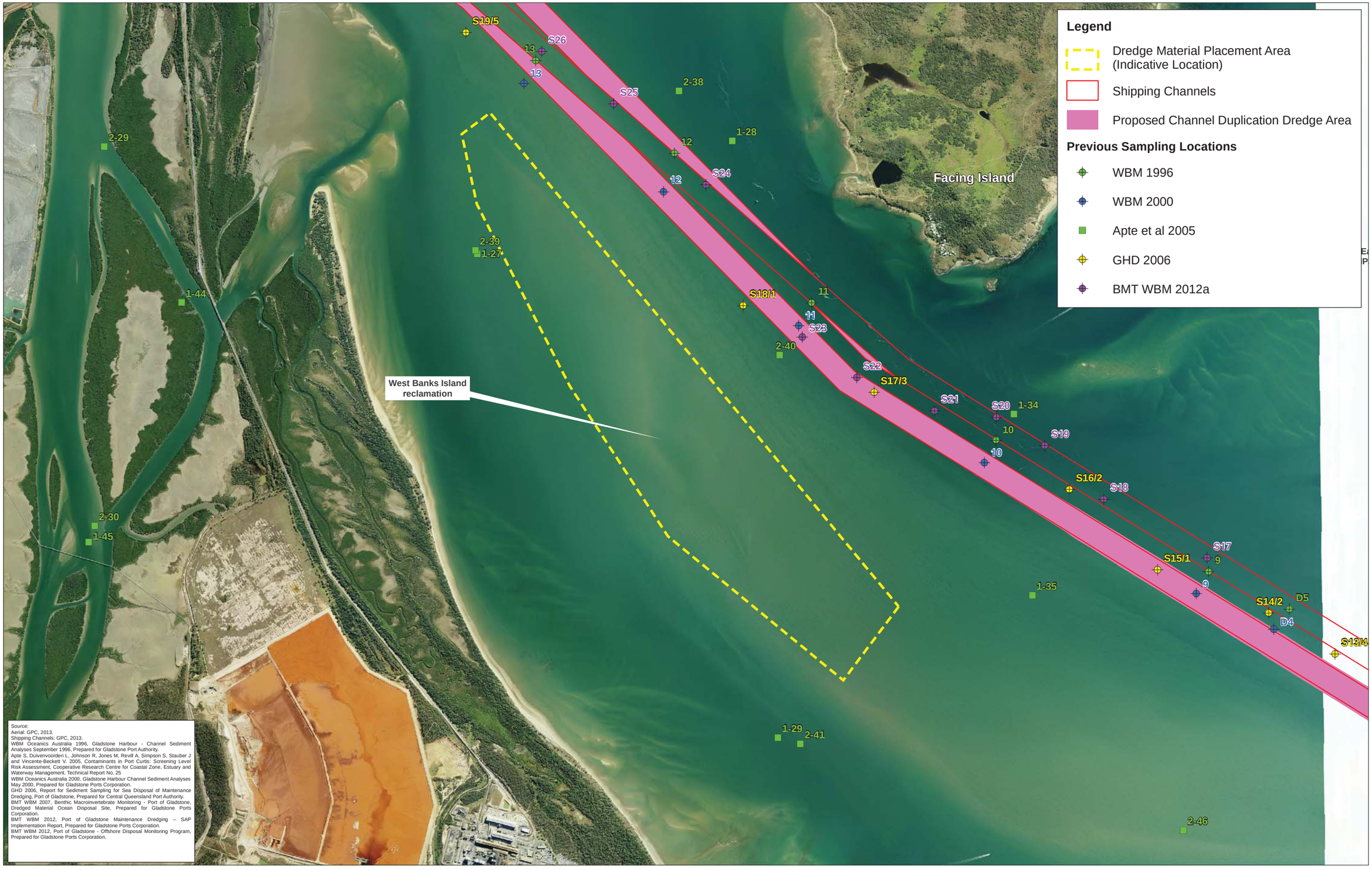

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Date: 29/10/2014 Version: 0 Job No: 237374
Coordinate system: GDA_1994_MGA_Zone_56

Port of Gladstone Channel Duplication EIS - Sediment Characterisation Plan

Figure 3.1: Previous Sampling within West Banks Island reclamation

- Boyne Smelters Limited – Alumina smelter

Major imports and exports from the South Trees Wharves and Boyne Wharf are outlined in Table 3.2.

Table 3.2 Imports and exports from nearby wharves

Wharf	Imports	Exports
South Trees Wharves	Bauxite Fuel oil Caustic soda	Alumina
Boyne Wharf	Petroleum coke Liquid pitch	Aluminium

Source: GPC 2012

3.2 Previous investigations

A review of previous sediment data from the Port Curtis area has indicated that although Gladstone is an urban and industrial area, results show relatively few incidences of sediments with elevated metal results. A review of the previous sediment investigation works undertaken for GPC indicate that approximately the top 0.3 m of sediment within Port Curtis is likely to be post 1950s with this sediment band being the most likely (if any) to contain contaminants from anthropogenic inputs. This is in agreement with Vicente-Beckett *et al.* (2006) who demonstrated that anthropogenic influenced sediments are likely to only occur in the top 0.28 m. Elevated levels of metals, if detected below this depth, are likely to be naturally occurring and related to geology within the area.

No previous sediment investigations have been conducted within the West Banks Island reclamation footprint, however, given the proximity to the existing shipping channels sediment results from sampling for maintenance dredging are likely to provide good indication of the *in situ* contamination status of the sediments for the West Banks Island reclamation footprint.

A number of investigations have collected samples adjacent to the West Banks Island reclamation. GHD for Central Queensland Port Authority (CQPA) (2006) collected two samples to the north-east of the site along the existing Gatcombe Channel (S17/3 and S18/1 on Figure 3.1) as part of a larger channel investigation in which no exceedances of the National Ocean Disposal Guidelines for Dredged Material (NODGDM) (2002) Screening Levels were recorded.

DEHP conducted a sediment study in 2012 in which two samples (STISM –South Trees Inlet South Mouth and SFI – South Facing Island) (refer Figure 1.2) were collected from the sea bed directly north-west and north of the West Banks Island reclamation footprint, respectively. Neither sample exceeded the NAGD (2009) Screening Levels for any contaminants.

BMT WBM (2012a) (for GPC) collected ten sediment samples along the existing Gatcombe Channel (S17 to S26) to inform maintenance dredging in 2012. Again, no samples exceeded the NAGD (2009) Screening Levels for any contaminants.

3.3 Geology and physical characteristics

The stratigraphy of the West Banks Island reclamation is likely to comprise the following:

- Young (Holocene) Alluvium (marine sediments)
- Underlain by old (Pleistocene) Alluvium
- Underlain by bedrock of the Wandilla Formation

Previous works have shown that the Port Curtis area usually demonstrates young alluvium comprising of a thin layer of Holocene aged estuarine clay and recently deposited marine sediments, with a thickness from 0.5 m to approximately 5 m in un-dredged areas, and is described as soft clay and loose sand/gravel with shell fragments.

The young alluvium is typically underlain by residual clays of older alluvium, comprising sandy clay, clayey sand, gravelly sand and clay. The gravel and sand are typically intersected in discrete pockets up to 1 m thick. This is underlain by extremely weathered bedrock of the Wandilla Formation.

Dominant substrate at all depths is usually sand and then clay; however deeper samples taken during the Western Basin Dredging and Disposal Project EIS sampling found higher proportions of gravels with the finer sediments being located generally within the top 0.5 m with gravel or sand layers likely to be located in the top 10 m of sediment.

The West Banks Island reclamation is situated on a known sand bank, with some areas exposed during low tide. Depths within the West Banks Island reclamation range from 0 to -5 m AHD. Surface sediments within the Gatcombe Channel (within the vicinity of the West Banks Island reclamation) are predominately coarse in nature with a combined gravel and sand proportion greater than 90% (BMT WBM 2012a). Very coarse surface sediments containing gravel and shell material were also present, with gravel content exceeding 30% with a maximum of 80% gravel (BMT WBM 2012a).

3.4 Sampling locations calculation

The West Banks Island reclamation investigation footprint is 468 ha. The volume of DMPA sediment considered to have potential for interaction with the dredged material and to be assessed as part of this SCP is 4.68 Mm^3.

Table 3.3 provides a summary of the inputs to calculate the number of sample locations to be sampled. The methodology used to calculate the number of sample locations is provided in Section 1.4.

Table 3.3 Summary of proposed sampling locations for West Banks Island reclamation

Site	Volume of sediment likely to interact (m^3)	Full number of sample locations required under NAGD (2009)	Number of sample locations as sediments are classed as 'probably clean'	Number of sample locations for SCP
West Banks Island reclamation	4.68 million	132	-	27

The sampling locations have been randomly allocated in accordance with the method outlined in NAGD (2009). A square grid was lain over the West Banks Island reclamation area with at least five times the number of grid squares as there is sampling locations (ie 135 grid squares) (refer Figure 3.2). The 27 samples were randomly allocated between the grid squares using ArcGIS 10.1 Advanced – Great Random Points Tool.

The sampling locations are displayed in Figure 3.2 and listed in Table 3.4. Samples will be collected at the centre of each grid square with the actual sampling to be taken as close as possible to the GPS coordinates generated.

Table 3.4 Location of sediment sample sites

Sampling location	Easting	Northing	Sampling location	Easting	Northing
WB1	330645.5969	7359130.459	WB15	332506.9669	7356338.404
WB2	330645.5969	7358944.322	WB16	333065.3779	7356152.267

Sampling location	Easting	Northing	Sampling location	Easting	Northing
WB3	330831.7339	7358758.185	WB17	333251.5149	7356152.267
WB4	331017.8709	7358758.185	WB18	332693.1039	7355779.993
WB5	330645.5969	7358572.048	WB19	333065.3779	7355779.993
WB6	331204.0079	7358572.048	WB20	332693.1039	7355593.856
WB7	331204.0079	7358385.911	WB21	333251.5149	7355593.856
WB8	331204.0079	7357641.363	WB22	333437.6519	7355593.856
WB9	332506.9669	7357082.952	WB23	332693.1039	7355407.719
WB10	332134.6929	7356710.678	WB24	333437.6519	7355407.719
WB11	331762.4189	7356524.541	WB25	333623.7889	7355407.719
WB12	332693.1039	7356524.541	WB26	333809.9259	7355221.582
WB13	332879.2409	7356524.541	WB27	333437.6519	7354849.308
WB14	332134.6929	7356338.404			

Further details regarding the sampling program, QA/QC and reporting requirements are provided in Sections 6 and 7.

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Date: 29/10/2014 Version: 0 Job No: 237374

Coordinate system: GDA_1994_MGA_Zone_56

Port of Gladstone Channel Duplication EIS - Sediment Characterisation Plan

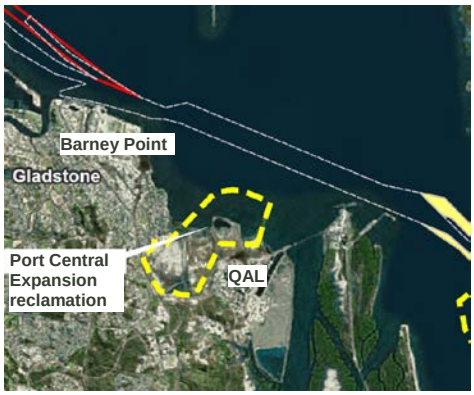
Figure 3.2: West Banks Island reclamation - Proposed Sampling Program

4 Port Central Expansion reclamation

4.1 Summary of placement area

The Port Central Expansion reclamation DMPA is located to the south of the existing Barney Point Wharf and Coal Terminal, the Barney Point residential area of Gladstone and north of QAL located at Parsons Point. It is to the south of the existing Auckland Channel north of South Trees Wharves (refer Figure 4.1). Table 4.1 provides a summary of the Port Central Expansion reclamation DMPA.

Table 4.1 Port Central Expansion reclamation DMPA summary

Port Central Expansion reclamation		
 	**Placement type**	Land based and intertidal reclamation, and capping for QAL activities
	Investigation area estimated capacity	25-30 Mm^3
	Investigation Area	Total area: 276 ha Subtidal area: 30.28 ha
	Beneficial use/end land use	Port land/community use/habitat creation Potential to rehabilitate areas adjacent to QAL
	Likely dredge equipment	TSHD for dredge area
	Placement method	Material unlikely to be pumped directly from a TSHD, rehandling with a CSD would be required
	Establishment of placement site	■ Bund wall construction within intertidal and sub-tidal area to varying depths ■ Greater bund wall volumes required relative to solely intertidal or land based areas ■ Bund material to be imported to site from local quarry
	Management of placement site	■ Dewatering of dredge decant water ■ Material settlement 2-3 years

Industries located on the mainland in the vicinity of the Port Central Expansion reclamation include:

- QAL – Alumina refinery

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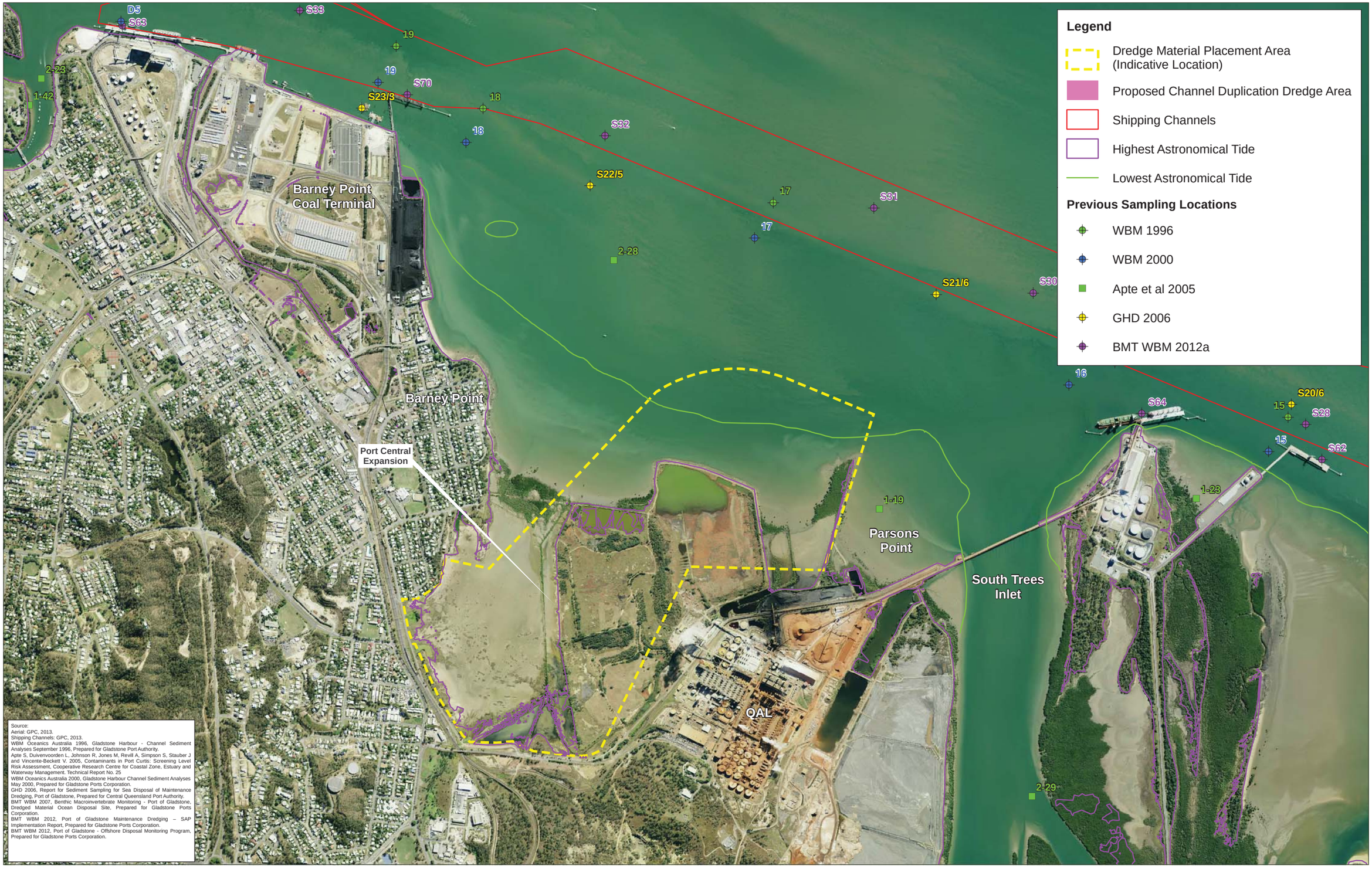

Source:
Aerial: GPC, 2013.
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WBM Oceanics Australia 1996, Gladstone Harbour - Channel Sediment Analyses September 1996, Prepared for Gladstone Port Authority.
Apte S, Duivenvoorden L, Johnson R, Jones M, Revill A, Simpson S, Stauber J and Vincente-Beckett V. 2005, Contaminants in Port Curtis: Screening Level Risk Assessment, Cooperative Research Centre for Coastal Zone, Estuary and Waterway Management. Technical Report No. 25
WBM Oceanics Australia 2000, Gladstone Harbour Channel Sediment Analyses May 2000, Prepared for Gladstone Ports Corporation.
GHD 2006, Report for Sediment Sampling for Sea Disposal of Maintenance Dredging, Port of Gladstone, Prepared for Central Queensland Port Authority.
BMT WBM 2007, Benthic Macroinvertebrate Monitoring - Port of Gladstone, Dredged Material Ocean Disposal Site, Prepared for Gladstone Ports Corporation.
BMT WBM 2012, Port of Gladstone Maintenance Dredging – SAP Implementation Report, Prepared for Gladstone Ports Corporation.
BMT WBM 2012, Port of Gladstone - Offshore Disposal Monitoring Program, Prepared for Gladstone Ports Corporation.

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Date: 29/10/2014 Version: 1 Job No: 237374
Coordinate system: GDA_1994_MGA_Zone_56

Port of Gladstone Channel Duplication EIS - Sediment Characterisation Plan

Figure 4.1: Previous Sampling within Port Central Expansion reclamation

- Barney Point Coal Terminal – Coal terminal

Major imports and exports from the South Trees Wharves and Barney Point Wharf are outlined in Table 4.2.

Table 4.2 Imports and exports from nearby wharves

Wharf	Imports	Exports
South Trees Wharves	Bauxite Fuel oil Caustic soda	Alumina
Barney Point Wharf	-	Coal Magnesite Bunker coal

Source: GPC 2012

4.2 Previous investigations

As discussed for the previous DMPA options, previous results of surveys in Port Curtis have shown relatively few incidences of sediments showing elevated contamination (Apte *et al.* 2005, GHD 2006a, BMT WBM 2007, DERM 2011; DEHP 2012; BMT WBM 2012a; refer Table 2.3 for a full list of previous investigations). Previous investigation locations are presented in Figure 1.2 and Figure 4.1.

No previous sediment investigations have been conducted within the marine footprint (below LAT) of the Port Central Expansion site. However, given the proximity of the site to the existing shipping channels, sediment results from sampling for maintenance dredging are likely to give an indication as to the sediment status at the site.

GHD (2006a) collected two sediment samples along the existing Auckland Channel (S21/6 to the north-east and S22/5 to the north of Port Central Expansion reclamation) for maintenance dredging in 2006. One sample (S22/5) exceeded the NODGDM (2002) Screening Levels for two polycyclic aromatic hydrocarbons (PAHs), acenaphthene and fluorene (GHD 2006a).

More recent sediment investigations were conducted by DEHP in 2012 in close to proximity to the Port Central Expansion reclamation and these results are likely to be comparable to the site itself. The results from the two sites (STINM – Northern Mouth of South Trees Inlet and NGPSW3 – North of GPCSW3 discharge point) did not exceed the NAGD (2009) Screening Levels for any contaminants.

BMT WBM (2012a) (for GPC) collected three sediment samples along the existing Auckland Channel (S30 to S32) for maintenance dredging in 2012. The samples did not exceed the NAGD (2009) Screening Levels for any contaminants.

4.3 Geology and physical characteristics

The stratigraphy of the Port Central Expansion reclamation is likely to comprise the following:

- Young (Holocene) Alluvium (marine sediments)
- Underlain by old (Pleistocene) Alluvium
- Underlain by bedrock of the Wandilla Formation

Previous works have shown that the Port Curtis area usually demonstrates young alluvium comprising of a thin layer of Holocene aged estuarine clay and recently deposited marine sediments, with a

thickness from 0.5 m to approximately 5 m in un-dredged areas, and is described as soft clay and loose sand/gravel with shell fragments.

The young alluvium is typically underlain by residual clays of older alluvium, comprising sandy clay, clayey sand, gravelly sand and clay. The gravel and sand are typically intersected in discrete pockets up to 1 m thick. This is underlain by extremely weathered bedrock of the Wandilla Formation.

Dominant substrate at all depths is usually sand and then clay; however deeper samples taken during the Western Basin Dredging and Disposal Project EIS sampling found higher proportions of gravels with the finer sediments being located generally within the top 0.5 m with gravel or sand layers likely to be located in the top 10 m of sediment.

The marine area of the Port Central Expansion reclamation is situated north of QAL, between the mainland and the Auckland Channel. The depth of the marine area within Port Central Expansion reclamation ranges from 0 to -10 m AHD. Surface sediments within the Auckland Channel (within the vicinity of the Port Central Expansion reclamation) are predominately coarse in nature with a combined gravel and sand proportion greater than 90% (BMT WBM 2012a). Very coarse surface sediments containing gravel and shell material were also present, with gravel content exceeding 40% with a maximum of 75% gravel (BMT WBM 2012a).

4.4 Sampling locations calculation

During the tender phase for the project, only the subtidal footprint (ie the area below Lowest Astronomical Tide (LAT)) of the Port Central Expansion reclamation investigation footprint (30.28 ha) was included. Whilst the investigation was underway, it was determined that the intertidal area (LAT to Highest Astronomical Tide (HAT)) (39.76 ha) could also be investigated during this phase.

The volume of DMPA sediment considered to have potential for interaction with the dredged material and to be assessed as part of this SCP is 302,800 m^3 for the subtidal area and 397,600 m^3 for the LAT to HAT area (700,400 m^3 in total).

The sediment and soils within the area above HAT, ie the terrestrial portions of the site, will be assessed by a separate investigation.

Table 4.3 provides a summary of the inputs to calculate the number of sample locations to be sampled. The methodology used to calculate the number of sample locations is provided in Section 1.4.

Table 4.3 Summary of proposed sampling program for Port Central Expansion reclamation

Site	Volume of sediment likely to interact (m^3)	Full number of sample locations required under NAGD (2009)	Number of sample locations as sediments are classed as 'probably clean'	Number of sample locations for SCP
Port Central Expansion reclamation (subtidal)	302,800	23	-	5
Port Central Expansion reclamation (LAT to HAT)	397,600	26	-	6
Port Central Expansion reclamation Total (below HAT)	700,400	49	-	11

The sampling locations have been randomly allocated in accordance with the method outlined in NAGD (2009). A square grid was lain over the Port Central Expansion reclamation subtidal area with at least five times the number of grid squares as there is sampling locations (ie 25 grids squares for the subtidal region and 30 for LAT to HAT) (refer Figure 4.2). The five samples were randomly allocated between the grid squares using ArcGIS 10.1 Advanced – Great Random Points Tool.

The sampling locations are displayed in Figure 4.2 and listed in Table 4.4. Samples will be collected at the centre of each grid square with the actual sampling to be taken as close as possible to the GPS coordinates generated.

Table 4.4 Location of sediment sample sites

Sampling location	Easting	Northing
PC1	326045.6077	7361357.935
PC2	325729.5412	7361147.224
PC3	325940.2522	7361147.224
PC4	326150.9632	7361147.224
PC5	326467.0297	7361041.869
PC6	325409.4564	7361090.17
PC7	325869.9364	7360975.05
PC8	326100.1764	7360975.05
PC9	326445.5364	7360975.05
PC10	325064.0964	7360859.93
PC11	325985.0564	7360859.93

Further details regarding the sampling program, QA/QC and reporting requirements are provided in Sections 6 and 7.

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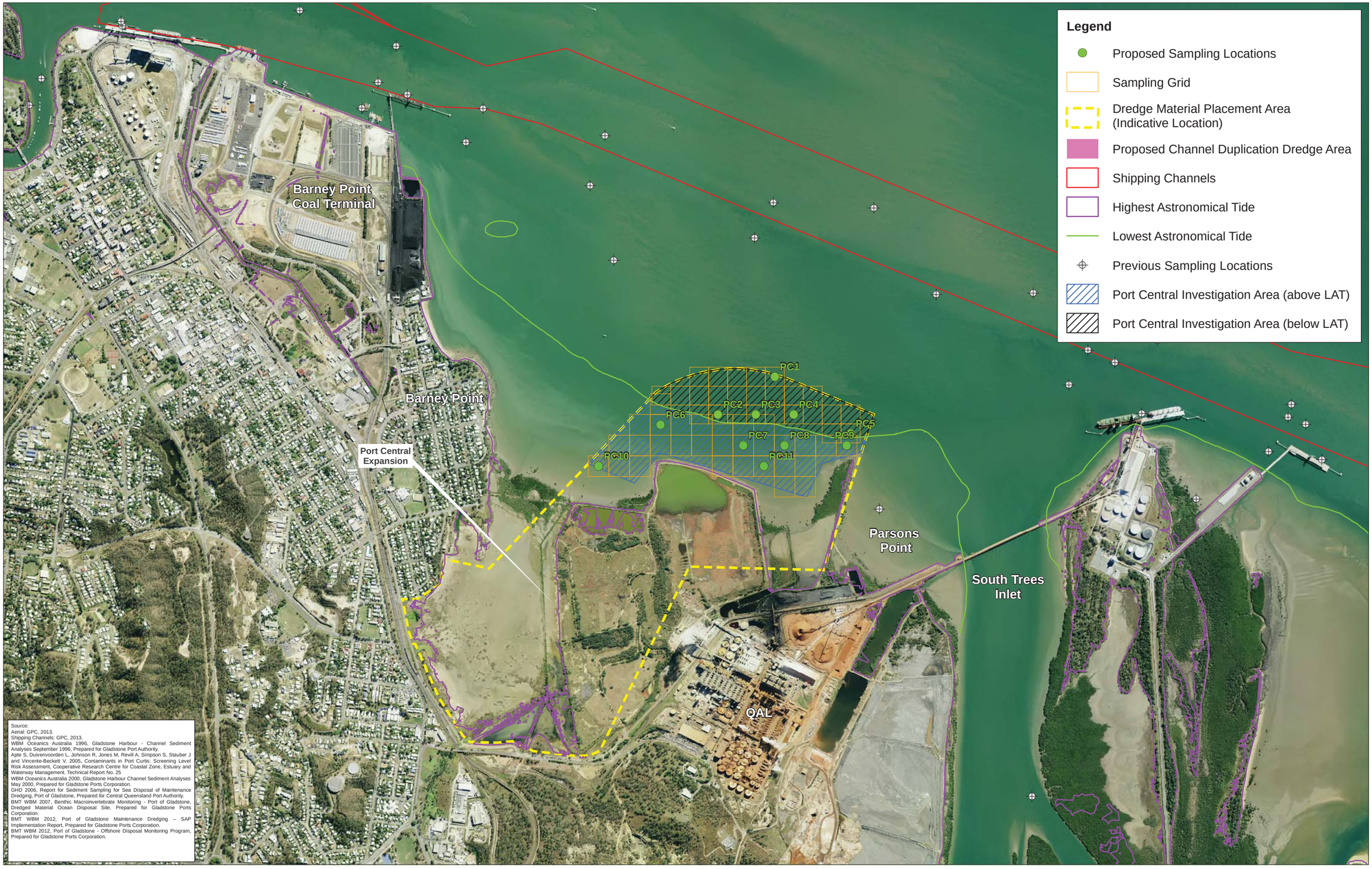


Source:
Aerial: GPC, 2013.
Shipping Channels: GPC, 2013.
WBM Oceanics Australia 1996, Gladstone Harbour - Channel Sediment Analyses September 1996, Prepared for Gladstone Port Authority.
Apte S, Duivenvoorden L, Johnson R, Jones M, Revill A, Simpson S, Stauber J and Vincente-Beckett V. 2005, Contaminants in Port Curtis: Screening Level Risk Assessment, Cooperative Research Centre for Coastal Zone, Estuary and Waterway Management. Technical Report No. 25
WBM Oceanics Australia 2000, Gladstone Harbour Channel Sediment Analyses May 2000, Prepared for Gladstone Ports Corporation.
GHD 2006, Report for Sediment Sampling for Sea Disposal of Maintenance Dredging, Port of Gladstone, Prepared for Central Queensland Port Authority.
BMT WBM 2007, Benthic Macroinvertebrate Monitoring - Port of Gladstone, Dredged Material Ocean Disposal Site, Prepared for Gladstone Ports Corporation.
BMT WBM 2012, Port of Gladstone Maintenance Dredging – SAP Implementation Report, Prepared for Gladstone Ports Corporation.
BMT WBM 2012, Port of Gladstone - Offshore Disposal Monitoring Program, Prepared for Gladstone Ports Corporation.

Map by: RB P:\GIS\Projects\237374_GPC_Channel_Duplication_EIS\237374_Sediment_Characterisation_Plan_008a.mxd 03/02/2015 14:21

A1 scale: 1:10,000
0 200 400 600 800 Meters

Date: 03/02/2015 Version: 2 Job No: 237374
Coordinate system: GDA_1994_MGA_Zone_56

Port of Gladstone Channel Duplication EIS - Sediment Characterisation Plan

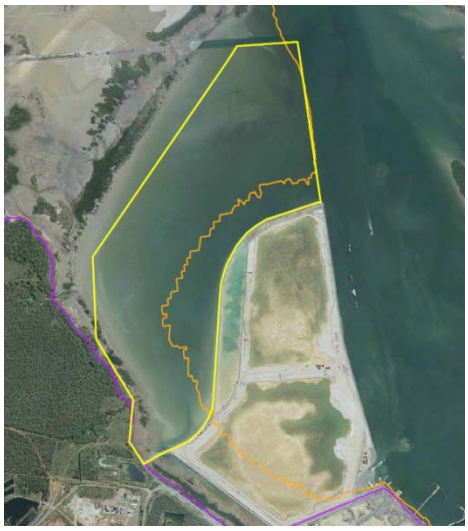
Figure 4.2: Port Central Expansion Reclamation - Proposed Sampling Programme

5 Western Basin Expansion reclamation

5.1 Summary of placement area

The Western Basin Expansion reclamation is located to the north of the existing Western Basin reclamation and south of the Narrows (refer Figure 5.1). Table 5.1 provides a summary of the Western Basin reclamation DMPA.

Table 5.1 Western Basin Expansion reclamation DMPA summary

Western Basin Expansion reclamation		
 Highest Astronomical Tide Lowest Astronomical Tide Dredge Material Placement Options (Indicative Location)	**Placement type**	Intertidal reclamation
	Estimated capacity	20 Mm^3
	Estimated Area	342.075 ha
	Beneficial use/end land use	Port land with potential for the development of 4 wharves
	Dredge equipment	TSHD for dredge area
	Placement method	Material unlikely to be pumped directly from a TSHD, rehandling with a CSD would be required
	Establishment of placement site	■ Bund wall construction within intertidal and sub-tidal area to varying depths ■ Bund material to be imported to site from quarry via trucks
	Management of placement site	■ Dewatering of dredge decant water ■ Material settlement 2-3 years

5.2 Previous investigations

As discussed for the previous DMPA options, previous results of surveys in Port Curtis have shown relatively few incidences of sediments showing elevated contamination (Apte *et al.* 2005, GHD 2006a, BMT WBM 2007, DERM 2011; DEHP 2012; BMT WBM 2012a; refer Table 2.3 for a full list of previous investigations). Previous investigation locations are presented in Figure 1.2 and Figure 4.1.

In 2012 CSIRO (Angel et al) collected sediment samples from within the existing Western Basin reclamation (prior to construction), Site 7 (4 m), and Site 4 (4 m) and Site 8 (4.5 m) in nearby areas. Total metal concentrations in the sediments were below the NAGD (2009) Screening Levels

Apte et al. 2005 collected three sediment samples within the Fishermans Landing Northern Expansion area and existing Western Basin reclamation. Sample '1-7' did not exceed the NAGD (2009)



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Legend

- Highest Astronomical Tide
- Lowest Astronomical Tide
- Dredge Material Placement Options (Indicative Location)

Previous Sampling Locations

- Apte et al 2005
- WBM 1996
- WBM 2000
- BMT WBM 2012a

Source:
Aerial Imagery: GPC, 2014.

Date: 04/02/2015 Version: 0

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A3 scale: 1:18,463

0 100 200 400 600 800 1,000 Meters

Job No: 237374
Coordinate system: GDA_1994_MGA_Zone_56

Port of Gladstone Channel Duplication

Figure 5.1: Previous Sampling Locations within Western Basin Expansion reclamation

Screening Levels for any contaminants. Arsenic concentrations in Sample '2-7' (21 mg/kg) exceeded the NAGD (2009) Screening Levels (20 mg/kg). Nickel concentrations in Sample '2-6' (25 mg/kg) and Sample '2-7' (28 mg/kg) also exceeded the NAGD (2009) Screening Levels (21 mg/kg).

DEHP 2012 collected two sediment samples (BW1 and BW2) on the seaward side of the existing Fishermans Landing Northern Expansion. Neither sample exceeded the NAGD (2009) Screening Levels.

5.3 Geology and physical characteristics

The stratigraphy of the Western Basin Expansion reclamation is likely to comprise the following:

- Quaternary-recent sediment (unconsolidated marine sediments – silt, clay, sand)
- Underlain by the Tertiary Narrows Beds:
  - Curlew Formation (claystone, carbonaceous shale, lignite)
  - Underlain by Rundle Formation (oil shale, claystone)
  - Underlain by Worthing Formation (sandstone, siltstone, claystone, conglomerate)
- Underlain by the Devonian-Carboniferous Curtis Island Group, Doonside Formation.

Previous works have shown that the Port Curtis area usually demonstrates young alluvium comprising of a thin layer of Holocene aged estuarine clay and recently deposited marine sediments, with a thickness from 0.5 m to approximately 5 m in un-dredged areas, and is described as soft clay and loose sand/gravel with shell fragments.

The young alluvium is typically underlain by residual clays of older alluvium, comprising sandy clay, clayey sand, gravelly sand and clay. The gravel and sand are typically intersected in discrete pockets up to 1 m thick. This is underlain by extremely weathered bedrock of the Wandilla Formation.

Dominant substrate at all depths is usually sand and then clay; however deeper samples taken during the Western Basin Dredging and Disposal Project EIS sampling found higher proportions of gravels with the finer sediments being located generally within the top 0.5 m with gravel or sand layers likely to be located in the top 10 m of sediment.

The Western Basin Expansion reclamation area contains estuarine clay ranging in thickness from 0.5 m to 5.0 m. The underlying soil is comprised of clay, silty clay or residual clay. Some areas have been identified as containing gravel and/or sand layers, most likely in the top 1om of sediment. (GHD 2009)

5.4 Sampling locations calculation

The Western Basin Expansion reclamation investigation area is 342.08 ha. The volume of DMPA investigation area sediment considered to have potential for interaction with the dredged material and to be assessed as part of this SCP is 3,420,750 m^3.

Table 5.2 provides a summary of the inputs to calculate the number of sample locations to be sampled. The methodology used to calculate the number of sample locations is provided in Section 1.4.

Table 5.2 Summary of proposed sampling program for Western Basin Expansion reclamation

Site	Volume of sediment likely to interact (m^3)	Full number of sample locations required under NAGD (2009)	Number of sample locations as sediments are classed as 'probably clean'	Number of sample locations for SCP
Western Basin Expansion reclamation	3,420,750	101	-	21

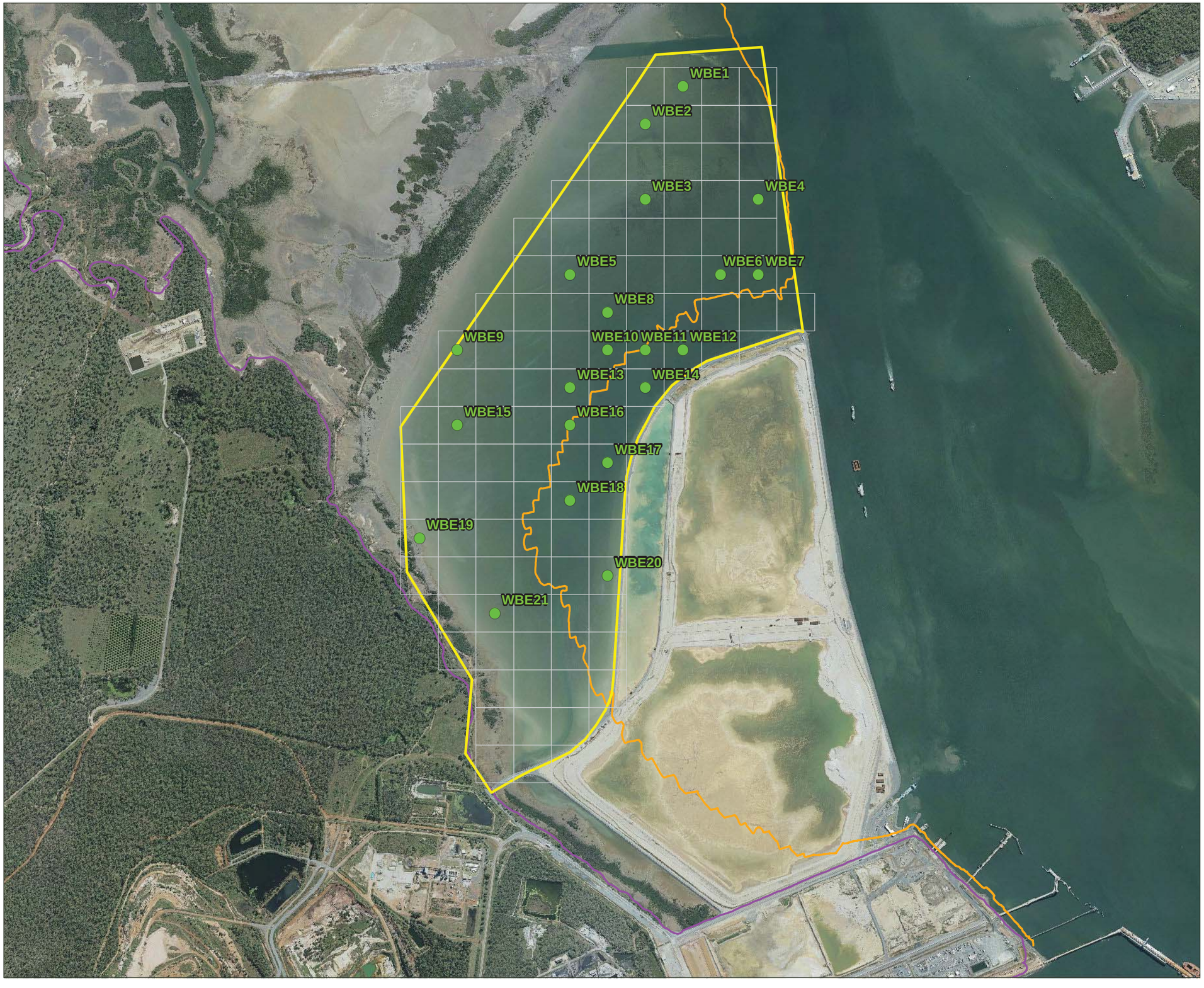
The sampling locations have been randomly allocated in accordance with the method outlined in NAGD (2009). A square grid was lain over the Western Basin Expansion reclamation area with at least five times the number of grid squares as there is sampling locations (ie 105 grids squares) (refer Figure 5.2). The 21 samples were randomly allocated between the grid squares using ArcGIS 10.1 Advanced – Great Random Points Tool.

The sampling locations are displayed in Figure 5.2 and listed in Table 5.3. Samples will be collected at the centre of each grid square with the actual sampling to be taken as close as possible to the GPS coordinates generated.

Table 5.3 Location of sediment sample sites

Sampling location	Easting	Northing
WBE1	312388.9682	7371868.237
WBE2	312208.9682	7371688.237
WBE3	312208.9682	7371328.237
WBE4	312748.9682	7371328.237
WBE5	311848.9682	7370968.237
WBE6	312568.9682	7370968.237
WBE7	312748.9682	7370968.237
WBE8	312028.9682	7370788.237
WBE9	311308.9682	7370608.237
WBE10	312028.9682	7370608.237
WBE11	312208.9682	7370608.237
WBE12	312388.9682	7370608.237
WBE13	311848.9682	7370428.237
WBE14	312208.9682	7370428.237
WBE15	311308.9682	7370248.237
WBE16	311848.9682	7370248.237
WBE17	312028.9682	7370068.237
WBE18	311848.9682	7369888.237
WBE19	311128.9682	7369708.237
WBE20	312028.9682	7369528.237
WBE21	311488.9682	7369348.237

Further details regarding the sampling program, QA/QC and reporting requirements are provided in Sections 6 and 7.



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Legend

- Highest Astronomical Tide
- Lowest Astronomical Tide
- Dredge Material Placement Options (Indicative Location)
- Proposed Sampling Location
- Sampling Grid

Source:
Aerial Imagery: GPC, 2014.

Date: 04/02/2015 Version: 0

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A3 scale: 1:18,463

0 100 200 400 600 800 1,000 Meters

Job No: 237374

Coordinate system: GDA_1994_MGA_Zone_56

Port of Gladstone Channel Duplication

Figure 5.2: Western Basin Expansion Expansion reclamation - Proposed Sampling Program

6 Sampling and Analysis

6.1 Introduction

6.1.1 Sampling objective

The objective of the proposed sampling program is to characterise the sediments of the three dredge material placement areas to determine their suitability to receive dredge material from the Channel Duplication Project.

Information on the physical and chemical characteristics of the sediments is required to investigate the ambient baseline condition within the DMPA site options and their surroundings. As such, this SCP has been prepared to meet the requirements outlined in the NAGD (2009) for the assessment of the DMPAs and their suitability for receiving dredge material from the Channel Duplication Project.

6.1.2 Responsible parties

GPC is the proponent for the proposed Gatcombe and Golding Cutting Channel Duplication Project at the Port of Gladstone. GPC has engaged Aurecon for the preparation of this Combined SCP for the dredge material placement options and provision of the results of the sediment sampling as supporting information for the EIS for the Channel Duplication Project, and other environmental applications.

A laboratory holding National Association of Testing Authorities (NATA) certification for the required analyses will be contracted to undertake chemical analysis of the samples.

6.1.3 Occupational health and safety

Sediment sampling will be undertaken in reference to a suitable occupational health and safety plan. This includes sample collection, processing and handling, and will be supplemented by health and safety documentation from the vessel contractor. This is to ensure the safety, health and welfare for personnel for all work performed within the contracted work-scope, and that the safety, health and welfare of others, including the public and the natural environment are not affected by that work. In particular, the occupational health and safety plan will address safety in relation to working over water and addressing potential adverse weather conditions.

Given the majority of sediment to be collected is *probably clean*, risk to human health from hazardous materials is not anticipated. However, appropriate sample collection, processing and handling techniques will be developed as part of an occupational health and safety plan and will be implemented during sediment sampling.

6.1.4 Personnel and vessel requirements

The vessel from which sampling is undertaken will have an appropriate sample processing area, free from debris and residue and removed from motors and exhaust, to minimise the potential for sample contamination. The sample processing area will be washed down prior to use.

Two appropriately qualified and experienced environmental scientists (or equivalent) will be on board the vessel to direct, log and provide records of sampling, take photographs, process and package samples in accordance with NAGD (2009) and make sure they are delivered to the analytical laboratory within the required holding times.

6.1.5 Contingency planning

The Contractor and associated vessel employed to undertake sampling will be required to have contingency plans in place for adverse weather conditions and/or equipment malfunction to prevent any impacts on the timing of the field program.

The Contractor and field staff will also make themselves aware of environmental conditions that may affect sampling, including the depth of water (which is variable across the areas to be sampled), tidal currents and onshore winds.

6.1.6 Review of the SCP

This SCP has been prepared by Aurecon, on behalf of GPC, to comply with NAGD (2009) and, where NAGD (2009) is not applicable, the ANZECC Guidelines (2000a) or draft Queensland Contaminated Land Guidelines (EPA 1998). The results from the SCP will provide supporting information for the EIS and subsequent permit applications required to undertake capital dredging.

The results of the sampling and analysis will be presented within a DMPA Options Sediment Characterisation Implementation Report for the three potential sites as supporting information for the EIS and any subsequent permit applications, with a copy of the final SCP as an appendix.

6.2 Sampling methodology

6.2.1 Design of sampling program

The details of the samples required within each potential site are contained within the relevant site section (refer Sections 2.5, 3.4 and 4.4). Table 6.1 outlines the number of samples required within each of the dredge material placement options.

Table 6.1 Summary of proposed sampling program

Site	Volume of sediment likely to interact (m^3)	Full number of samples required under NAGD	Number of samples if sediments are classed as 'probably clean'	Number of samples for SCP
East Banks DMPA Expansion (excluding existing East Banks)	12.88 million	338	169	34
West Banks Island reclamation	4.68 million	132	-	27
Port Central Expansion reclamation (total below HAT)	700,400	49	-	11
Western Basin Expansion reclamation	3.42 million	101	-	21

6.2.2 Depth of sampling and collection method

In the field, GPS coordinates of each sampling site will be recorded and sites plotted on a map of appropriate scale. Differential GPS will be used, giving an accuracy of not less than +/- 10 m.

NAGD (2009) requires only an assessment of the surface sediments as the dredged material will not mix with deeper sediments.

At each sampling location, core samples will be taken to a depth of 1 m, where possible. If core samples are unable to be taken, for reasons such as water depth, diver safety and/or coring refusal, grab samples will be taken to ensure sediment (and data) is collected from that sampling location. Grab samples of surface sediment will be collected and mixed in a stainless steel bucket, using a stainless steel spoon to make a homogeneous mix. Based upon previous investigations, it is expected that up to five grabs will be required to provide sufficient material, however more grabs will be taken if required to collect sufficient sample volume to allow for the required laboratory analysis requirements.

Where core samples are taken, discrete samples will be taken from the core at depths of 0.0-0.5m and 0.5-1.0 m for laboratory analysis. Sufficient core samples will be taken at each sampling location to meet required sample volumes (refer Section 5.2.3).

All samples will be placed within pre-washed and labelled glass jars for laboratory analysis.

6.2.3 Sample volume and containers

The volume of sediment collected for each sample must be adequate to conduct all required chemical and physical analyses. Based on Table 5 of the NAGD (2009), it is anticipated that 250 mL of sediment per sample/replicate for chemical analysis and 500 mL for particle size will be adequate for the basic Phase II suite.

Samples will be placed in laboratory supplied glass jars with Teflon-lined lids or zip-lock bags as required by the laboratory. Jars will be completely filled with sample. Sample volume and container requirements will be confirmed with the laboratory prior to sample collection.

6.2.4 Field measurements

The following field measurements will be recorded on an appropriate field data sheet:

- Date and time of sampling
- Person conducting sampling, client, project, sample location identifier, GPS coordinates of actual sampling location
- Field logs – details recorded will include depth, physical appearance (eg sand, clay), colour, odour, plasticity, number of grabs required, sand grain size and presence of organic matter, marine organisms, coal particles, shell layers and other relevant features
- Water quality – each sample will be logged with reference to the ANZECC Guideline (2000a) and visual observations such as turbidity (by eye), odour, colour etc will be recorded as well as in situ instrument readings, including temperature, dissolved oxygen, electrical conductivity and pH
- Photographs – digital photographs (minimum resolution of 12 megapixels) will be taken of each sediment grab and sampling equipment/methodology
- Tides – the tide chart for each day of sampling will be included in the report and water depth at the time of sampling recorded. Observations such as falling/rising tides will also be recorded
- Weather – weather conditions including wind speed, sea state, currents and rainfall for each day of sampling will be recorded

6.2.5 Analysis of sediment samples

6.2.5.1 Geochemical

All samples will be analysed for the following analytes:

- Total recoverable hydrocarbons (TRH)

- Metals and metalloids (ie Sb, As, Cd, Cr, Cu, Pb, Hg, Mn, Ni, Ag and Zn)
- Nutrients (ammonia, nitrate, nitrite, total nitrogen and total phosphorus)
- Dioxins (analysed within 10 randomly selected samples from the assumed anthropogenic sediment layer – ie 0-0.5 m – six from East Banks Expansion, two from West Banks Island reclamation and two from Port Central Expansion reclamation)
- Organochlorine pesticides (OCP)
- Organophosphate pesticides (OPP)
- Polychlorinated biphenyl (PCB)
- Organometallics (monobutyltin, dibutyltin and tributyltin)
- Polycyclic aromatic hydrocarbons (PAHs)
- Total organic carbon (TOC)
- Benzene, toluene, ethylbenzene and xylenes (BTEX)

Table 6.2 contains further information regarding the analytes to be investigated.

6.2.5.2 Physical characteristics

Settling rates and particle sizes (sieve and hydrometer) will be analysed on selected samples that are representative of the sediment types and layers that are identified.

6.3 Sediment analysis

6.3.1 Data assessment

Results of chemical testing will be assessed for compliance to the Screening Levels specified in Table 2 of NAGD (2009) and the revised sediment quality values as provided in Simpson *et al.* (2013) (unpublished). Concentrations of organic contaminants, including organometallics and PAHs, will be adjusted to 1.0% TOC before being compared to Screening Levels. Statistical analyses of the data will include the calculation of 95% UCL of the mean as specified in the NAGD (2009). Where no NAGD Screening Level exists (eg manganese) the levels outlined in the Draft Queensland Contaminated Land Guidelines (EPA 1998) will be utilised.

The analysis data will be checked and validated with unusual results rechecked by the laboratory within the holding times.

Table 6.2 outlines the Screening Levels and the High Levels for the analytes to be investigated.

Table 6.2 Contaminant screening and high levels for sediment

Chemical	Units	NAGD (2009) Practical Quantification Limits (PQL)	NAGD (2009) Screening Level[1]	NAGD (2009) High Level[1]	Draft Queensland Contaminated Land Guidelines (EPA 1998)
Metals and metalloids					
Antimony	mg/kg	0.5	2	25	
Arsenic	mg/kg	1	20	70	
Cadmium	mg/kg	0.1	1.5	10	
Chromium	mg/kg	1	80	370	

Chemical	Units	NAGD (2009) Practical Quantification Limits (PQL)	NAGD (2009) Screening Level[1]	NAGD (2009) High Level[1]	Draft Queensland Contaminated Land Guidelines (EPA 1998)
Copper	mg/kg	1	65	270	
Lead	mg/kg	1	50	220	
Mercury	mg/kg	0.01	0.15	1	
Manganese	mg/kg	10	-	-	500
Nickel	mg/kg	1	21	52	
Silver	mg/kg	0.1	1.0	3.7 (4.0)	
Zinc	mg/kg	1	200	410	
Organometallics[2]					
Tributyltin	µg Sn/kg	1	9	70	
Organics[2]					
TRH C_6-C_{10}	mg/kg	100	-	-	
TRH >C_{10}-C_{16}	mg/kg	100	-	-	
TRH >C_{16}-C_{34}	mg/kg	100	-	-	
TRH >C_{34}-C_{40}	mg/kg	100	-	-	
Total TRH	mg/kg	100	550 (280)	- (550)	
Total PCB	µg/kg	5	23 (34)	- (280)	
Total PAH	µg/kg	5	10,000	45,000 – 50,000 (50,000)	
DDD	µg/kg	5	2 (3.5)	20 (9.0)	
DDE	µg/kg	5	2.2 (1.4)	27 (7.0)	
Total DDT	µg/kg	5	1.6 (1.2)	46 (5.0)	
Dieldrin	µg/kg	5	280 (2.8)	270 e/ 620 (7.0)	
Chlordane	µg/kg	5	0.5 (4.5)	6 (9.0)	
Lindane	µg/kg	5	0.32 (0.9)	1.0 (1.4)	
Endrin	µg/kg	5	10 (2.7)	120 e/ 220 (60)	
Dioxins	µg/kg	0.02	-	-	
Inorganics					
Ammonia (NH3-N/L)	mg/kg	0.1	- (4)	- (4.5)	
BTEX					
Benzene	µg/kg	200	-	-	
Toluene	µg/kg	200	-	-	
Ethylbenzene	µg/kg	200	-	-	
Xylene	µg/kg	200	-	-	

Table notes: [1] Values provided in brackets represent revised sediment quality values as provided in Simpson *et al.* (2013) (unpublished).
[2] For comparison to revised sediment quality values (Simpson *et al.* 2013), concentrations will be normalised to 1.0% TOC

6.3.2 Further analysis

The results from the sampling program will be compared against the Screening Levels outlined in Table 6.2. If any of the samples contain contaminant concentrations above these Screening Levels, consultation will be undertaken with DoE and DEHP and, if required, the data will inform a power analysis, which will be used to determine the number of samples required to adequately characterise the ambient baseline concentrations at the three DMPA options.

6.4 Quality control and quality assurance procedures

6.4.1 Data quality objectives

Data Quality Objectives (DQOs) are qualitative and quantitative statements derived from the outputs of the first six steps of the seven steps DQO process that:

- Clarify the study objective
- Define the most appropriate type of data to collect
- Determine the most appropriate conditions from which to collect data
- Specify tolerable limits on decision errors which will be used as the basis for establishing the quantity and quality of data needed to support the decision

The DQO process (AS4482.1-2005) follows a systematic approach for defining the criteria that a data collection design should satisfy, including the number of samples and when, where and how to collect these samples. DQOs are employed to develop a scientific and resource-effective data collection design to assure decision makers that the type, quantity and quality of environmental data are appropriate for the intended application. In addition, decision makers will guard against committing sources to data collection efforts that do not support defensible decisions.

DQOs have been developed to define the type and quality of data required to achieve the objectives stated in Section 6.1.1. The DQOs were selected with reference to relevant guidelines published by the NAGD (2009) and the ANZECC Guidelines (2000a), which define the minimum data requirements and quality control procedures.

These matters are addressed in the seven step DQO approach presented in Table 6.3.

Table 6.3 Data quality objectives

Process	Response
Step 1: State the Problem	The ambient baseline condition of the sediments at East Banks DMPA Expansion site; the West Banks Island reclamation and the Port Central Expansion reclamation are required to be assessed in accordance with the requirements outlined in the NAGD (2009)
Step 2: Identify the Decision	The principle objective of the proposed sampling program is to characterise the sediments of the DMPA sites to determine their suitability to receive dredge material from the Channel Duplication Project
Step 3: Identify the Inputs to the Decision	■ Footprint of DMPA sites ■ Previous investigations within the DMPA sites ■ History of offshore dredge material placement within the Port of Gladstone
Step 4: Define the Boundaries of the Study	The boundaries of the three potential DMPAs are illustrated within Figures 2.1, 3.1 and 4.1

Process	Response
Step 5: Develop a Decision Rule	The assessment program has been designed to characterise the DMPA sites using the following criteria: ■ NAGD (2009) Screening Levels ■ NAGD (2009) High Values ■ Revision of the ANZECC/ARMCANZ Sediment Quality Guidelines, May 2013 (unpublished) (Simpson *et al* 2013) ■ Draft Queensland Contaminated Land Guidelines (EPA 1998) where NAGD Screening Levels are not available
Step 6: Specify Tolerable Limits on Decision Errors	The Data Quality Indicators (DQIs) have been established to set acceptance limits on field and laboratory data collected during the investigation (refer Section 5.4.2)
Step 7: Optimise the Design for Obtaining Data	This sampling methodology was developed in accordance with the NAGD (2009). Nominated samples judged as being representative of sediment values will be submitted for analysis as described in Section 6.3.1. Samples are to be analysed by a NATA Accredited Laboratory within approved sample withholding times

6.4.2 Data quality indicators

The DQIs for the assessment are presented in Table 6.4.

Table 6.4 Data quality indicators

DQI	Field	Laboratory	Acceptability limits
Completeness	■ Sediment proposed to be dredged pose a potential risk to health, safety and the environment and require investigation to characterise and assess the suitability for placement ■ Appropriate sampling procedures to be used ■ Experienced field team to undertake sampling ■ Correct documentation to be completed	■ All required samples analysed ■ Appropriate methods ■ Appropriate Limits of Reporting (LORs) ■ Appropriate Practical Quantitation Limits (PQLs) ■ Sample documentation correct ■ Sample holding times in compliance	As per NAGD 2009
Comparability	■ Correct sample procedures used at each location ■ Experienced field team ■ Same type (medium, volume and sampling technique) of samples collected	■ Same analytical methods used ■ Appropriate LORs ■ Samples submitted to the same NATA accredited laboratory ■ Analytical data is presented in the same unit	As per NAGD 2009
Representativeness	■ Appropriate media sampled ■ All media identified (ie sediment)	■ All required samples analysed	As per NAGD 2009

DQI	Field	Laboratory	Acceptability limits
Precision	■ Correct sample procedures used at each location ■ Collection of appropriate QA/QC samples	Analysis of: ■ Duplicate samples ■ Laboratory duplicate samples	Relative percent deviation (RPD) of 30-50%
Accuracy	■ Sampling procedures appropriate and complied with ■ Collection of appropriate QA/QC samples	Analysis of: ■ Method blanks ■ Laboratory surrogate spikes ■ Laboratory control samples ■ Reference material	■ Non-detect for contaminants of concern ■ 70-130%

6.4.3 Decontamination

Prior to use, the survey vessel must be thoroughly inspected and washed down. Any evident sources of contamination (such as copper or brass, or galvanised or oily surfaces) will be cleaned, covered in plastic and taped down to avoid accidental contamination of any sample. Lead diving weights will be stowed away and work surfaces will be covered with clean plastic sheeting.

6.4.4 Sampling equipment

Stainless steel, uPVC or Teflon equipment will be used, where practicable, to minimise the risk of cross contamination of samples. The following procedure will be used for cleaning the sampling equipment, or any other equipment used to handle samples, prior to obtaining each sample to be submitted for chemical analysis:

- An initial rinse with seawater
- A detergent solution scrub (Decon 90)
- A seawater rinse
- A final distilled water rinse

6.4.5 Sample collection

All staff collecting sediment samples will wear disposable nitrile, powder free gloves for each individual sample collected. This will ensure no cross-contamination between sample locations occurs.

6.4.6 Sample preservation

Once samples are collected and labelled, they will be promptly stored in the dark at less than 4°C (on ice bricks or in a refrigerator on the vessel) and transported to the testing laboratory within the specified holding times, ideally within 24 hours. Samples will be collected, preserved, stored and transported according to the requirements of the NAGD (2009) and instructions given by the analytical laboratory accompanied by a Chain of Custody form.

6.4.7 Sample labels

Each sample will be labelled with a sample number. The sample number will be unique to a particular sample and will be recorded with indelible ink on both the waterproof label and the cap of the sample bottle in case the sample label is lost or destroyed.

Table 6.5 identifies the sample types and the prefixes for the specific samples that will be used in the identification of the different samples from the potential DMPAs.

Table 6.5 Identification of samples

Sample type	Sample label prefix
Core/Grab samples	East Banks DMPA Expansion: EB01 – EB34 West Banks Island reclamation: WB01 – WB27 Port Central Expansion reclamation: PC01 – PC11 Western Basin Expansion: WBE01 – WBE21
Triplicates	T (eg T01)
Trip blanks	TB (eg TB01)
Rinsates	R (eg R01)

6.4.8 Analytical testing laboratories

All laboratories used for analysis will be NATA accredited and experienced in the chemical and physical analysis of marine sediments. 5% of samples will be checked with an independent NATA accredited laboratory.

6.4.9 Chain of custody

Chain of Custody forms will detail all samples collected and dispatched to the laboratory for analysis, including any specific comments or requirements (eg notes that samples are of marine origin and where samples are expected to be contaminated, or where ultra-trace tests are required). Details provided on the Chain of Custody forms will be as follows:

- Sampler
- Nature of sample
- Collection date
- Analysis requested
- Preservation method
- Time sampled
- Condition of samples at dispatch
- Staff contact details

6.4.10 Field QA/QC procedures

In addition to the internal laboratory quality assurance procedures, field replicates and quality assurance replicates will be collected and tested for the basic suite of contaminants of concern. Field QA/QC procedures to be implemented during sampling and analysis are outlined in Table 6.6.

Table 6.6 Field QA/QC procedures

QA/QC procedure	Frequency	Details
Trip blank	Once per day	One container filled with inert material (provided by the laboratory) to be transported with samples and analysed for volatile compounds

QA/QC procedure	Frequency	Details
Rinsate blank	Once per day	One rinsate container collected during the decontamination process where cross-contamination of samples is likely
Field triplicate	10% of samples	Two replicate samples collected at the same location as the primary sample and analysed to determine the variability of the sediment physical and chemical characteristics
Inter-laboratory duplicate	5% of samples	Replicate samples collected from the same homogenised sediment as the primary sample and analysed by the primary laboratory and secondary laboratory to identify variation associated with sub sample handling and variation in analytical protocol

6.4.11 Laboratory QA/QC procedures

In accordance with the NAGD (2009), the NATA accredited laboratories will include a range of QA/QC methods, which are summarised in Table 6.7.

Table 6.7 Laboratory QA/QC procedure details

QA/QC procedure	Analysis rate	Details
Laboratory blank	1 per 20 samples (or fewer)	Laboratory blanks are submitted with each sample batch during analysis to determine the level (if any) of cross contamination that may occur during laboratory preparation, extraction and/or analysis. Analysis of the laboratory blanks should result in contaminant concentrations that do not exceed the detection limit
Laboratory control	1 per 20 samples (or fewer)	Laboratory controls are submitted with each sample batch and contain known concentrations. Analysis of the laboratory controls should result in contaminant concentrations that do not deviate from the known concentration to determine the accuracy of the laboratory analysis
Laboratory spike (surrogate and matrix)	1 per 20 samples (or fewer)	A surrogate laboratory spike involves additions of a known concentration of compounds that are similar to those analysed, but are not likely to be present in the environment. The recovery of these compounds indicates the ability of the laboratory to extract the specified analyte. Surrogate spikes are generally performed on organic compounds A matrix laboratory spike is performed by splitting a sample and spiking it with a known contaminant concentration. The recovery of the contaminant is calculated and used to determine interference from the sediment upon the level of recovery
Laboratory duplicates	1 per 10 samples (or fewer)	Laboratory duplicates uses relative percent difference of an intra-laboratory split sample material to analyse laboratory precision

6.4.12 Validation and checking of laboratory results

Upon receipt of laboratory results, QA/QC results will be checked and the results reviewed for inconsistencies or atypical results. Validation of the laboratory data and field quality control samples will be undertaken according to the requirements of the NAGD (2009) and presented in the report.

7 Reporting

Once the approved SCP has been implemented, the DMPA Options Sediment Characterisation Implementation Report for the DMPA sites will be prepared and will contain the following sections:

- Introduction/purpose of the report
- Details of the sampling, including sample locations and depths, sample numbers (including QA samples), completed Chain of Custody forms, field logs, descriptions of the sediments and any issues encountered or deviations from the procedures outlined in the SCP
- Methodology including sample collection, processing, storage and analysis
- Results including compliance to NAGD (2009) Screening Levels, statistical analyses and data validation. All laboratory results and field data will be appended in full.
- QA/QC assessment of field and laboratory data and comparison to the DQOs
- Discussion, including an assessment of the suitability of the dredge material for various dredge material placement options as required under the NAGD (2009)
- Conclusions and recommendations

8 References

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Appendix B
Borehole Logs

Borehole No: EB01

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	23.2.15	Northing	7360958.02	Slope	90°	Equipment	Vibrocore
Completed Drilling	23.2.15	Easting	342525.41	Bearing	---	Ground Level	16.5 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 0.60m: Brown, fine to coarse dense gravelly SAND. Gravel is subangular rock and shell fragments.				ES PSD ASS D	0.0-0.5m A 0.0-0.5m B 0.0m C - ASS Duplicate 31 0.0-0.5m D
										ASS	0.25m C
										V	0.3m V
		16					W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
						0.60m to 1.00m: Brown, fine to coarse dense clayey SAND with shell fragments. Clay is soft with a medium plasticity.					
										V	0.7m V
										ASS	0.75m C
			1			Borehole EB01 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

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Borehole No: EB02

Engineering Log - Borehole

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	23.2.15	Northing	7360688.38	Slope	90°	Equipment	Vibrocore
Completed Drilling	23.2.15	Easting	343360.21	Bearing	---	Ground Level	17.8 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 0.40m: Brown, coarse ,dense, gravelly clayey SAND. Gravel is subangular rock and shell fragments. Clay is soft with medium plasticity.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
										ASS	0.25m C
										V	0.3m V
						0.40m to 0.85m: Brown very stiff gravelly stiff CLAY with low plasticity.	W			ES PSD ASS	0.5-0.85m A 0.5-0.85m B 0.5m C
		17								V	0.7m V
										ASS	0.75m C
			1			Borehole EB02 Terminated at 0.85 m					Borehole terminated due to refusal

Remarks:

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Borehole No: EB03

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	23.2.15	Northing	7360682.43	Slope	90°	Equipment	Vibrocore
Completed Drilling	23.2.15	Easting	344173.45	Bearing	---	Ground Level	19.6 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 0.10m: Brown, fine to coarse, dense SAND. Clay is soft with medium plasticity				ES PSD ASS	0.0-0.7m A 0.0-0.7m B 0.0m C
						0.10m to 0.69m: Brown/red, soft to firm CLAY with medium plasticity.					
							W			ASS	0.25m C
										V	0.3m V
		19								ASS	0.5m C
			1			Borehole EB03 Terminated at 0.69 m					Borehole terminated due to refusal

Remarks:

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Borehole No: EB04

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	23.2.15	Northing	7360405.15	Slope	90°	Equipment	Vibrocore
Completed Drilling	23.2.15	Easting	341427.98	Bearing	---	Ground Level	14.6 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 0.40m: Brown stiff CLAY with medium plasticity.	W			ES PSD ASS	0.0-0.4m A 0.0-0.4m B 0.0m C
										V	0.3m V
		14				Borehole EB04 Terminated at 0.40 m					Borehole terminated due to refusal
			1								

Remarks:

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Borehole No: EB05

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	23.2.15	Northing	7360409.61	Slope	90°	Equipment	Vibrocore
Completed Drilling	23.2.15	Easting	344721.34	Bearing	---	Ground Level	19.4 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 0.10m: Dark brown, fine dense clayey SAND. Clay is firm with high plasticity.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
						0.10m to 0.52m: Brown, stiff CLAY with medium plasticity.					
		19					W			ASS	0.25m C
										V	0.3m V
										ASS	0.5m C
						Borehole EB05 Terminated at 0.52 m					Borehole terminated due to refusal
			1								

Remarks:

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Borehole No: EB06

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	23.2.15	Northing	7360409.04	Slope	90°	Equipment	Vibrocore
Completed Drilling	23.2.15	Easting	345011.63	Bearing	---	Ground Level	19.6 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 0.10m: Brown, coarse loose SAND with shell fragments.				ES PSD ASS D	0.0-0.5m A 0.0-0.5m B 0.0m C 0.0-0.5m D
						0.10m to 1.00m: Brown, stiff CLAY with high plasticity.					
										ASS	0.25m C
										V	0.3m V
							W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
		19									
										V	0.7m V
										ASS	0.75m C
			1			Borehole EB06 Terminated at 1.00 m				ASS	1.0m C - ASS Duplicate 32 Borehole terminated at target depth

Remarks:

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Borehole No: EB07

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	23.2.15	Northing	7360403.91	Slope	90°	Equipment	Vibrocore
Completed Drilling	23.2.15	Easting	345565.11	Bearing	---	Ground Level	19.8 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Brown, firm, sandy CLAY with medium plasticity. Sand is fine to coarse dense, becoming less coarse with depth.				ES ASS	0.0-0.5m A 0.0m C
										ASS	
										ASS	0.25m C
										V	0.30m V
							W			ES ASS	0.5-1.0m A 0.5m C
		19								V	0.7m V
										ASS	0.75m C
			1			Borehole EB07 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

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Borehole No: EB08

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	22.2.15	Northing	7360140.14	Slope	90°	Equipment	Vibrocore
Completed Drilling	22.2.15	Easting	340329.14	Bearing	---	Ground Level	14.5 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 0.50m: Brown, fine to coarse, dense clayey SAND with intact shells and shell fragments. Clay is soft with medium plasticity.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C - ASS Duplicate 27
										ASS	0.25m C
										V	0.3m V
		14				0.50m to 1.00m: Brown/red, stiff silty CLAY with low plasticity.	W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
										ASS	0.75m C
			1			Borehole EB08 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

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Borehole No: EB09

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	23.2.15	Northing	7360128.18	Slope	90°	Equipment	Vibrocore
Completed Drilling	23.2.15	Easting	342261.16	Bearing	---	Ground Level	16 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 0.10m: Brown, coarse, dense SAND with shell fragments.				ES PSD ASS	0.0-0.7m A 0.0-0.7m B 0.0m C
						0.10m to 0.70m: Brown, very stiff CLAY with medium plasticity.					
										ASS	0.25m C
										V	0.3m V
							W				
										ASS	0.5m C
						Borehole EB09 Terminated at 0.70 m					Borehole terminated due to refusal

Remarks:

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Borehole No: EB10

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	22.2.15	Northing	7360134.58	Slope	90°	Equipment	Vibrocore
Completed Drilling	22.2.15	Easting	343356.04	Bearing	---	Ground Level	15.5 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Brown, coarse, dense gravelly clayey SAND. Gravel is subangular rocks and shell fragments. Clay is soft with high plasticity.				ES PSD ASS	0.0-0.5m A - Triplicate 12A, 12B 0.0-0.5m B 0.0m C
										ASS	0.25m C
										V	0.3m V
		15					W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
										ASS	0.75m C
			1			Borehole EB10 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

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Borehole No: EB11

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	23.2.15	Northing	7360133.30	Slope	90°	Equipment	Vibrocore
Completed Drilling	23.2.15	Easting	345289.61	Bearing	---	Ground Level	19.4 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Brown, firm CLAY with high plasticity.				ES PSD ASS D	0.0-0.5m A 0.0-0.5m B 0.0m C 0.0-0.5m D
										ASS	0.25m C
										V	0.3m V
		19									
							W			ES PSD ASS	0.5-0.8m A 0.5-0.8m B 0.5m C
										V	0.7m V
										ASS	0.75m C
			1								
						Borehole EB11 Terminated at 1.00 m					Borehole terminated at target depth

Remarks:

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Borehole No: EB12

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	24.2.15	Northing	7360133.92	Slope	90°	Equipment	Vibrocore
Completed Drilling	24.2.15	Easting	346382.83	Bearing	---	Ground Level	19.8 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 0.30m: Brown, stiff CLAY with high plasticity.	W			ES PSD ASS	0.0-0.3m A 0.0-0.3m B 0.0m C
		19	1			Borehole EB12 Terminated at 0.30 m				V	0.3m V Borehole terminated due to refusal

Remarks:

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Borehole No: EB13

Engineering Log - Borehole

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	22.2.15	Northing	7359866.47	Slope	90°	Equipment	Vibrocore
Completed Drilling	22.2.15	Easting	342805.55	Bearing	---	Ground Level	14 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 0.67m: Brown firm sandy CLAY with high plasticity. Sand is fine and dense.				ES PSD ASS	0.0-0.7m A 0.0-0.7m B 0.0m C
										ASS	0.25m C
							W			V	0.3m V
										ASS	0.5m C - ASS Duplicate 29
		13	1			Borehole EB13 Terminated at 0.67 m					Borehole terminated due to refusal

Remarks:

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Borehole No: EB14

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	23.2.15	Northing	7359863.73	Slope	90°	Equipment	Vibrocore
Completed Drilling	23.2.15	Easting	345282.31	Bearing	---	Ground Level	18.9 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 0.15m: Dark brown, fine to coarse dense gravelly SAND. Gravel is subangular rock and shell fragments.				ES PSD ASS	0.0-0.5m A - Duplicate 6A, 6B 0.0-0.5m B 0.0m C - ASS Duplicate 33
						0.15m to 1.00m: Brown/grey/red mottled stiff CLAY with medium plasticity.				ASS	0.25m C
										V	0.3m V
							W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
										ASS	0.75m C
		18									
			1			Borehole EB14 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

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Borehole No: EB15

Engineering Log - Borehole

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	23.2.15	Northing	7359851.18	Slope	90°	Equipment	Vibrocore
Completed Drilling	23.2.15	Easting	345834.15	Bearing	---	Ground Level	18.5 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 0.66m: Brown with black patches, firm to stiff sandy CLAY with medium plasticity. Sand is fine to coarse and dense. Clay becoming less sandy with depth.				ES PSD ASS	0.0-0.6m A 0.0-0.6m B 0.0m C
										ASS	0.25m C
							W			V	0.3m V
		18								ASS	0.5m C
						Borehole EB15 Terminated at 0.66 m					Borehole terminated due to refusal
			1								

Remarks:

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Borehole No: EB16

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	24.2.15	Northing	7359855.86	Slope	90°	Equipment	Vibrocore
Completed Drilling	24.2.15	Easting	346098.91	Bearing	---	Ground Level	19.8 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 0.37m: Brown stiff gravelly CLAY with medium plasticity. Gravel is subangular rock.	W			ES PSD	0.0-0.4m A 0.0-0.4m B
										ASS	0.25m C
										V	0.3m V
						Borehole EB16 Terminated at 0.37 m					Borehole terminated due to refusal
		19									
			1								

Remarks:

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Borehole No: EB17

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	24.2.15	Northing	7359857.07	Slope	90°	Equipment	Vibrocore
Completed Drilling	24.2.15	Easting	346385.78	Bearing	---	Ground Level	21.1 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
		21				0.00m to 0.68m: Brown stiff gravelly CLAY with medium plasticity. Gravel is subangular rock.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C - ASS Duplicate 35
										ASS	0.25m C
										V	0.3m V
										ASS	0.5m C
			1			Borehole EB17 Terminated at 0.68 m					Borehole terminated due to refusal
		20									

Remarks:

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Borehole No: EB18

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	22.2.15	Northing	7359583.33	Slope	90°	Equipment	Vibrocore
Completed Drilling	22.2.15	Easting	340055.21	Bearing	---	Ground Level	14 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 0.85m: Brown, stiff, sandy gravelly CLAY with low plasticity. Sand is fine to coarse and dense. Gravel is subrounded rock.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
										ASS	0.25m C
										V	0.3m V
							W				
										ES PSD ASS	0.5-0.85m A 0.5-0.85m B 0.5m C
										V	0.7m V
										ASS	0.75m C
		13	1			Borehole EB18 Terminated at 0.85 m					Borehole terminated due to refusal

Remarks:

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Borehole No: EB19

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	22.2.15	Northing	7359585.75	Slope	90°	Equipment	Vibrocore
Completed Drilling	22.2.15	Easting	340606.89	Bearing	---	Ground Level	14.5 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 0.60m: Brown, dense, fine to coarse, clayey SAND. Clay is soft inclusions with medium plasticity.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C - ASS Duplicate 28
										ASS	0.25m C
										V	0.3m V
							W				
		14								ES PSD ASS	0.5-0.8m A 0.5-0.8m B 0.5m C
						0.60m to 0.80m: Brown, very stiff CLAY with low plasticity.				V	0.7m V
										ASS	0.75m C
						Borehole EB19 Terminated at 0.80 m					Borehole terminated due to refusal
			1								

Remarks:

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Borehole No: EB20

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	22.2.15	Northing	7359575.74	Slope	90°	Equipment	Vibrocore
Completed Drilling	22.2.15	Easting	341708.71	Bearing	---	Ground Level	16 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 0.20m: Grey/brown, coarse, dense, gravelly SAND. Gravel is subangular to subrounded rock.				ES PSD ASS	0.0-0.6m A 0.0-0.6m B 0.0m C
						0.20m to 0.60m: Brown/red stiff CLAY with low plasticity.	W			ASS V ASS	0.25m C 0.3m V 0.5m C
						Borehole EB20 Terminated at 0.60 m					Borehole terminated due to refusal

Remarks:

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Borehole No: EB21

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	22.2.15	Northing	7359580.57	Slope	90°	Equipment	Vibrocore
Completed Drilling	22.2.15	Easting	341980.27	Bearing	---	Ground Level	16 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Brown, fine to coarse dense SAND with shell fragments.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
										ASS	0.25m C
										V	0.3m V
							W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C - ASS Duplicate 30
										V	0.7m V
										ASS	0.75m C
		15	1			Borehole EB21 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

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Borehole No: EB22

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	24.2.15	Northing	7359585.32	Slope	90°	Equipment	Vibrocore
Completed Drilling	24.2.15	Easting	347215.36	Bearing	---	Ground Level	20.6 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 0.10m: Grey fine to coarse dense gravelly SAND. Gravel is subangular rocks, intact shell and shell fragments.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
						0.10m to 0.50m: Brown, stiff CLAY with medium plasticity.	W			ASS V	0.25m C 0.3m V
		20	1			Borehole EB22 Terminated at 0.50 m				ASS	0.5m C Borehole terminated due to refusal

Remarks:

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Borehole No: EB23

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	22.2.15	Northing	7359310.73	Slope	90°	Equipment	Vibrocore
Completed Drilling	22.2.15	Easting	340608.24	Bearing	---	Ground Level	14.5 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 0.30m: Brown fine to coarse dense SAND becoming increasingly fine with depth.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
										ASS	0.25m C
						0.30m to 0.70m: Brown, very stiff sandy CLAY with low plasticity. Sand is fine and dense.	W			V	0.3m V
		14								ES PSD ASS	0.5-0.7m A 0.5-0.7m B 0.5m C
						Borehole EB23 Terminated at 0.70 m				V	0.7m V Borehole terminated due to refusal
			1								

Remarks:

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Borehole No: EB24

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	22.2.15	Northing	7359302.69	Slope	90°	Equipment	Vibrocore
Completed Drilling	22.2.15	Easting	340883.32	Bearing	---	Ground Level	14.5 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 0.60m: Brown, fine to coarse, dense SAND with shell fragments.				ES PSD ASS D	0.0-0.5m A 0.0-0.5m B 0.0m C 0.0-0.5m D
										ASS	0.25m C
										V	0.3m V
		14					W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
						0.60m to 1.00m: Brown, very stiff sandy CLAY with low plasticity.					
										V	0.7m V
										ASS	0.75m C
			1			Borehole EB24 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

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Borehole No: EB25

Engineering Log - Borehole

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	22.2.15	Northing	7359308.05	Slope	90°	Equipment	Vibrocore
Completed Drilling	22.2.15	Easting	341704.86	Bearing	---	Ground Level	15 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 0.40m: Mottled red/grey/brown gravelly fine to coarse dense SAND. Gravel is subangular rock and shell fragments.				ES PSD ASS	0.0-0.6m A - Duplicate 5A, 5B 0.0-0.6m B 0.0m C
										ASS	0.25m C
							W			V	0.3m V
						0.40m to 0.63m: Red very stiff CLAY with low plasticity.				ASS	0.5m C
						Borehole EB25 Terminated at 0.63 m					Borehole terminated due to refusal

14 1

Remarks:

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Borehole No: EB26

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	23.2.15	Northing	7359309.66	Slope	90°	Equipment	Vibrocore
Completed Drilling	23.2.15	Easting	346114.93	Bearing	---	Ground Level	16.8 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 0.60m: Brown, coarse, dense SAND with shell fragments.				ES PSD ASS	0.0-0.5m A - Triplicate 13A, 13B 0.0-0.5m B 0.0m C
						0.25m to 0.30m: Firm, sandy CLAY.				ASS V	0.25m C 0.3m V
						0.45m to 0.50m: Firm, sandy CLAY.	W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
		16				0.60m to 1.00m: Brown/red/grey mottled stiff CLAY with high plasticity and brown course, dense SAND with shell fragments.				V ASS	0.7m V 0.75m C
			1			Borehole EB26 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

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Borehole No: EB27

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	24.2.15	Northing	7359307.06	Slope	90°	Equipment	Vibrocore
Completed Drilling	24.2.15	Easting	346389.95	Bearing	---	Ground Level	19.3 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 0.20m: Brown, coarse dense gravelly SAND. Gravel is subangular rocks and shell fragments.				ES PSD ASS	0.0-0.7m A 0.0-0.7m B 0.0m C
						0.20m to 0.70m: Dark brown firm to stiff sandy CLAY with medium plasticity. Sand is fine to coarse and dense. Clay becoming increasingly stiff with depth.	W			ASS V ASS	0.25m C 0.3m V 0.5m C
		19									
			1								
						Borehole EB27 Terminated at 0.70 m				V	0.7m V Borehole terminated due to refusal

Remarks:

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Borehole No: EB28

Engineering Log - Borehole

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	26.2.15	Northing	7359301.30	Slope	90°	Equipment	Vibrocore
Completed Drilling	26.2.15	Easting	347761.56	Bearing	---	Ground Level	19.5 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 0.38m: Brown/grey mottled stiff CLAY with medium plasticity. Shell fragments in top 0.05m.	W			ES ASS D	0.0-0.4m A 0.0m C 0.0-0.4m D
										ASS V	0.25m C 0.3m V
		19				Borehole EB28 Terminated at 0.38 m					Borehole terminated due to refusal
			1								

Remarks:

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Borehole No: EB29

Engineering Log - Borehole

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	22.2.15	Northing	7359038.51	Slope	90°	Equipment	Vibrocore
Completed Drilling	22.2.15	Easting	341701.03	Bearing	---	Ground Level	14 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 0.20m: Brown, fine grained, dense clayey SAND. Clay is soft with medium plasticity.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
						0.20m to 0.52m: Red/brown, very stiff CLAY with low plasticity.	W			ASS V	0.25m C 0.3m V
						Borehole EB29 Terminated at 0.52 m				ASS	0.5m C Borehole terminated due to refusal

13 1

Remarks:

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Borehole No: EB30

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	22.2.15	Northing	7359032.85	Slope	90°	Equipment	Vibrocore
Completed Drilling	22.2.15	Easting	342532.86	Bearing	---	Ground Level	15 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 0.75m: Brown, fine to coarse, dense gravelly/clayey SAND. Clay is firm with medium plasticity. Gravel is subangular rock. Sand becoming less clayey and gravelly and more dense with depth.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
										ASS	0.25m C
										V	0.3m V
							W				
										ES PSD ASS	0.5-0.8m A 0.5-0.8m B 0.5m C
										V	0.7m V
						Borehole EB30 Terminated at 0.75 m				ASS	0.75m C Borehole terminated due to refusal
		14	1								

Remarks:

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Borehole No: EB31

Engineering Log - Borehole

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	24.2.15	Northing	7359032.57	Slope	90°	Equipment	Vibrocore
Completed Drilling	24.2.15	Easting	347484.32	Bearing	---	Ground Level	20.2 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
		20				0.00m to 0.57m: Brown, stiff gravelly CLAY with low plasticity. Gravel is subangular rock and shell fragments. Clay becoming less gravelly with depth.	W			ES PSD ASS ASS V ASS	0.0-0.5m A 0.0-0.5m B 0.0m C 0.25m C 0.3m V 0.5m C
		19	1			Borehole EB31 Terminated at 0.57 m					Borehole terminated due to refusal

Remarks:

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Borehole No: EB32

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	24.2.15	Northing	7358749.04	Slope	90°	Equipment	Vibrocore
Completed Drilling	24.2.15	Easting	347203.86	Bearing	---	Ground Level	19.3 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 0.40m: Brown fine to coarse dense gravelly clayey SAND. Gravel is subangular rocks and shell fragments. Clay is soft with medium plasticity.				ES PSD ASS	0.0-0.5m A - Triplicate 14A, 14B 0.0-0.5m B 0.0m C
		19								ASS	0.25m C
										V	0.3m V
						0.40m to 1.00m: Red/brown fine dense SAND.	W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
										ASS	0.75m C
			1			Borehole EB32 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

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Borehole No: EB33

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	24.2.15	Northing	7358203.39	Slope	90°	Equipment	Vibrocore
Completed Drilling	24.2.15	Easting	346924.49	Bearing	---	Ground Level	18.1 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
		18				0.00m to 1.00m: Dark brown fine, dense clayey SAND. Clay is soft with high plasticity. Some minor gravels in top 0.1m.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C - ASS Duplicate 34
										ASS	0.25m C
										V	0.3m V
							W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
										ASS	0.75m C
			1			Borehole EB33 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth
		17									

Remarks:

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Borehole No: EB34

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	24.2.15	Northing	7357107.54	Slope	90°	Equipment	Vibrocore
Completed Drilling	24.2.15	Easting	346112.99	Bearing	---	Ground Level	16.5 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Brown, coarse dense gravelly clayey SAND. Gravel is subangular rock and shell fragments. Clay is soft with medium plasticity.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
											0.25m C
										ASS	
										V	0.3m V
						0.35m to 0.40m: Brown, coarse layer of SAND.					
		16					W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
						0.55m to 0.60m: Brown, coarse layer of SAND.					
										V	0.7m V
										ASS	0.75m C
			1			Borehole EB34 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

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Borehole No: EB35

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	22.2.15	Northing	7360405.30	Slope	90°	Equipment	Vibrocore
Completed Drilling	22.2.15	Easting	338777.94	Bearing	---	Ground Level	12 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Brown, fine to coarse, dense, gravelly SAND. Gravel is subrounded rock and shell fragments.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
											0.25m C
										ASS	
										V	0.3m V
						0.50m to 0.60m: Brown, soft CLAY inclusions.	W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
										ASS	0.75m C
						0.90m to 1.00m: Brown, soft CLAY inclusions.					
		11	1			Borehole EB35 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

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Borehole No: EB36

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	24.2.15	Northing	7355890.14	Slope	90°	Equipment	Vibrocore
Completed Drilling	24.2.15	Easting	350752.16	Bearing	---	Ground Level	18 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 0.70m: Dark brown/grey, firm, gravelly, sandy CLAY with high plasticity. Gravel is subangular rock and shells. Sand is fine to coarse and dense.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
											0.25m C
										ASS	
										V	0.3m V
							W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
						0.70m to 1.00m: Brown very stiff CLAY with medium plasticity.				V	0.7m V
										ASS	0.75m C
		17	1			Borehole EB36 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

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Borehole No: PC01

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	3.2.15	Northing	7361361.22	Slope	90°	Equipment	Vibrocore
Completed Drilling	3.2.15	Easting	326043.63	Bearing	---	Ground Level	8.2 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Dark grey soft sandy gravelly CLAY with high plasticity. Sand is fine to coarse with intact shells and shell fragments. Gravel is subangular to subrounded rock.				ES PSD ASS D	0.0-0.5m A 0.5-1.0m B 0.0m C 0.0-0.5m D
		8								ASS V	0.25m C 0.3m V
							W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V ASS	0.7m V 0.75m C
			1			Borehole PC01 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth
		7									

Remarks:

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Borehole No: PC02

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	3.2.15	Northing	7361152.51	Slope	90°	Equipment	Vibrocore
Completed Drilling	3.2.15	Easting	325728.64	Bearing	---	Ground Level	4.2 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Dark grey sandy soft CLAY with high plasticity. Sands are fine to coarse and dense. Trace fine to medium shell fragments throughout.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C - ASS Duplicate 1
		4								ASS	0.25m C
										V	0.3m V
										ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
										ASS	0.75m C
						0.80m: Increasing shell fragments.					
			1			Borehole PC02 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth
		3									

Remarks:

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Borehole No: PC03

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	3.2.15	Northing	7361147.75	Slope	90°	Equipment	Vibrocore
Completed Drilling	3.2.15	Easting	325946.03	Bearing	---	Ground Level	5.1 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Dark grey sandy CLAY with high plasticity. Sand is fine to coarse with shell and shell fragments throughout.				ES PSD ASS	0.0-0.5m A - Triplicate 1A, 1B 0.0-0.5m B 0.0m C
		5								ASS	0.25m C
										V	0.3m V
							W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
										ASS	0.75m C
			1			Borehole PC03 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth
		4									

Remarks:

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Borehole No: PC04

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	3.2.15	Northing	7361152.14	Slope	90°	Equipment	Vibrocore
Completed Drilling	3.2.15	Easting	326156.51	Bearing	---	Ground Level	3.4 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Dark grey, sandy CLAY with high plasticity. Sand is fine to medium and dense with shell fragments.				ES PSD ASS	0.0-0.5m A - Duplicate 1A, 1B 0.0-0.5m B 0.0m C
										ASS	0.25m C
										V	0.3m V
		3									
							W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C - ASS Duplicate 2
										V	0.7m V
										ASS	0.75m C
			1			Borehole PC04 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

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Borehole No: PC05

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	5.2.15	Northing	7361041.42	Slope	90°	Equipment	Vibrocore
Completed Drilling	5.2.15	Easting	326466.86	Bearing	---	Ground Level	2.2 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Dark brown, soft CLAY with low plasticity with black inclusions at 0.2m				ES PSD ASS D	0.0-0.5m A 0.0-0.5m B 0.0m C - ASS Duplicate 7
		2								ASS	0.25m C
										V	0.3m V
							W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
						0.70m: Rare shell fragments.				V	
										ASS	0.75m C
			1			Borehole PC05 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth
		1									

Remarks:

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Borehole No: PC06

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	8.2.15	Northing	7361085.79	Slope	90°	Equipment	Vibrocore
Completed Drilling	8.2.15	Easting	325401.75	Bearing	---	Ground Level	1.9 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Dark brow/grey firm CLAY with low plasticity. Minor shell fragments and intact shells, becoming less frequent from 0.2m.				ES PSD ASS	0.0-0.5m A - Triplicate 3A, 3B 0.0-0.5m B 0.0m C - ASS Duplicate 8
										ASS	0.25m C
										V	0.3m V
							W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
										ASS	0.75m C
		1	1			Borehole PC06 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

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Borehole No: PC07

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	8.2.15	Northing	7360978.91	Slope	90°	Equipment	Vibrocore
Completed Drilling	8.2.15	Easting	325875.05	Bearing	---	Ground Level	3.8 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Dark brown/grey firm CLAY with low plasticity.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
										ASS	0.25m C
										V	0.3m V
							W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
										ASS	0.75m C
		3									
			1			Borehole PC07 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

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Borehole No: PC08

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	10.2.15	Northing	7360970.68	Slope	90°	Equipment	Vibrocore
Completed Drilling	10.2.15	Easting	326111.16	Bearing	---	Ground Level	3.9 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Dark brown/grey firm CLAY with medium plasticity. Some shell fragments in top 0.2m				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
										ASS	0.25m C
										V	0.3m V
										ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
										ASS	0.75m C
		3									
			1			Borehole PC08 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

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Borehole No: PC09

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	10.2.15	Northing	7360978.38	Slope	90°	Equipment	Vibrocore
Completed Drilling	10.2.15	Easting	326443.84	Bearing	---	Ground Level	1.6 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 0.40m: Dark brown/grey, soft sandy CLAY with low plasticity. Sand is fine to coarse. Clay becoming less sandy with depth.	W			ES ASS	0.0-0.3m A 0.0m C
										V	0.3m V
						Borehole PC09 Terminated at 0.40 m					Borehole terminated due to refusal

Remarks:

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Borehole No: PC10

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	16.2.15	Northing	7360860.17	Slope	90°	Equipment	Vibrocore
Completed Drilling	16.2.15	Easting	325063.22	Bearing	---	Ground Level	3.2 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Grey soft CLAY with low plasticity with shell fragments in the top 0.1m.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
		3								ASS	0.25m C
										V	0.3m V
						0.40m: Clay becoming firm.					
							W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
										ASS	0.75m C
			1			Borehole PC10 Terminated at 1.00 m				ASS	1.0m C - ASS Duplicate 24 Borehole terminated at target depth
		2									

Remarks:

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Borehole No: PC11

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	8.2.15	Northing	7360864.00	Slope	90°	Equipment	Vibrocore
Completed Drilling	8.2.15	Easting	325990.20	Bearing	---	Ground Level	3 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 0.60m: Dark brown/grey soft to firm sandy CLAY with low plasticity. Frequent intact shell and shell fragments throughout. Sand is fine to coarse and dense. Sand becoming less frequent with depth.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
							W			ASS V	0.25m C 0.3m V
										ASS V	0.5m C 0.5m V
		2 1				Borehole PC11 Terminated at 0.60 m					Borehole terminated due to refusal

Remarks:

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Borehole No: WB01

Engineering Log - Borehole

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	3.2.15	Northing	7359126.90	Slope	90°	Equipment	Vibrocore
Completed Drilling	3.2.15	Easting	330640.57	Bearing	---	Ground Level	2.4 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Grey/brown, fine to coarse gravelly SAND. Gravel is subangular to subrounded rock and infrequent shells and shell fragments throughout.	W			ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
										ASS	0.25m C
										V	0.3m V
		2									
										ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
										ASS	0.75m C
			1			Borehole WB01 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

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Borehole No: WB02

Engineering Log - Borehole

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	3.2.15	Northing	7358951.44	Slope	90°	Equipment	Vibrocore
Completed Drilling	3.2.15	Easting	330632.45	Bearing	---	Ground Level	2 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Brown, fine to coarse, dense SAND with infrequent shell fragments.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
										ASS	0.25m C
										V	0.3m V
										ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
										ASS	0.75m C
		1	1			Borehole WB02 Terminated at 1.00 m	W			ASS	1.0m C - ASS Duplicate 3 Borehole terminated at target depth

Remarks:

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Borehole No: WB03

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	4.2.15	Northing	7358760.11	Slope	90°	Equipment	Vibrocore
Completed Drilling	4.2.15	Easting	330845.19	Bearing	---	Ground Level	3.2 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 0.85m: Brown fine to coarse dense SAND. Infrequent shell fragments and whole shells.				ES PSD	0.0-0.5m A 0.0-0.5m B
			3								
										V	0.3m V
							W				
										ES PSD ASS	0.5-1.0m A - Triplicate 2A, 2B 0.5-1.0m B 0.5m C
										V	0.7m V
										ASS	0.75m C
			1			Borehole WB03 Terminated at 0.85 m					Borehole terminated due to loss of core
			2								

Remarks:

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Borehole No: WB04

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	4.2.15	Northing	7358760.32	Slope	90°	Equipment	Vibrocore
Completed Drilling	4.2.15	Easting	331020.04	Bearing	---	Ground Level	5.5 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Brown, fine to coarse SAND with frequent shell fragments and gravel inclusions. Gravel is rounded and infrequent.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
										D	0.2m D
										ASS	0.25m C
										V	0.3m V
		5				0.50m: Shell and gravel becoming less frequent from 0.5m.	W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
										ASS	0.75m C
			1			Borehole WB04 Terminated at 1.00 m				ASS	1.0m C - ASS Duplicate 4 Borehole terminated at target depth

Remarks:

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Borehole No: WB05

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	4.2.15	Northing	7358563.92	Slope	90°	Equipment	Vibrocore
Completed Drilling	4.2.15	Easting	330643.79	Bearing	---	Ground Level	7.8 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 0.40m: Brown fine to coarse dense SAND and frequent gravel and shell fragments.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
										ASS	0.25m C
										V	0.3m V
						0.40m to 1.00m: Dark grey/brown, fine to coarse dense clayey SAND with larger intact shells and shell fragments. Clay is firm with medium plasticity.	W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
		7								ASS	0.75m C
			1			Borehole WB05 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

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Borehole No: WB06

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	9.2.15	Northing	7358570.43	Slope	90°	Equipment	Vibrocore
Completed Drilling	9.2.15	Easting	331198.81	Bearing	---	Ground Level	2.5 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Brown, fine to coarse SAND with frequent shells.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C - ASS Duplicate 15
						0.20m: Sand becoming darker in colour.				ASS	0.25m C
										V	0.3m V
		2					W			ES PSD ASS	0.5m C 0.5-1.0m A 0.5-1.0m B
										V	0.7m V
										ASS	0.75m C
						0.80m: Increased shell content (including intact shells).					
			1			Borehole WB06 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

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Borehole No: WB07

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	9.2.15	Northing	7358378.53	Slope	90°	Equipment	Vibrocore
Completed Drilling	9.2.15	Easting	331206.15	Bearing	---	Ground Level	2.5 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Brown, fine to coarse, dense SAND with shell fragments throughout.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
										ASS	0.25m C
										V	0.3m V
		2					W			ES PSD ASS	0.5m C 0.5-1.0m A 0.5-1.0m B
										V	0.7m V
										ASS	0.75m C
			1			Borehole WB07 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

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Borehole No: WB08

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	4.2.15	Northing	7357632.68	Slope	90°	Equipment	Vibrocore
Completed Drilling	4.2.15	Easting	331199.61	Bearing	---	Ground Level	5.2 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 0.50m: Brown fine dense clayey SAND. Clay is soft with low plasticity.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
		5								ASS	0.25m C
										V	0.3m V
						0.50m to 0.60m: Brown fine dense SAND with soft clay pockets.	W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
						0.60m to 1.00m: Brown fine dense clayey SAND. Clay is soft with low plasticity.				V	0.7m V
										ASS	0.75m C
			1			Borehole WB08 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth
		4									

Remarks:

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Borehole No: WB09

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	4.2.15	Northing	7357079.44	Slope	90°	Equipment	Vibrocore
Completed Drilling	4.2.15	Easting	332511.35	Bearing	---	Ground Level	10.1 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 0.70m: Brown, fine to coarse SAND.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C - ASS Duplicate 5
		10								ASS	0.25m C
										V	0.3m V
							W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
						0.70m to 0.90m: Dark grey fine to coarse clayey SAND with gravel and shell fragment inclusions. Clay is soft with low plasticity. Gravel is sub-rounded rock.				V	0.7m V
										ASS	0.75m C
						0.90m to 1.00m: Brown, fine to coarse SAND with low plasticity.					
			1			Borehole WB09 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth
		9									

Remarks:

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Borehole No: WB10

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	9.2.15	Northing	7356715.19	Slope	90°	Equipment	Vibrocore
Completed Drilling	9.2.15	Easting	332143.88	Bearing	---	Ground Level	3.2 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Brown, fine to coarse, dense SAND with minor shells.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
		3								ASS	0.25m C
										V	0.3m V
						0.40m to 0.45m: Sandy CLAY.					
							W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
										ASS	0.75m C
			1			Borehole WB10 Terminated at 1.00 m				ASS	1.0m C - ASS Duplicate 13 Borehole terminated at target depth
		2									

Remarks:

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Borehole No: WB11

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	9.2.15	Northing	7356529.74	Slope	90°	Equipment	Vibrocore
Completed Drilling	9.2.15	Easting	331753.97	Bearing	---	Ground Level	5.5 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 0.20m: Brown, fine to coarse, dense SAND with shell fragments.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
						0.20m to 0.30m: Brown, soft sandy CLAY. Sand is fine to coarse and dense.				ASS	0.25m C
						0.30m to 0.40m: Brown, fine to coarse, dense SAND.				V	0.3m V
						0.40m to 0.50m: Brown, firm, sandy CLAY. Sand is fine to coarse and dense.					
		5				0.50m to 0.90m: Brown fine to coarse dense SAND with shell fragments.	W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
										ASS	0.75m C
						0.90m to 1.00m: Brown firm sandy gravelly CLAY. Sand is fine to coarse and dense. Gravel is subrounded rock.					
			1			Borehole WB11 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

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Borehole No: WB12

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	4.2.15	Northing	7356516.68	Slope	90°	Equipment	Vibrocore
Completed Drilling	4.2.15	Easting	332692.72	Bearing	---	Ground Level	4.5 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Brown, fine dense SAND.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
										ASS	0.25m C
										V	0.3m V
		4					W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
										ASS	0.75m C
			1			Borehole WB12 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

AURECON SYD LIB 05.GLB Log CW NON-CORED BOREHOLE LOG GPC- BH LOGS.GPJ <<DrawingFile>> 02/01/2019 11:24 8.30.004 Developed by Datgel

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Borehole No: WB13

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	4.2.15	Northing	7356522.56	Slope	90°	Equipment	Vibrocore
Completed Drilling	4.2.15	Easting	332881.04	Bearing	---	Ground Level	4.1 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
		4				0.00m to 1.00m: Brown, fine dense SAND with minor shell fragments.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C - ASS Duplicate 6
										ASS	0.25m C
										V	0.3m V
							W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
										ASS	0.75m C
			1			Borehole WB13 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth
		3									

Remarks:

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Borehole No: WB14

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	9.2.15	Northing	7356336.70	Slope	90°	Equipment	Vibrocore
Completed Drilling	9.2.15	Easting	332138.11	Bearing	---	Ground Level	4.3 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Brown, fine to coarse, dense SAND with infrequent shell fragments.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
		4								ASS V	0.25m C 0.3m V
						0.40m to 0.45m: Brown sandy CLAY.					
							W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C - ASS Duplicate 14
										V ASS	0.7m V 0.75m C
			1			Borehole WB14 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

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Borehole No: WB15

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	9.2.15	Northing	7356339.14	Slope	90°	Equipment	Vibrocore
Completed Drilling	9.2.15	Easting	332506.38	Bearing	---	Ground Level	3.3 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Brown, fine to coarse dense SAND.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
		3								ASS V	0.25m C 0.3m V
						0.50m to 0.60m: Soft sandy CLAY with low plasticity.	W			ES PSD ASS	0.5-1.0m A - Triplicate 4A, 4B 0.5-1.0m B - Triplicate 4AB, 4BB 0.5m C
										V ASS	0.7m V 0.75m C
			1			Borehole WB15 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

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Borehole No: WB16

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	4.2.15	Northing	7356149.91	Slope	90°	Equipment	Vibrocore
Completed Drilling	4.2.15	Easting	333060.18	Bearing	---	Ground Level	3.5 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Brown, fine dense SAND.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
										ASS	0.25m C
										V	0.3m V
		3					W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
										ASS	0.75m C
			1			Borehole WB16 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

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Borehole No: WB17

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	11.2.15	Northing	7356144.74	Slope	90°	Equipment	Vibrocore
Completed Drilling	11.2.15	Easting	333252.03	Bearing	---	Ground Level	3 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Brown, fine to coarse, dense SAND.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C - ASS Duplicate 16
										ASS	0.25m C
										V	0.3m V
							W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
										ASS	0.75m C
		2	1			Borehole WB17 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

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Borehole No: WB18

Engineering Log - Borehole

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	4.2.15	Northing	7355796.73	Slope	90°	Equipment	Vibrocore
Completed Drilling	4.2.15	Easting	332690.90	Bearing	---	Ground Level	2.5 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Brown, fine dense SAND with shell fragments.				ES PSD ASS	0.0-0.5m A - Duplicate 2A, 2B 0.0-0.5m B 0.0m C
										ASS	0.25m C
										V	0.3m V
		2					W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
						0.75m to 0.80m: Dark brown fine, dense clayey SAND. Clay is soft with medium plasticity.				ASS	0.75m C
			1			Borehole WB18 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

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Borehole No: WB19

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	11.2.15	Northing	7355777.17	Slope	90°	Equipment	Vibrocore
Completed Drilling	11.2.15	Easting	333072.99	Bearing	---	Ground Level	3.7 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Brown, fine to coarse, dense SAND with infrequent shell fragments.				ES PSD ASS D	0.0-0.5m A 0.0-0.5m B 0.0m C 0.0-0.5m D
										ASS	0.25m C
										V	0.3m V
							W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
		3								V	0.7m V
										ASS	0.75m C
			1			Borehole WB19 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

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Borehole No: WB20

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	11.2.15	Northing	7355590.09	Slope	90°	Equipment	Vibrocore
Completed Drilling	11.2.15	Easting	332700.09	Bearing	---	Ground Level	3.2 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Dark brown, fine to coarse, dense SAND.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
		3								ASS	0.25m C
										V	0.3m V
							W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
										ASS	0.75m C
			1			Borehole WB20 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth
		2									

Remarks:

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Borehole No: WB21

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	13.2.15	Northing	7355589.16	Slope	90°	Equipment	Vibrocore
Completed Drilling	13.2.15	Easting	333256.77	Bearing	---	Ground Level	3.5 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Brown, fine to coarse, dense SAND.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
										ASS	0.25m C
										V	0.3m V
		3					W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
										ASS	0.75m C
			1			Borehole WB21 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

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Borehole No: WB22

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	13.2.15	Northing	7355595.02	Slope	90°	Equipment	Vibrocore
Completed Drilling	13.2.15	Easting	333443.39	Bearing	---	Ground Level	4.7 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Brown, fine to coarse, dense SAND with some soft clay inclusions.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
										ASS	0.25m C
										V	0.3m V
							W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
		4								V	0.7m V
										PSD	0.75m C
			1			Borehole WB22 Terminated at 1.00 m				ASS	1.0m C - ASS Duplicate 21B Borehole terminated at target depth

Remarks:

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Borehole No: WB23

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	11.2.15	Northing	7355399.82	Slope	90°	Equipment	Vibrocore
Completed Drilling	11.2.15	Easting	332688.73	Bearing	---	Ground Level	3.6 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Dark brown fine to coarse dense SAND.				ES PSD ASS	0.0-0.5m A - Triplicate 6A, 6B 0.0-0.5m B 0.0m C
										ASS	0.25m C
										V	0.3m V
							W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
		3								V	0.7m V
										ASS	0.75m C
			1			Borehole WB23 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

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Borehole No: WB24

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	13.2.15	Northing	7355410.46	Slope	90°	Equipment	Vibrocore
Completed Drilling	13.2.15	Easting	333447.22	Bearing	---	Ground Level	4 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 0.80m: Brown, fine to coarse dense SAND.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
										ASS	0.25m C
										V	0.3m V
							W				
										ES PSD ASS	0.5-0.8m A 0.5-0.8m B 0.5m C
										V	0.7m V
										ASS	0.75m C
						Borehole WB24 Terminated at 0.80 m					Borehole terminated due to refusal
		3	1								

Remarks:

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Borehole No: WB25

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	12.2.15	Northing	7355399.57	Slope	90°	Equipment	Vibrocore
Completed Drilling	12.2.15	Easting	333622.15	Bearing	---	Ground Level	3.6 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Brown, fine to coarse dense to very dense SAND.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
						0.20m to 0.25m: Soft clay inclusions.				ASS	0.25m C
										V	0.3m V
						0.45m to 0.50m: Soft clay inclusions.					
							W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
		3								V	0.7m V
										ASS	0.75m C
			1			Borehole WB25 Terminated at 1.00 m				ASS	1.0m C - ASS Duplicate 20 Borehole terminated at target depth

Remarks:

AURECON SYD LIB 05.GLB Log CW NON-CORED BOREHOLE LOG GPC- BH LOGS.GPJ <<DrawingFile>> 02/01/2019 11:24 8.30.004 Developed by Datgel

Borehole No: WB26

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	12.2.15	Northing	7355217.11	Slope	90°	Equipment	Vibrocore
Completed Drilling	12.2.15	Easting	333807.55	Bearing	---	Ground Level	5.4 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Brown, fine to coarse, dense SAND.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
						Sand becoming very dense with depth.					
										ASS	0.25m C
										V	0.3m V
		5									
							W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
										ASS	0.75m C
			1			Borehole WB26 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

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Borehole No: WB27

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	12.2.15	Northing	7354843.67	Slope	90°	Equipment	Vibrocore
Completed Drilling	12.2.15	Easting	333440.21	Bearing	---	Ground Level	3.6 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Brown, fine to coarse, dense SAND.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C - ASS Duplicate 19
										ASS	0.25m C
										V	0.3m V
							W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
		3								V	0.7m V
										ASS	0.75m C
			1			Borehole WB27 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

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Borehole No: WBE01

Engineering Log - Borehole

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	15.5.15	Northing	7371866.34	Slope	90°	Equipment	Vibrocore
Completed Drilling	15.5.15	Easting	312388.09	Bearing	---	Ground Level	2.5 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Brown/grey, firm CLAY with high plasticity. Shell fragments in top 0.2m.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
										ASS	0.25m C
										V	0.3m V
			2				W			ES PSD ASS	0.5 - 1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
										ASS	0.75m C
			1			Borehole WBE01 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

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Borehole No: WBE02

Engineering Log - Borehole

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	15.5.15	Northing	7371683.05	Slope	90°	Equipment	Vibrocore
Completed Drilling	15.5.15	Easting	312205.24	Bearing	---	Ground Level	2.5 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Brown/grey, firm CLAY with high plasticity. Shell fragments in top 0.3m.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C - ASS Duplicate 21A
										ASS	0.25m C
										V	0.3m V
			2				W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
										ASS	0.75m C
			1			Borehole WBE02 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

AURECON SYD LIB 05.GLB Log CW NON-CORED BOREHOLE LOG GPC- BH LOGS.GPJ <<DrawingFile>> 02/01/2019 11:24 8.30.004 Developed by Datgel

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Borehole No: WBE03

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	15.5.15	Northing	7371326.80	Slope	90°	Equipment	Vibrocore
Completed Drilling	15.5.15	Easting	312209.86	Bearing	---	Ground Level	2.8 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Brown/grey, firm CLAY with high plasticity. Shells fragments in top 0.5m.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
										ASS	0.25m C
										V	0.3m V
							W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
						0.60m: Clay becoming soft.					
										V	0.7m V
										ASS	0.75m C
		2									
			1			Borehole WBE03 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

AURECON SYD LIB 05.GLB Log CW NON-CORED BOREHOLE LOG GPC- BH LOGS.GPJ <<DrawingFile>> 02/01/2019 11:24 8.30.004 Developed by Datgel

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Borehole No: WBE04

Engineering Log - Borehole

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	11.2.15	Northing	7371328.35	Slope	90°	Equipment	Vibrocore
Completed Drilling	11.2.15	Easting	312756.99	Bearing	---	Ground Level	3 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Brown/grey firm gravelly CLAY. Gravel is subangular to rounded rock and shell fragments. Clay becoming less gravelly with depth.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
										ASS	0.25m C
										V	0.3m V
							W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
										ASS	0.75m C
		2	1			Borehole WBE04 Terminated at 1.00 m				ASS	1.0m C - ASS Duplicate 17 Borehole terminated at target depth

Remarks:

AURECON SYD LIB 05.GLB Log CW NON-CORED BOREHOLE LOG GPC- BH LOGS.GPJ <<DrawingFile>> 02/01/2019 11:24 8.30.004 Developed by Datgel

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Borehole No: WBE05

Engineering Log - Borehole

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	11.2.15	Northing	7370960.30	Slope	90°	Equipment	Vibrocore
Completed Drilling	11.2.15	Easting	311850.99	Bearing	---	Ground Level	1.5 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Dark brown/grey soft CLAY with low plasticity and shell fragments.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C - ASS Duplicate 18
										ASS	0.25m C
										V	0.3m V
			1				W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
										ASS	0.75m C
			1			Borehole WBE05 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

AURECON SYD LIB 05.GLB Log CW NON-CORED BOREHOLE LOG GPC- BH LOGS.GPJ <<DrawingFile>> 02/01/2019 11:24 8.30.004 Developed by Datgel

Borehole No: WBE06

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	11.2.15	Northing	7370973.36	Slope	90°	Equipment	Vibrocore
Completed Drilling	11.2.15	Easting	312572.97	Bearing	---	Ground Level	2.7 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Dark brown/grey soft to firm CLAY with medium plasticity and some shell fragments.				ES PSD ASS	0.0-0.5m A - Triplicate 7A, 7B 0.0-0.5m B 0.0m C
										ASS	0.25m C
										V	0.3m V
							W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
		2								V	0.7m V
										ASS	0.75m C
			1			Borehole WBE06 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

AURECON SYD LIB 05.GLB Log CW NON-CORED BOREHOLE LOG GPC- BH LOGS.GPJ <<DrawingFile>> 02/01/2019 11:24 8.30.004 Developed by Datgel

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Borehole No: WBE07

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	8.2.15	Northing	7370970.13	Slope	90°	Equipment	Vibrocore
Completed Drilling	8.2.15	Easting	312751.42	Bearing	---	Ground Level	1.8 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 0.20m: Dark brown/grey sandy, firm CLAY with medium plasticity and shell fragments. Sand is fine to coarse.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C - ASS Duplicate 12
						0.20m to 1.00m: Dark brown, grey firm CLAY with medium plasticity and shell fragments.				ASS	0.25m C
										V	0.3m V
							W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
		1								ASS	0.75m C
			1			Borehole WBE07 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

AURECON SYD LIB 05.GLB Log CW NON-CORED BOREHOLE LOG GPC- BH LOGS.GPJ <<DrawingFile>> 02/01/2019 11:24 8.30.004 Developed by Datgel

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Borehole No: WBE08

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	11.2.15	Northing	7370781.71	Slope	90°	Equipment	Vibrocore
Completed Drilling	11.2.15	Easting	312030.02	Bearing	---	Ground Level	3.8 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Dark brown/grey firm CLAY with medium plasticity. Shell fragments in top 0.1m.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
										ASS	0.25m C
										V	0.3m V
							W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
										ASS	0.75m C
		3									
			1			Borehole WBE08 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

AURECON SYD LIB 05.GLB Log CW NON-CORED BOREHOLE LOG GPC- BH LOGS.GPJ <<DrawingFile>> 02/01/2019 11:24 8.30.004 Developed by Datgel

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Borehole No: WBE09

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	15.2.15	Northing	7370604.24	Slope	90°	Equipment	Vibrocore
Completed Drilling	15.2.15	Easting	311301.69	Bearing	---	Ground Level	2.5 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Brown/grey soft to firm gravelly CLAY with high plasticity. Gravel is angular to subangular rock.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
										ASS	0.25m C
										V	0.3m V
		2					W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
										ASS	0.75m C
			1			Borehole WBE09 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

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Borehole No: WBE10

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	8.2.15	Northing	7370613.76	Slope	90°	Equipment	Vibrocore
Completed Drilling	8.2.15	Easting	312033.90	Bearing	---	Ground Level	2 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Dark brown, grey, firm CLAY with medium plasticity. Shell fragments in top 0.2m becoming frequent with depth.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
										ASS	0.25m C
										V	0.3m V
							W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
										ASS	0.75m C
						0.90m: Wood fragments (natural) encountered.					
		1	1			Borehole WBE10 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

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Borehole No: WBE11

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	11.2.15	Northing	7370606.91	Slope	90°	Equipment	Vibrocore
Completed Drilling	11.2.15	Easting	312217.49	Bearing	---	Ground Level	3 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Dark brown, grey firm CLAY with medium plasticity with shell fragments.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
						0.20m to 0.30m: Organic (roots) inclusions and peat. Peat is red/brown and weathered.				ASS	0.25m C
										V	0.3m V
							W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
										ASS	0.75m C
		2	1			Borehole WBE11 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

AURECON SYD LIB 05.GLB Log CW NON-CORED BOREHOLE LOG GPC- BH LOGS.GPJ <<DrawingFile>> 02/01/2019 11:24 8.30.004 Developed by Datgel

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Borehole No: WBE12

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	11.2.15	Northing	7370599.97	Slope	90°	Equipment	Vibrocore
Completed Drilling	11.2.15	Easting	312394.29	Bearing	---	Ground Level	3 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Dark brown, grey firm CLAY with medium plasticity with shell fragments in top 0.1m.				ES PSD ASS	0.0-0.5m A - Triplicate 8A, 8B 0.0-0.5m B 0.0m C
										ASS	0.25m C
										V	0.3m V
						0.45m to 0.55m: Peat inclusions.	W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.70m V
										ASS	0.75m C
		2	1			Borehole WBE12 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

AURECON SYD LIB 05.GLB Log CW NON-CORED BOREHOLE LOG GPC- BH LOGS.GPJ <<DrawingFile>> 02/01/2019 11:24 8.30.004 Developed by Datgel

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Borehole No: WBE13

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	11.2.15	Northing	7370432.38	Slope	90°	Equipment	Vibrocore
Completed Drilling	11.2.15	Easting	311856.15	Bearing	---	Ground Level	2.7 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 0.20m: Dark brown, grey firm sandy CLAY with medium plasticity. Sand is fine and contains shell fragments.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
						0.20m to 1.00m: Dark brown, grey firm CLAY with medium plasticity.				ASS	0.25m C
										V	0.3m V
							W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
		2								V	0.7m V
										ASS	0.75m C
			1			Borehole WBE13 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

AURECON SYD LIB 05.GLB Log CW NON-CORED BOREHOLE LOG GPC- BH LOGS.GPJ <<DrawingFile>> 02/01/2019 11:24 8.30.004 Developed by Datgel

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Borehole No: WBE14

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	8.2.15	Northing	7370431.49	Slope	90°	Equipment	Vibrocore
Completed Drilling	8.2.15	Easting	312214.67	Bearing	---	Ground Level	2.3 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Dark brown, grey firm CLAY with medium plasticity. Frequent shell fragments. Shells becoming less frequent with depth.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C - ASS Duplicate 11
						0.20m: Roots encountered.				ASS	0.25m C
		2								V	0.3m V
							W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
										ASS	0.75m C
			1			Borehole WBE14 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

AURECON SYD LIB 05.GLB Log CW NON-CORED BOREHOLE LOG GPC- BH LOGS.GPJ <<DrawingFile>> 02/01/2019 11:24 8.30.004 Developed by Datgel

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Borehole No: WBE15

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	8.2.15	Northing	7370253.53	Slope	90°	Equipment	Vibrocore
Completed Drilling	8.2.15	Easting	311306.26	Bearing	---	Ground Level	3.5 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Dark brown/grey, soft CLAY with low plasticity and frequent shell fragments.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
										ASS	0.25m C
										V	0.3m V
		3					W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
										ASS	0.75m C
						0.80m: Clay becoming increasingly firm.					
			1			Borehole WBE15 Terminated at 1.00 m				ASS	1.0m C - ASS Duplicate 10 Borehole terminated at target depth

Remarks:

AURECON SYD LIB 05.GLB Log CW NON-CORED BOREHOLE LOG GPC- BH LOGS.GPJ <<DrawingFile>> 02/01/2019 11:24 8.30.004 Developed by Datgel

Borehole No: WBE16

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	15.2.15	Northing	7370249.59	Slope	90°	Equipment	Vibrocore
Completed Drilling	15.2.15	Easting	311855.12	Bearing	---	Ground Level	2.5 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Brown/grey, firm, gravelly CLAY with high plasticity. Gravel is subangular rock. Shell fragments in top 0.4m.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C - ASS Duplicate 23
										ASS	0.25m C
										V	0.3m V
			2				W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
										ASS	0.75m C
			1			Borehole WBE16 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

AURECON SYD LIB 05.GLB Log CW NON-CORED BOREHOLE LOG GPC- BH LOGS.GPJ <<DrawingFile>> 02/01/2019 11:24 8.30.004 Developed by Datgel

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Borehole No: WBE17

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	15.2.15	Northing	7370067.15	Slope	90°	Equipment	Vibrocore
Completed Drilling	15.2.15	Easting	312022.30	Bearing	---	Ground Level	2.6 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Brown/grey gravelly soft CLAY with low plasticity. Gravel is subangular rock. Shell fragments top 0.5m.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
										ASS	0.25m C
										V	0.3m V
						0.50m: Clay becoming firm. 0.50m to 1.00m: Roots encountered.	W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
		2								V	0.7m V
										ASS	0.75m C
			1			Borehole WBE17 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

AURECON SYD LIB 05.GLB Log CW NON-CORED BOREHOLE LOG GPC- BH LOGS.GPJ <<DrawingFile>> 02/01/2019 11:24 8.30.004 Developed by Datgel

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Borehole No: WBE18

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	15.2.15	Northing	7369893.20	Slope	90°	Equipment	Vibrocore
Completed Drilling	15.2.15	Easting	311847.86	Bearing	---	Ground Level	3.4 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Brown/grey soft gravelly CLAY with low plasticity. Gravel is subangular rock.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
										ASS	0.25m C
										V	0.3m V
		3									
						0.50m: Clay becoming firm.	W			ES PSD ASS	0.5-1.0m A - Duplicate 4A, 4B 0.5-1.0m B 0.5m C
										V	0.7m V
										ASS	0.75m C
			1			Borehole WBE18 Terminated at 1.00 m				ASS	1.0m C - ASS Duplicate 22A Borehole terminated at target depth

Remarks:

AURECON SYD LIB 05.GLB Log CW NON-CORED BOREHOLE LOG GPC- BH LOGS.GPJ <<DrawingFile>> 02/01/2019 11:24 8.30.004 Developed by Datgel

aurecon

Borehole No: WBE19

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	8.2.15	Northing	7369706.68	Slope	90°	Equipment	Vibrocore
Completed Drilling	8.2.15	Easting	311134.99	Bearing	---	Ground Level	2.1 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
		2				0.00m to 0.15m: Dark brown, soft gravelly CLAY. Gravel is frequent angular rock.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
						0.15m to 0.60m: Red brown dense gravelly clayey SILT. Gravel is frequent and angular rock. Clay is stiff with high plasticity.				ASS	0.25m C
							W			V	0.3m V
										ASS	0.5m C
						Borehole WBE19 Terminated at 0.60 m					Borehole terminated due to refusal
		1									
		1									

Remarks:

AURECON SYD LIB 05.GLB Log CW NON-CORED BOREHOLE LOG GPC- BH LOGS.GPJ <<DrawingFile>> 02/01/2019 11:24 8.30.004 Developed by Datgel

aurecon

Borehole No: WBE20

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	8.2.15	Northing	7369526.26	Slope	90°	Equipment	Vibrocore
Completed Drilling	8.2.15	Easting	312024.23	Bearing	---	Ground Level	2 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 1.00m: Dark brown/light brown/black soft CLAY with low plasticity. Clay becoming lighter in colour with depth with some red clays.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
										ASS	0.25m C
										V	0.3m V
							W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C
										V	0.7m V
										ASS	0.75m C
		1	1			Borehole WBE20 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

AURECON SYD LIB 05.GLB Log CW NON-CORED BOREHOLE LOG GPC- BH LOGS.GPJ <<DrawingFile>> 02/01/2019 11:24 8.30.004 Developed by Datgel

aurecon

Borehole No: WBE21

Engineering Log - Borehole

SHEET 1 OF 1

Client	Gladstone Ports Corporation	Project No.	245852-400-01
Project	Geotechnical and Geochemical Investigations	Logged By	GK
Location	Gladstone	Checked By	SL

Started Drilling	8.2.15	Northing	7369345.68	Slope	90°	Equipment	Vibrocore
Completed Drilling	8.2.15	Easting	311482.89	Bearing	---	Ground Level	3.7 m RL

DRILLING				MATERIAL DESCRIPTION					TESTING, SAMPLING & OTHER INFORMATION		
Method	Water	RL (m)	Depth (m)	Graphic Log	Classification	Description of Soil (soil type: plasticity/grainsize, colour and other components)	Moisture Condition	Consistency	Tests	Samples	Additional Comments (material origin, pocket penetrometer values, investigation observations)
						0.00m to 0.60m: Dark brown with light brown patches, very soft CLAY with low plasticity.				ES PSD ASS	0.0-0.5m A 0.0-0.5m B 0.0m C
										ASS	0.25m C
										V	0.3m V
							W			ES PSD ASS	0.5-1.0m A 0.5-1.0m B 0.5m C - ASS Duplicate 9
						0.60m to 1.00m: Dark brown/brown/red mottled firm very gravelly CLAY with high plasticity. Gravel is angular rocks.					
		3								V	0.7m V
										ASS	0.75m C
			1			Borehole WBE21 Terminated at 1.00 m				ASS	1.0m C Borehole terminated at target depth

Remarks:

AURECON SYD LIB 05.GLB Log CW NON-CORED BOREHOLE LOG GPC- BH LOGS.GPJ <<DrawingFile>> 02/01/2019 11:24 8.30.004 Developed by Datgel

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Appendix C
Photographic Record

Appendix C

East Banks DMPA Expansion



Photo 1 | EB1
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)

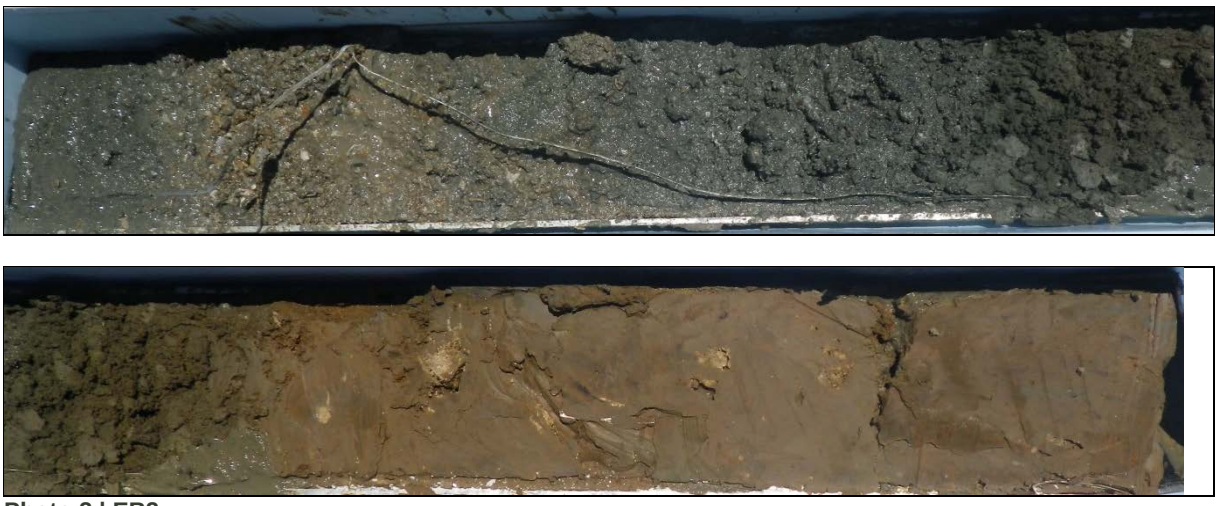

Photo 2 | EB2
Depth: 0.0 – 0.5 m (top); 0.5 – 0.85 m (bottom)

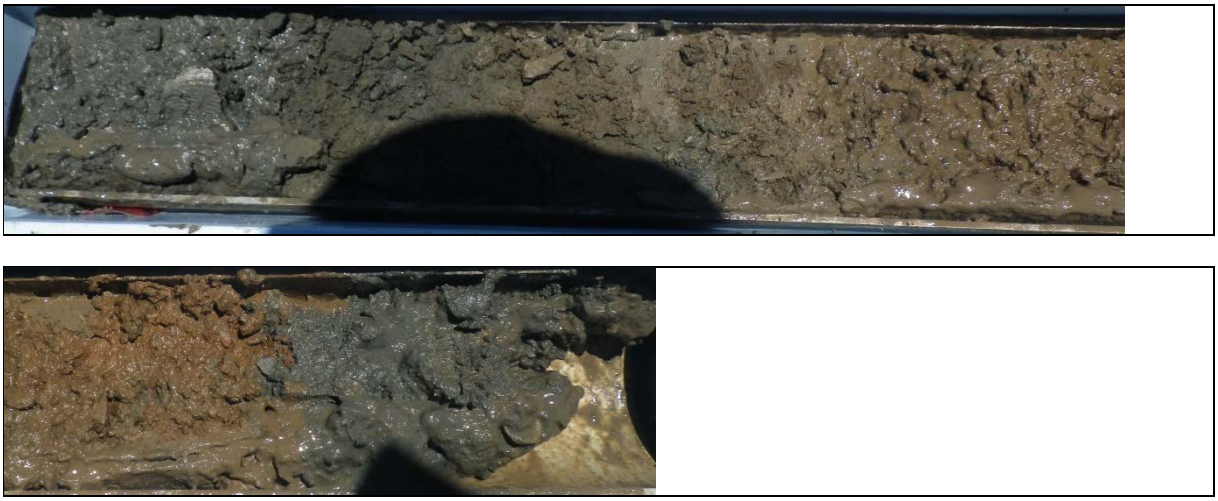

Photo 3 | EB3
Depth: 0.0 – 0.5 m (top); 0.5 – 0.69 m (bottom)



Photo 4 | EB4
Depth: 0.0 – 0.4 m

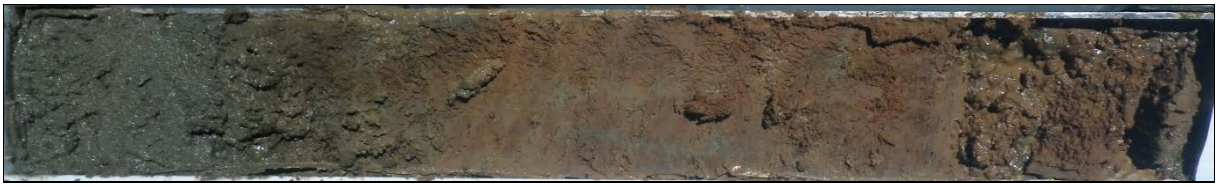

Photo 5 | EB5
Depth: 0.0 – 0.52 m



Photo 6 | EB6
Depth: 0.0 – 0.5 m bgl (top); 0.5 – 1.0 m (bottom)



Photo 7 | EB7
Depth: 0.0 – 0.6 m (top); 0.6 – 1.0 m (bottom)



Photo 8 | EB8
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)

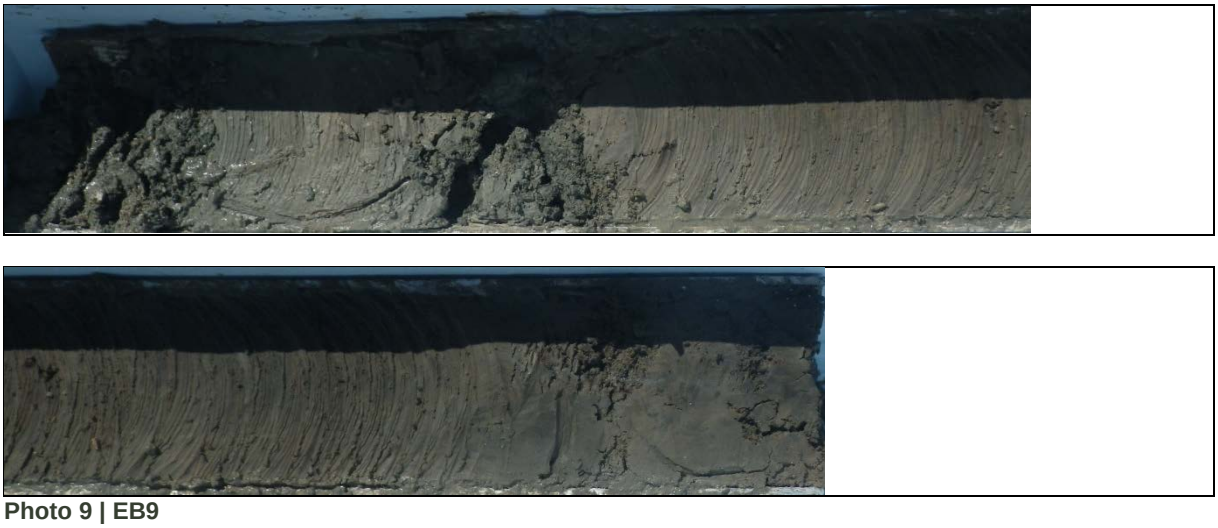

Photo 9 | EB9
Depth: 0.0 – 0.4 m (top); 0.4 – 0.7 m (bottom)



Photo 10 | EB10
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)





Photo 11 | EB11
Depth: 0.0 – 0.5 m (top); 0.5 – 0.8 m (bottom)



Photo 12 | EB12
Depth: 0.0 – 0.3 m



Photo 13 | EB13
Depth: 0.0 – 0.67 m





Photo 14 | EB14
Depth: 0.0 – 0.7 m (top); 0.7 – 1.0 m (bottom)



Photo 15 | EB15
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)



Photo 16 | EB16
Depth: 0.0 – 0.37 m



Photo 17 | EB17
Depth: 0.0 – 0.68 m

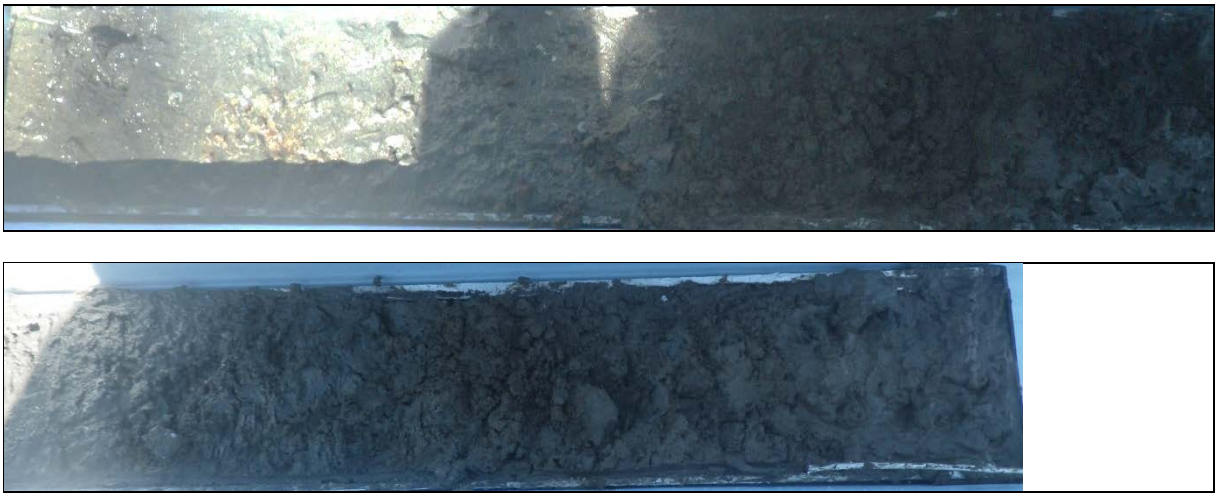

Photo 18 | EB18
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)





Photo 19 | EB19
Depth: 0.0 – 0.5 m (top); 0.5 – 0.8 m (bottom)



Photo 20 | EB20
Depth: 0.0 – 0.6 m

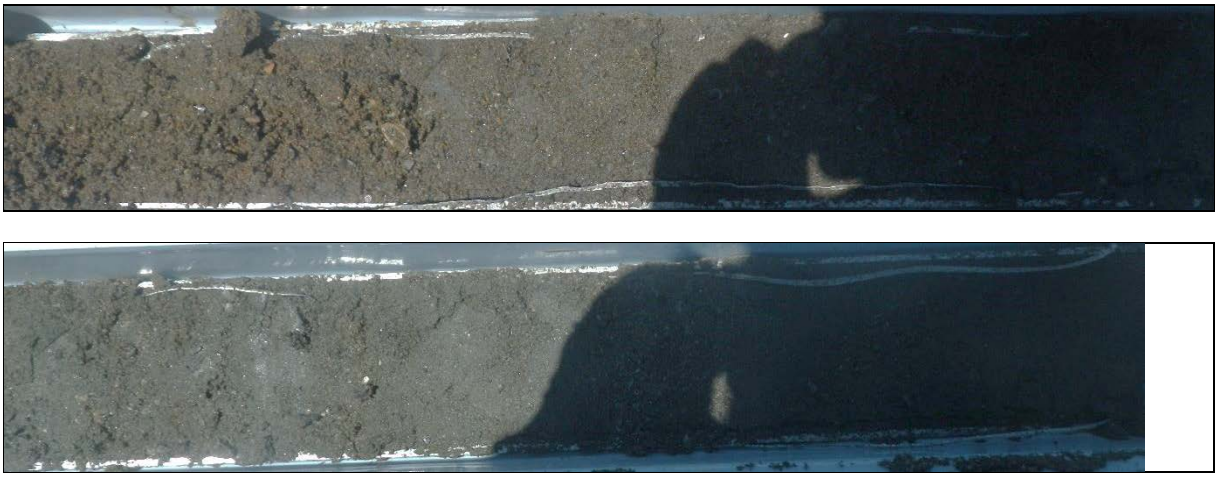

Photo 21 | EB21
Depth: 0.0 – 0.5 m (top); 0.5 –1.0 m (bottom)



Photo 22 | EB22
Depth: 0.0 – 0.5 m



Photo 23 | EB23
Depth: 0.0 – 0.3 m (top); 0.3 – 0.7 m (bottom)





Photo 24 | EB24
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)



Photo 25 | EB25
Depth: 0.0 – 0.63 m





Photo 26 | EB26
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)



Photo 27 | EB27
Depth: 0.0 – 0.7 m



Photo 28 | EB28
Depth: 0.0 – 0.38 m



Photo 29 | EB29
Depth: 0.0 – 0.52 m





Photo 30 | EB30
Depth: 0.0 – 0.4 m (top); 0.4 – 0.75 m (bottom)



Photo 31 | EB31
Depth: 0.0 – 0.57 m

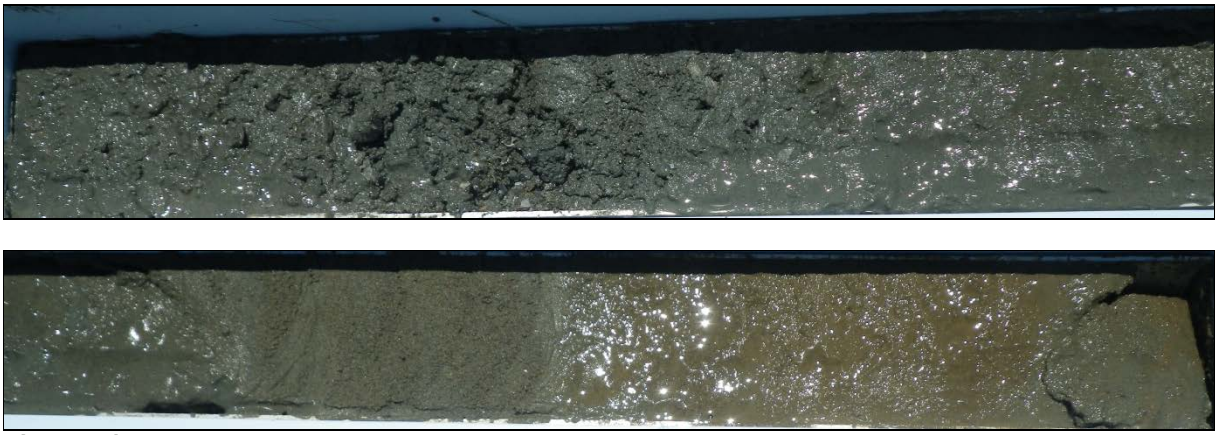

Photo 32 | EB32
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)

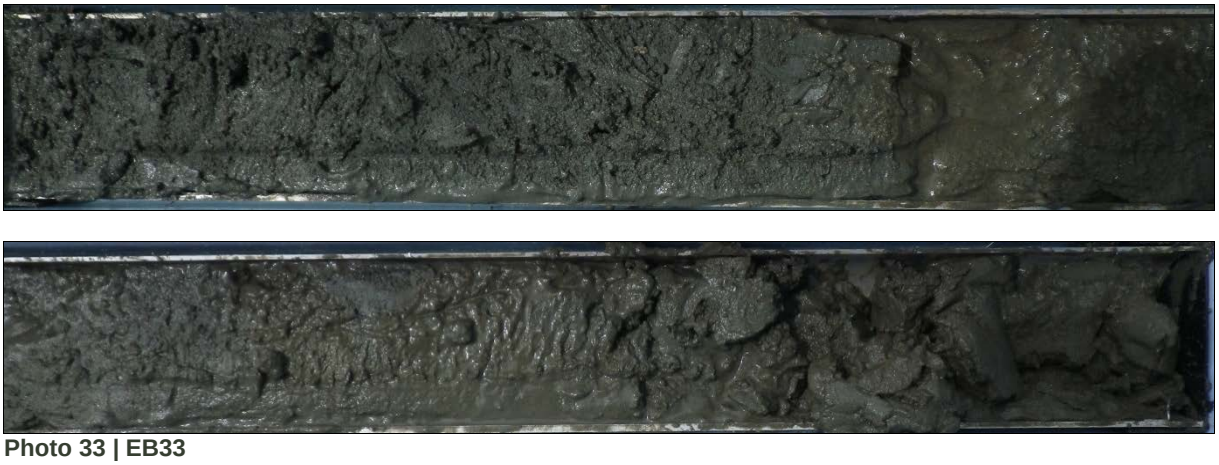

Photo 33 | EB33
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)



Photo 34 | EB34
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)



Photo 35 | BH35
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)



Photo 36 | EB36
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)

Appendix C

West Banks Island Reclamation



Photo 1 | WB1
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)





Photo 2 | WB2
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)

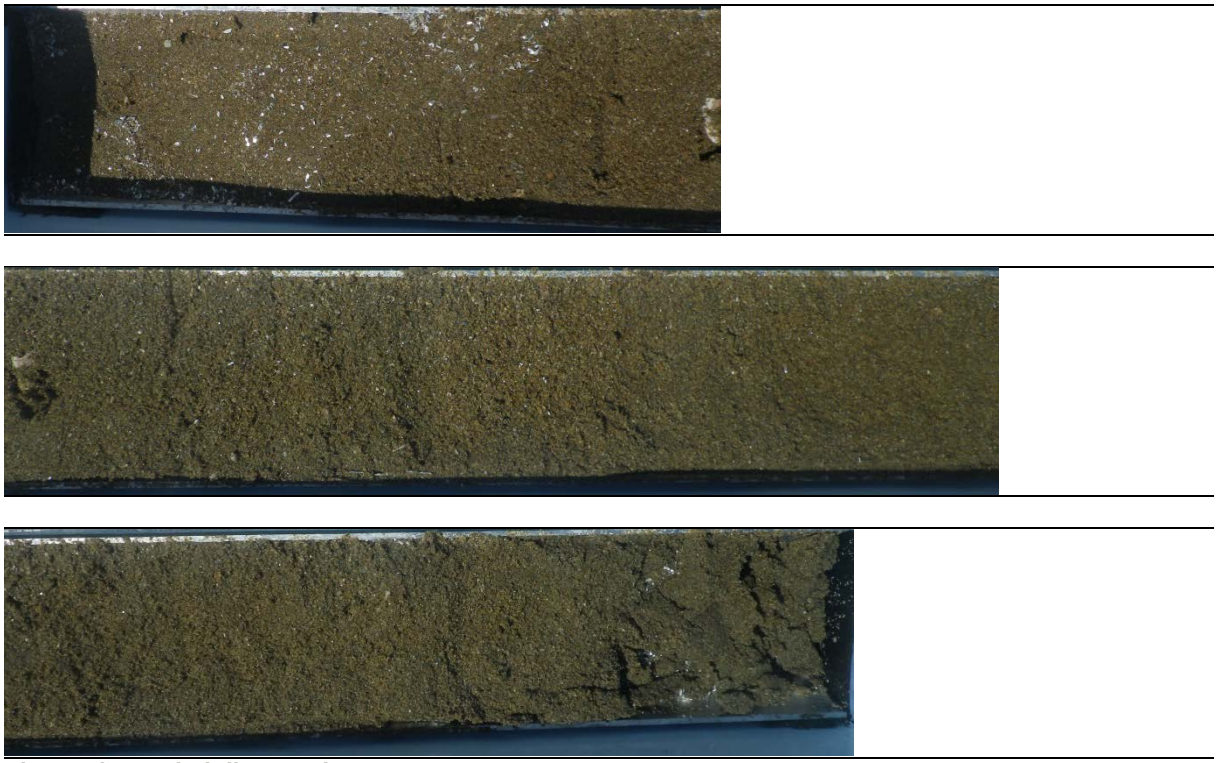

Photo 3 | WB3 (Triplicate 2A)
Depth: 0.0 – 0.2 m (top); 0.2 – 0.6 m (middle); 0.6 – 0.85 m (bottom)

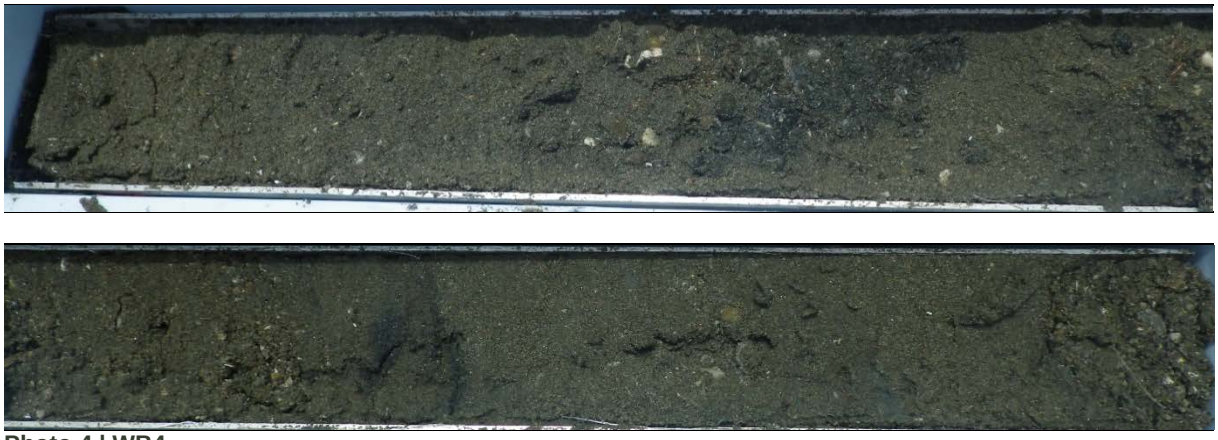

Photo 4 | WB4
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)

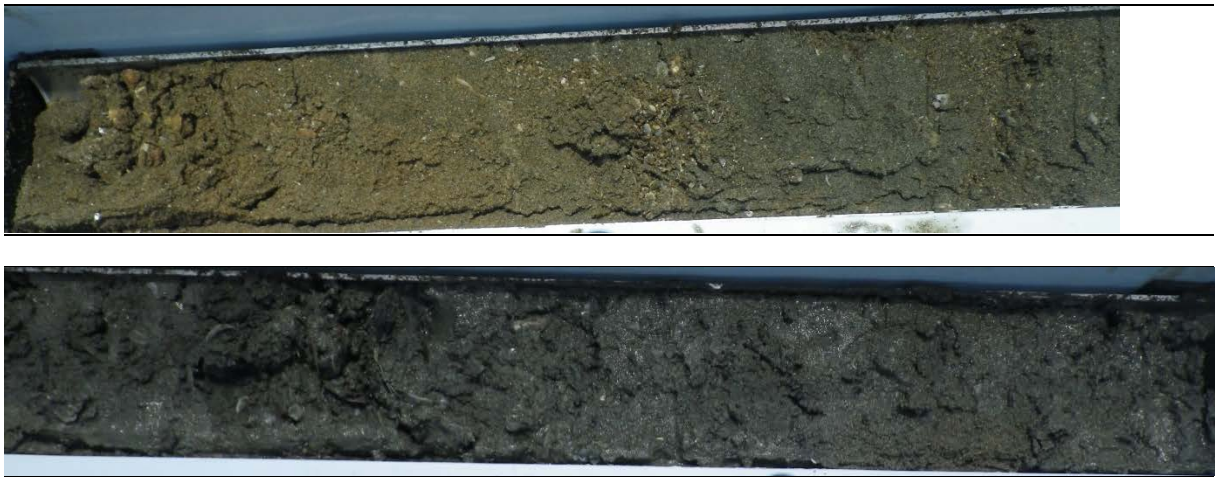

Photo 5 | WB5
Depth: 0.0 – 0.4 m (top); 0.4 – 1.0 m (bottom)



Photo 6 | WB6
Depth: 0.0 – 0.55 m



Photo 7 | WB7
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)



Photo 8 | WB8
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)



Photo 9 | WB9
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)

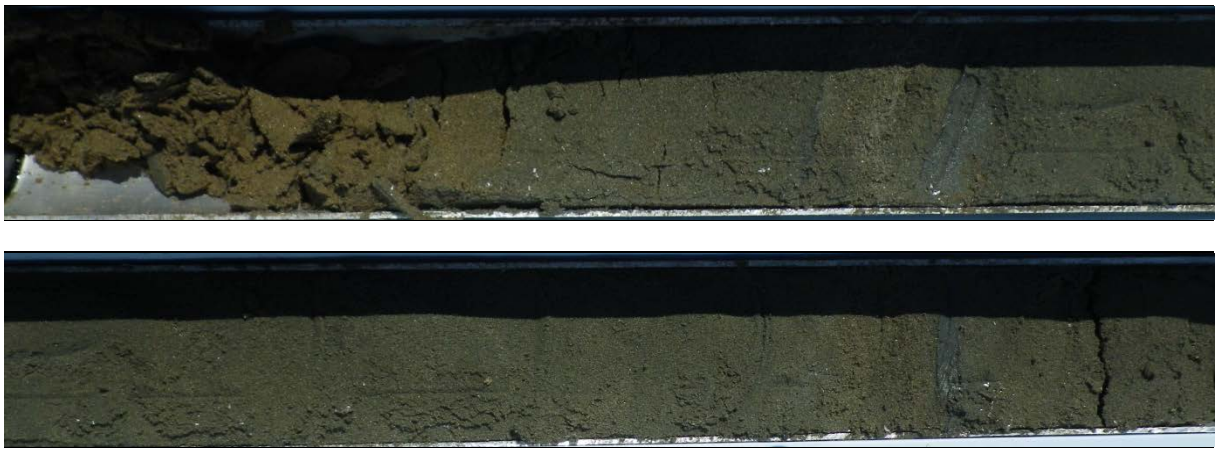

Photo 10 | WB10
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)



Photo 11 | WB11
Depth: 0.0 – 0.6 m (top); 0.6 – 1.0 m (bottom)

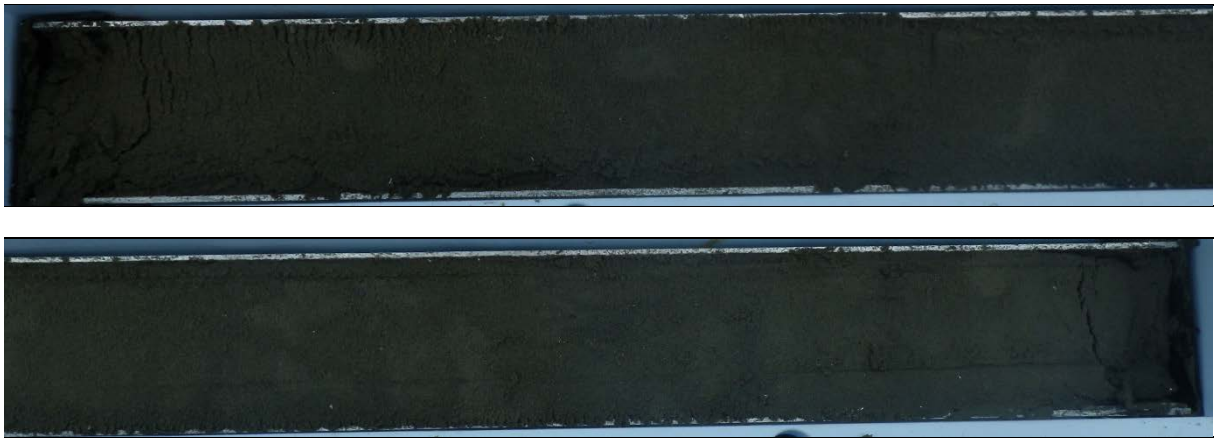

Photo 12 | WB12
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)

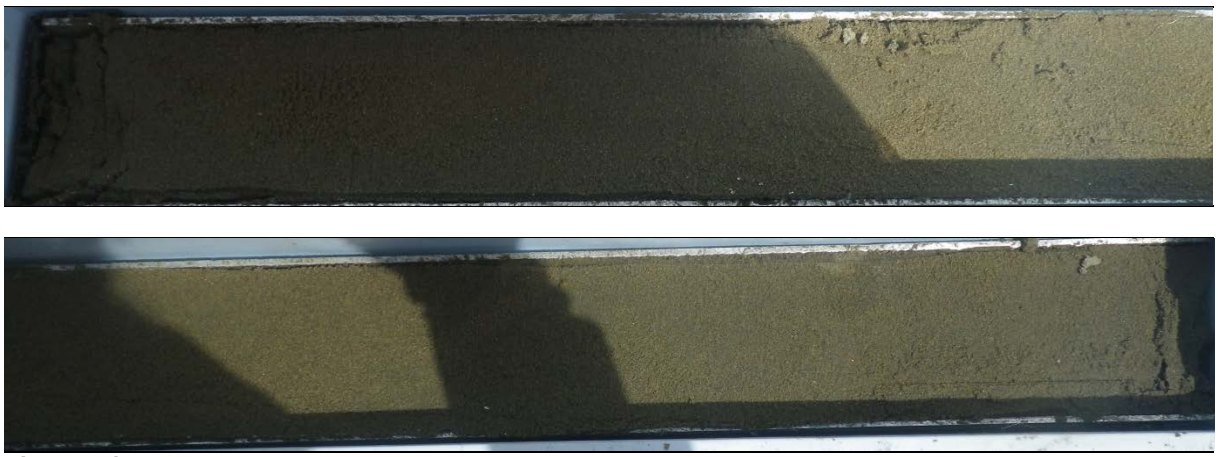

Photo 13 | WB13
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)

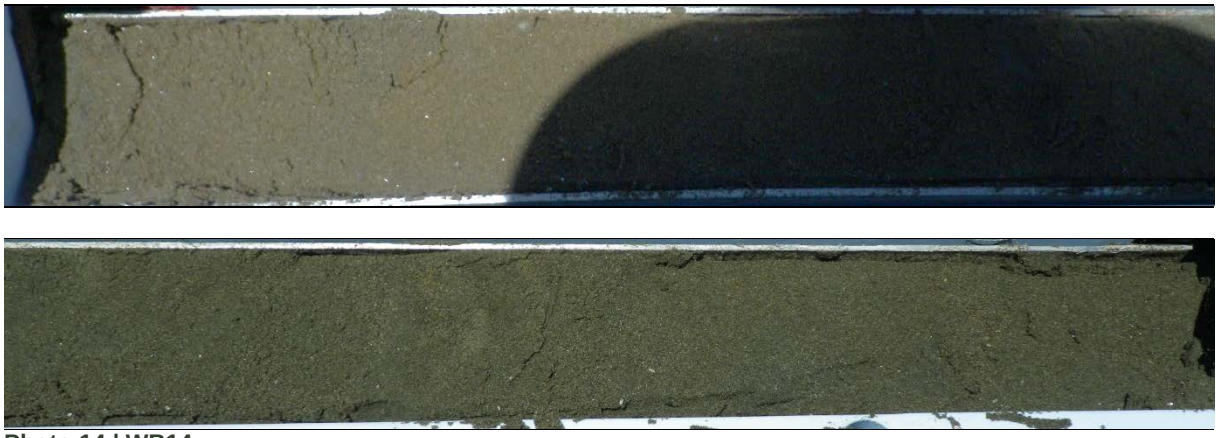

Photo 14 | WB14
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)





Photo 15 | WB15
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)





Photo 16 | WB16
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)

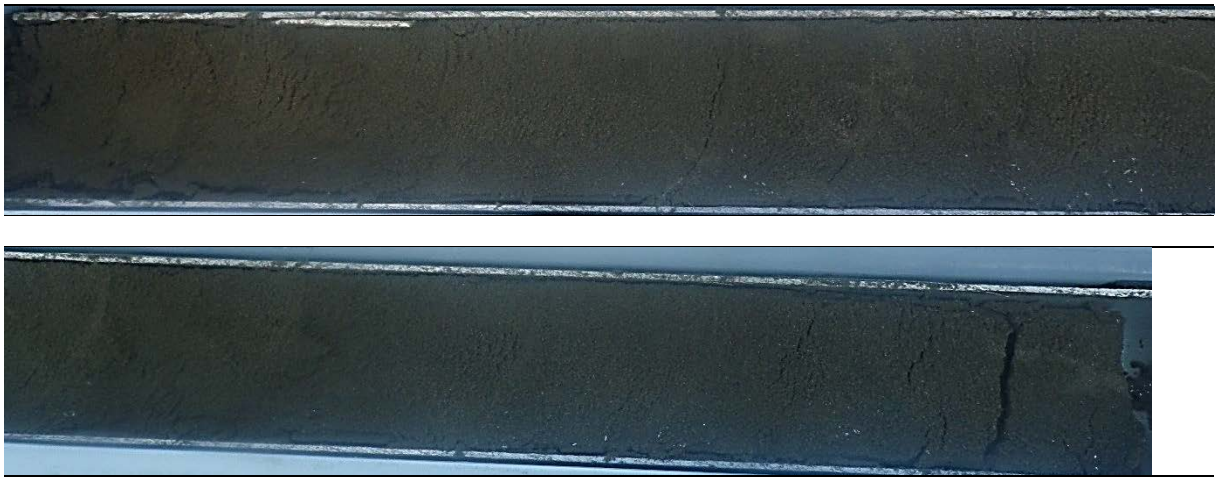

Photo 17 | WB17
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)

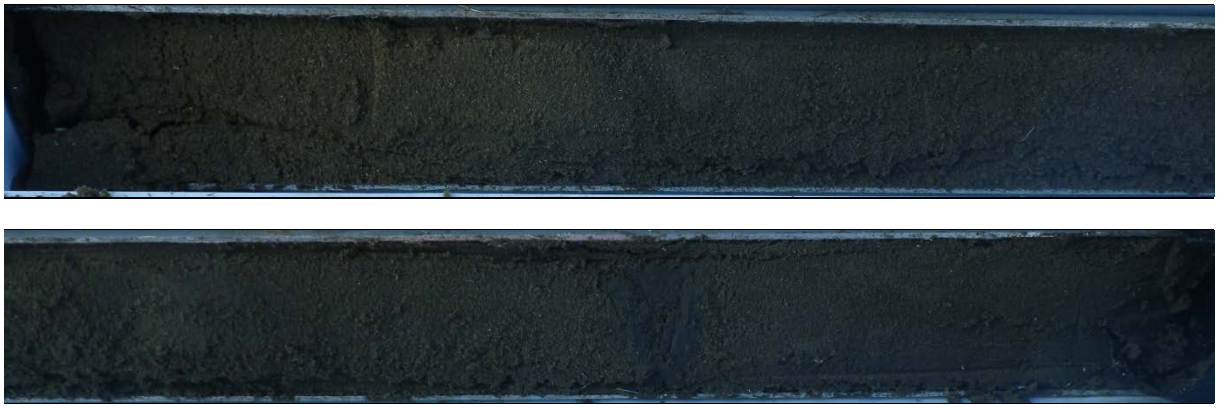

Photo 18 | WB18
Depth: 0.0 – 0.5 m (top); 0.5 – 0.9 m (bottom)



Photo 19 | WB19
Depth: 0.0 – 0.6 m (top); 0.6 – 1.0 m (bottom)

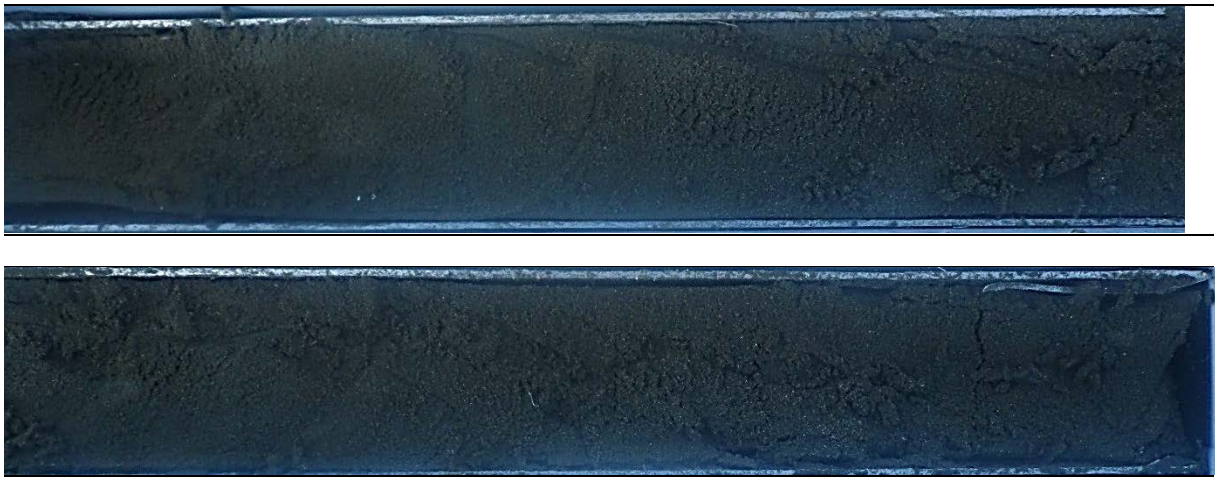

Photo 20 | WB20
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)



Photo 21 | WB21
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)



Photo 22 | WB22
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)





Photo 23 | WB23
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)





Photo 24 | WB24
Depth: 0.0 – 0.4 m (top); 0.4 – 0.8 m (bottom)





Photo 25 | WB25
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)



Photo 26 | WB27
Depth: 0.0 – 0.6 m (top); 0.6 – 1.0 m (bottom)

Appendix C

Port Central Expansion Reclamation

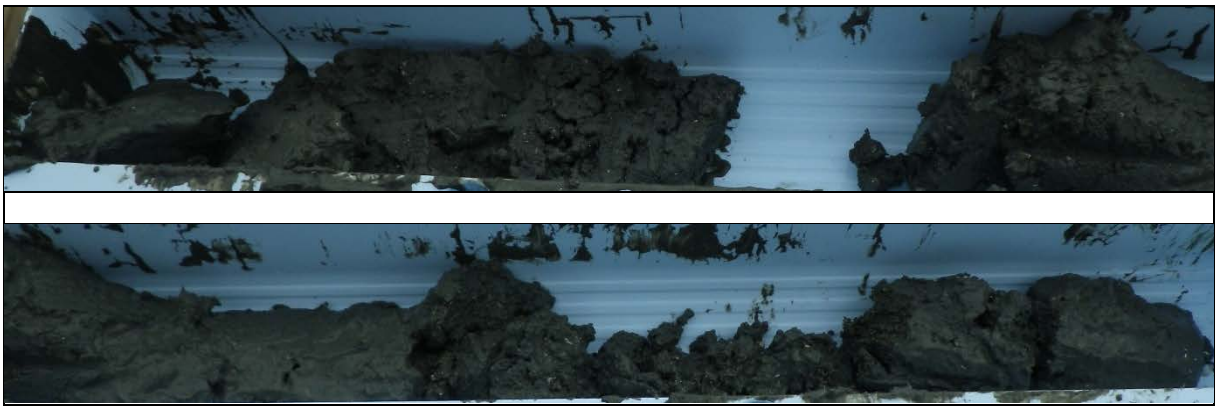

Photo 1 | PC1
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)



Photo 2 | PC2
Depth: 0.0 – 0.6 m (top); 0.6 – 1.0 m (bottom)



Photo 3 | PC3
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)



Photo 4 | PC4
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)

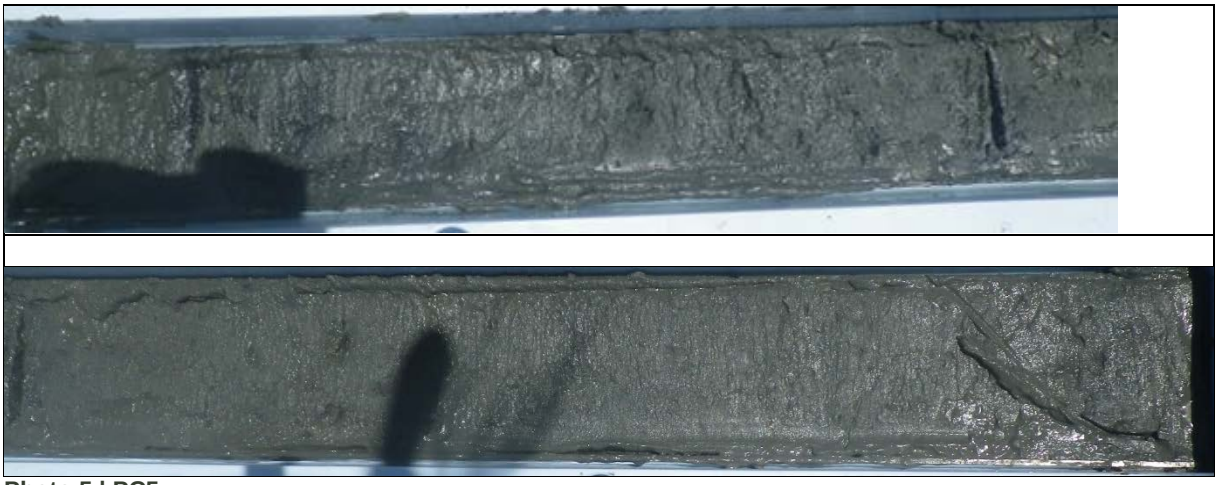

Photo 5 | PC5
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)



Photo 6 | PC6
Depth: 0.0 – 0.5 m bgl (top); 0.5 – 1.0 m (bottom)



Photo 7 | PC7
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)



Photo 8 | PC8
Depth: 0.0 – 0.4 m (top); 0.4 – 1.0 m (bottom)



Photo 9 | PC9
Depth: 0.0 – 0.4 m

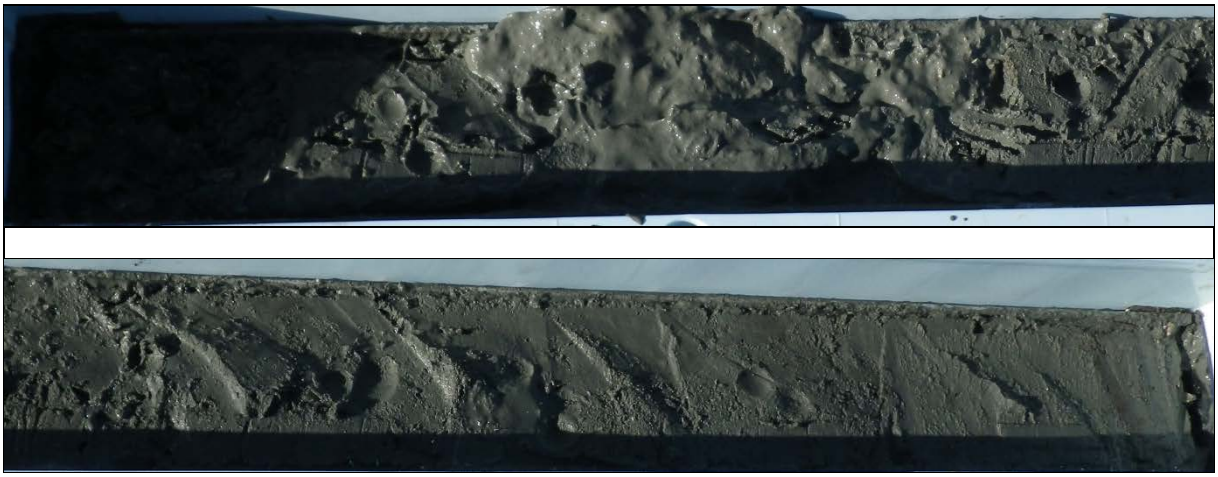

Photo 10 | PC10
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)

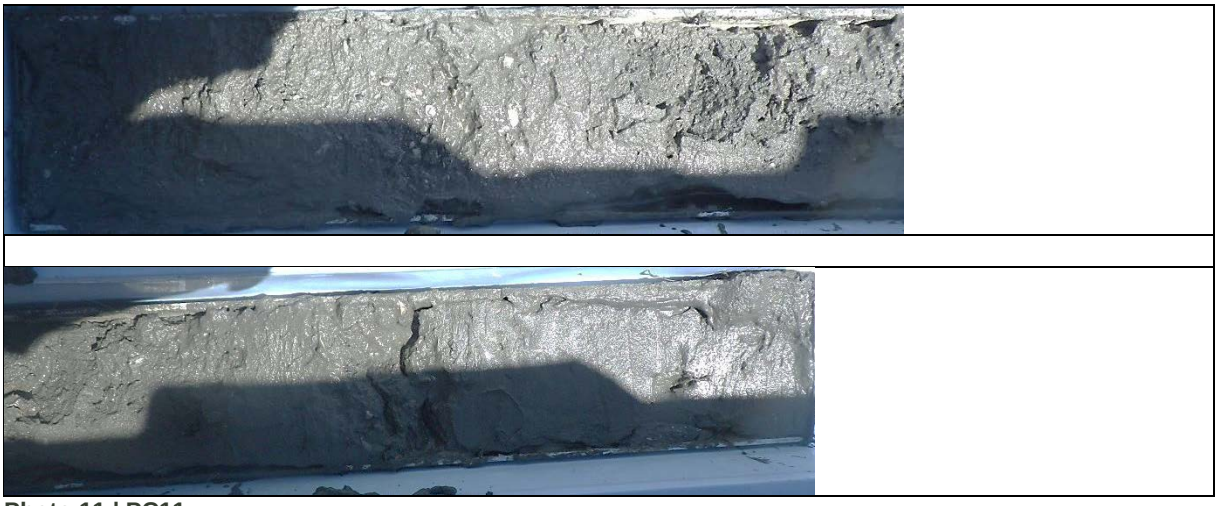

Photo 11 | PC11
Depth: 0.0 – 0.3 m (top); 0.3 – 0.6 m (bottom)

Appendix C

Western Basin Expansion Reclamation

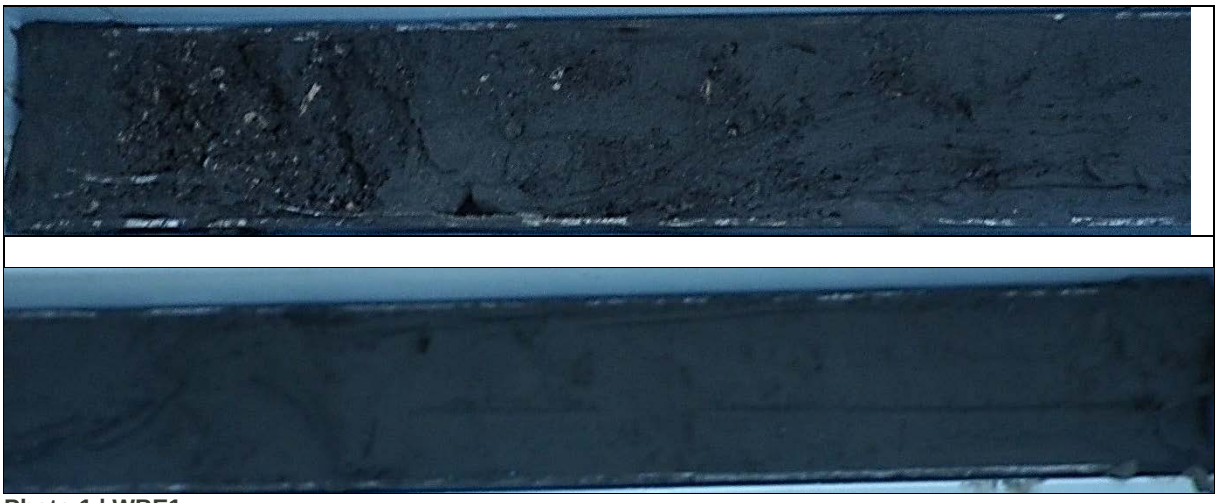

Photo 1 | WBE1
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)

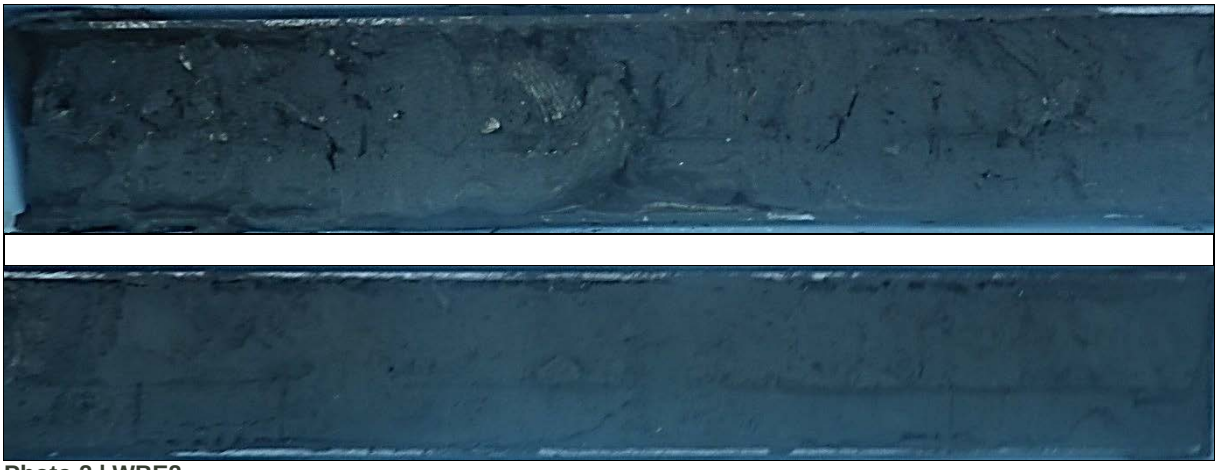

Photo 2 | WBE2
Depth: 0.0 – 0.4 m (top); 0.4 – 1.0 m (bottom)



Photo 3 | WBE3
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)

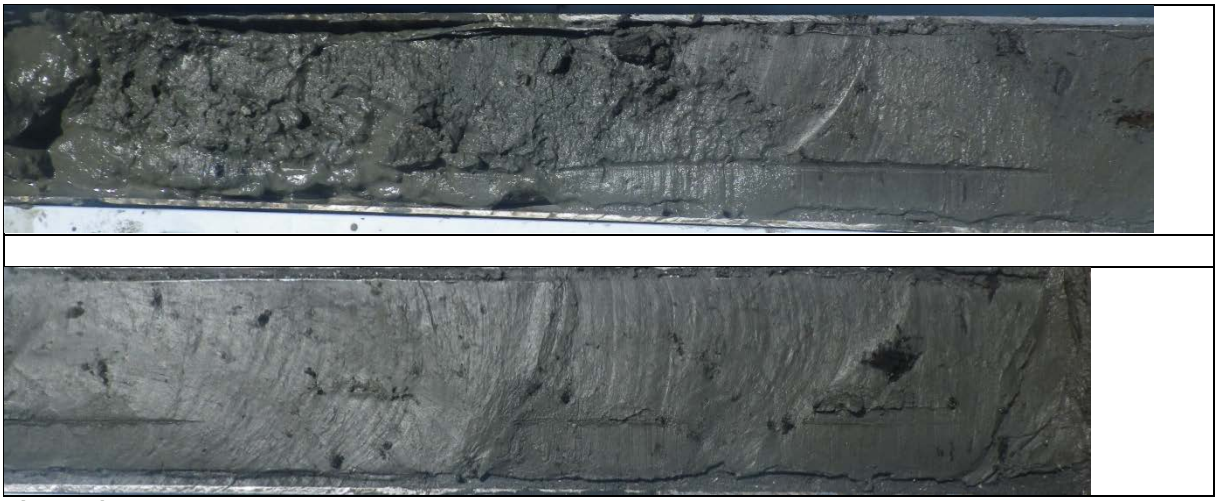

Photo 4 | WBE5
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)



Photo 5 | WBE6
Depth: 0.0 – 0.5 m bgl (top); 0.5 – 1.0 m (bottom)

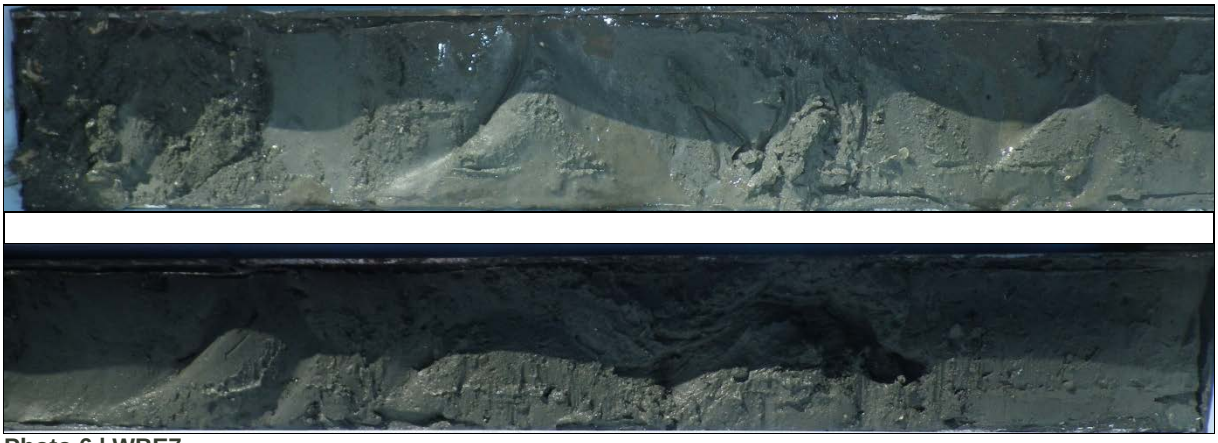

Photo 6 | WBE7
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)

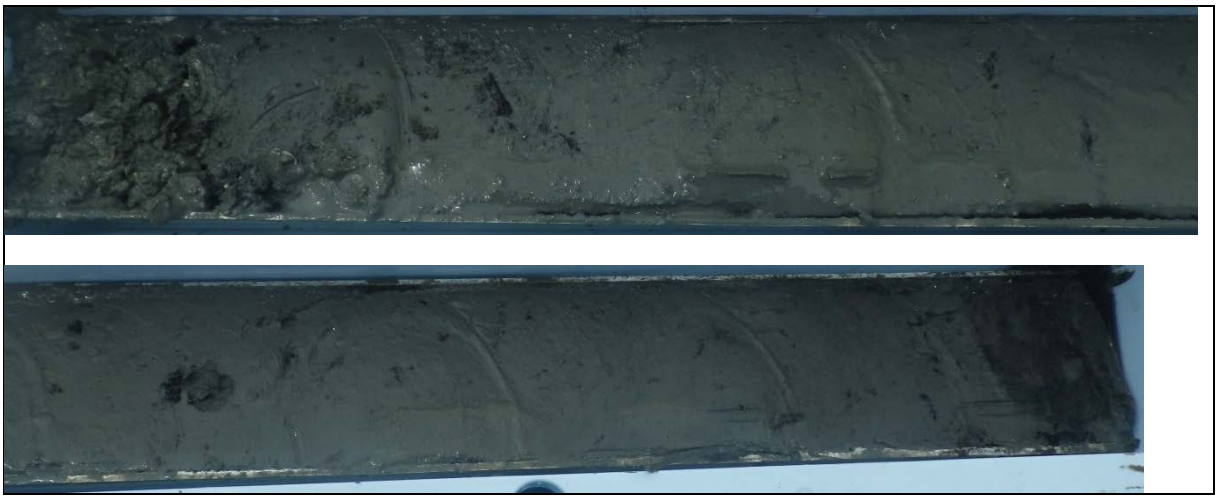

Photo 7 | WBE8
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)

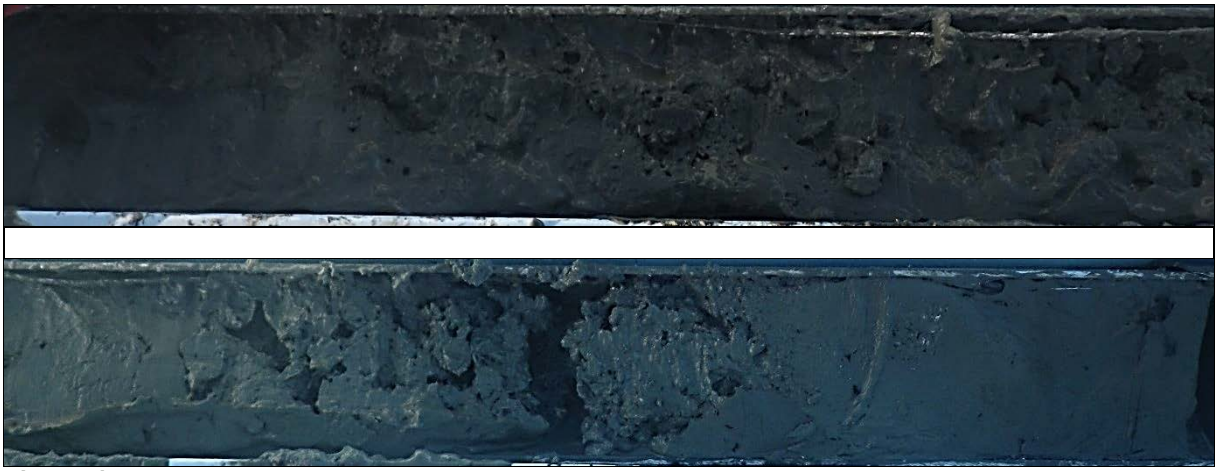

Photo 8 | WBE9
Depth: 0.0 – 0.4 m (top); 0.4 – 0.7 m (bottom)



Photo 9 | WBE10
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)



Photo 10 | WBE11
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)

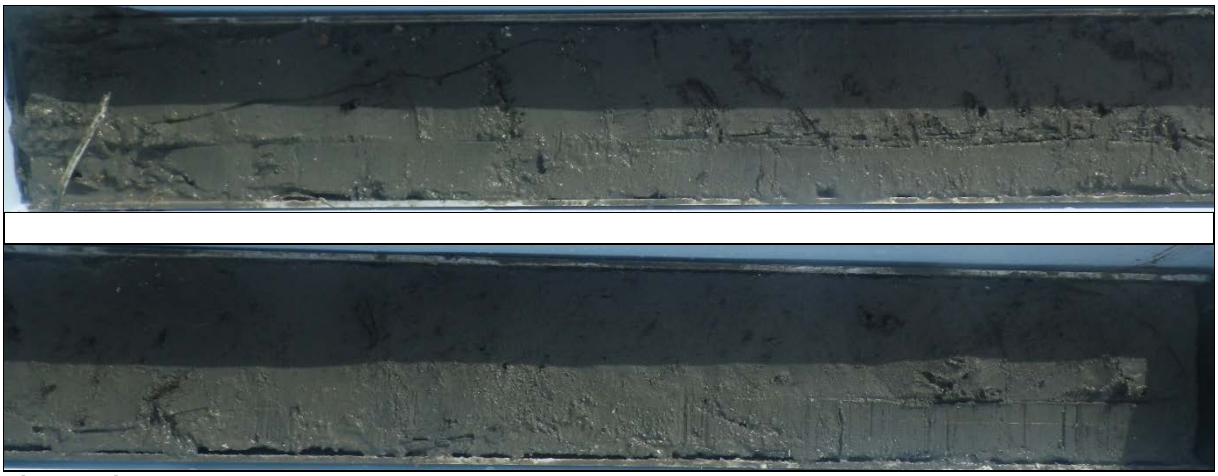

Photo 11 | WBE12
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)

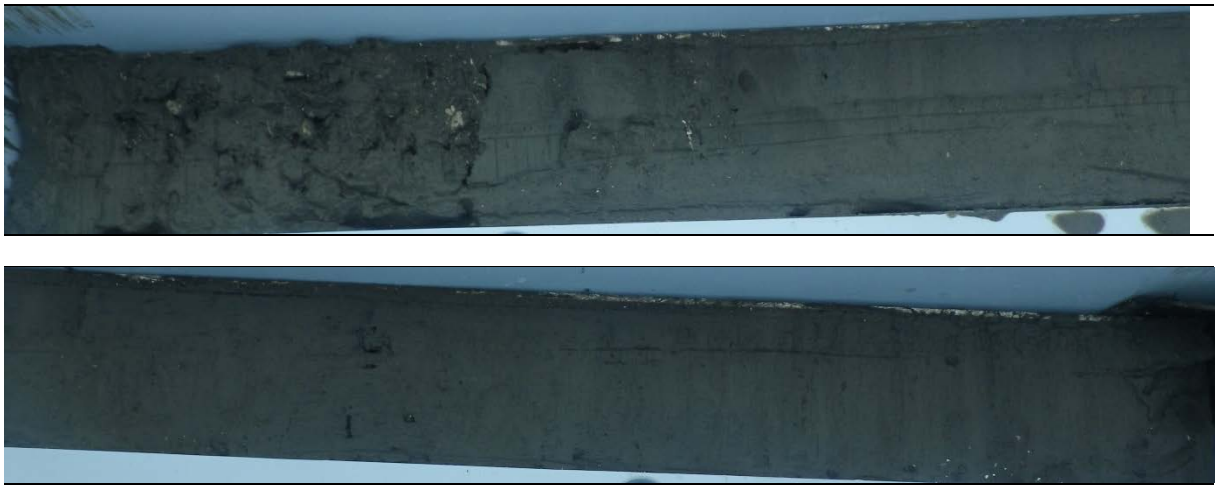

Photo 12 | WBE13
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)

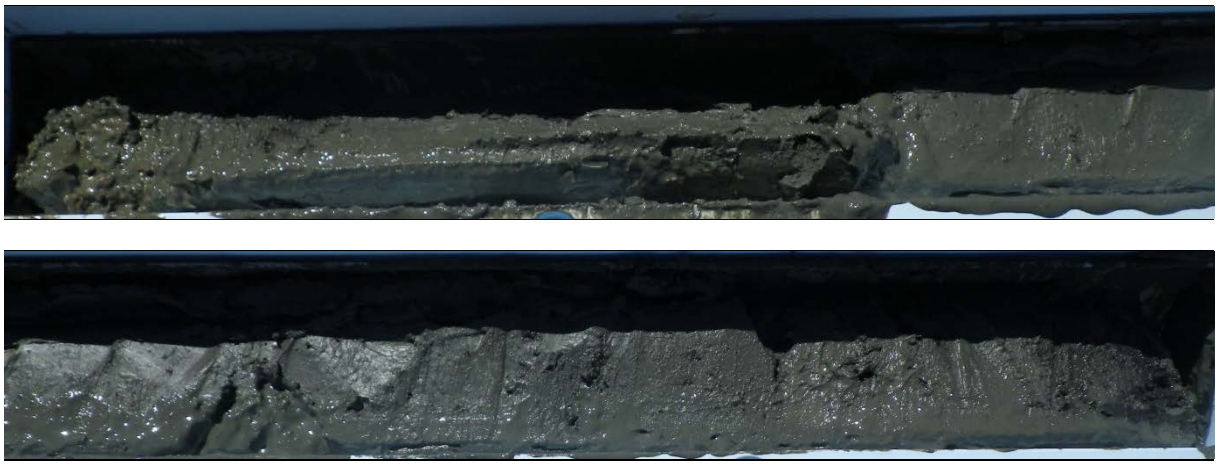

Photo 13 | WBE14
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)

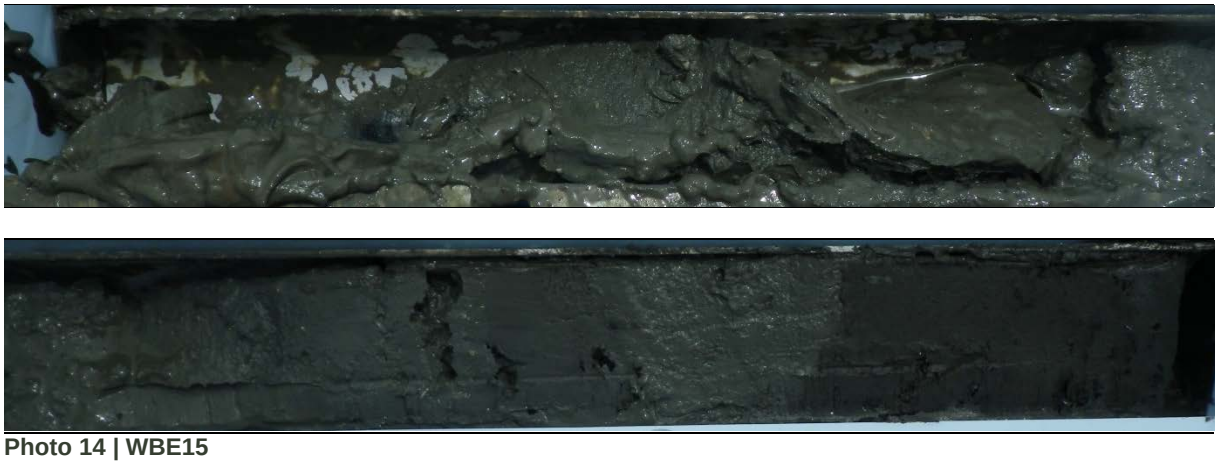

Photo 14 | WBE15
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)

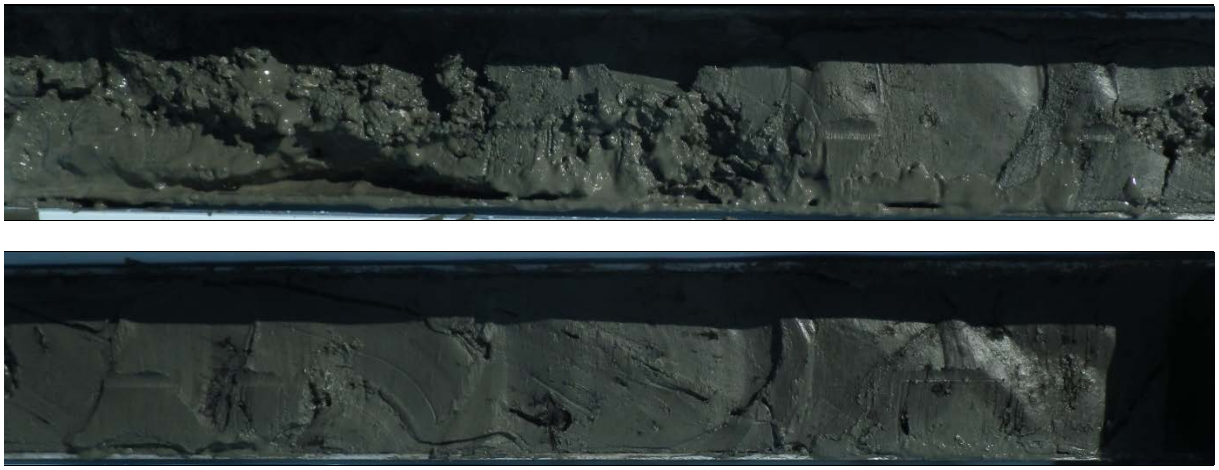

Photo 15 | WBE16
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)

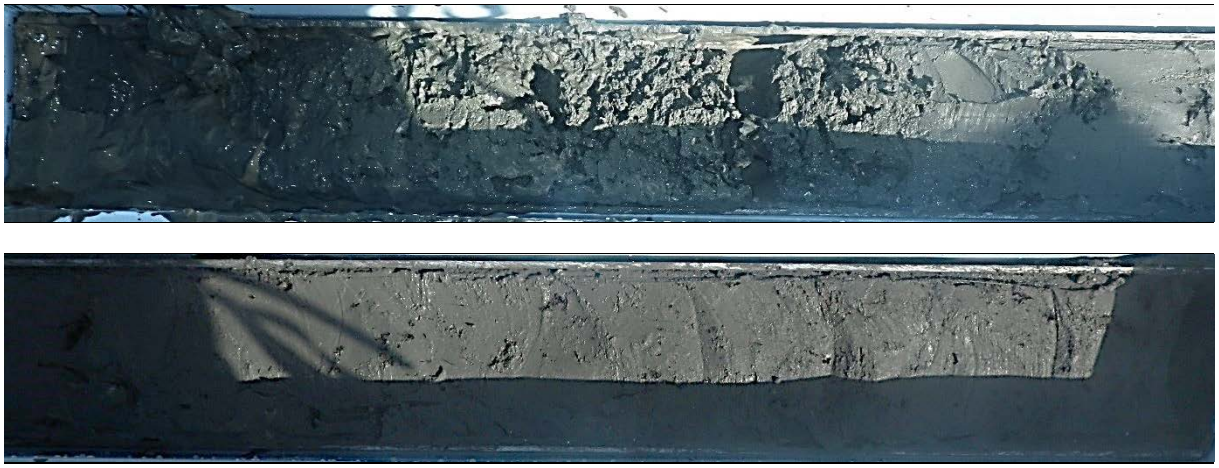

Photo 16 | WBE17
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)

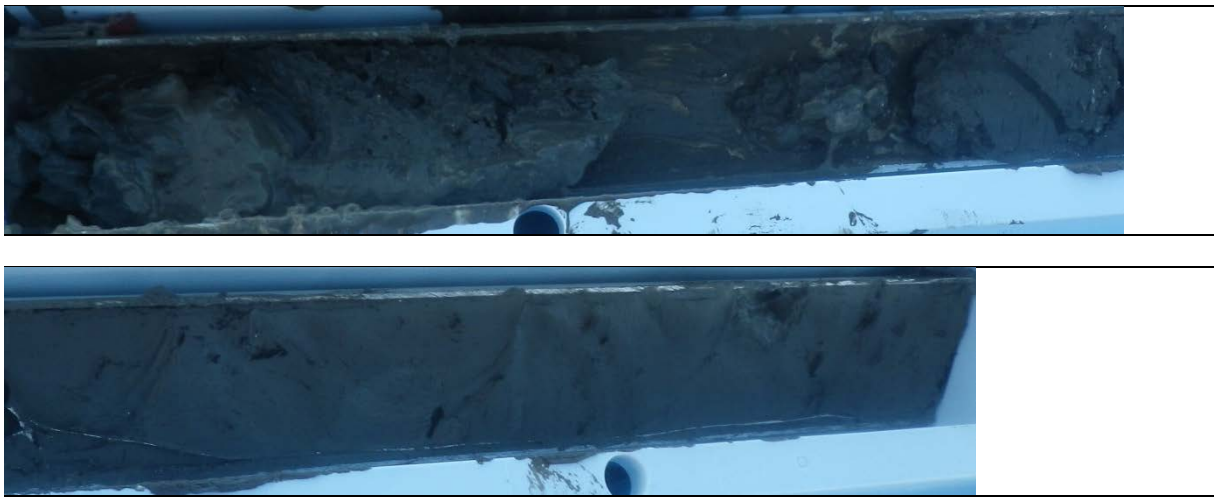

Photo 17 | WBE18
Depth: 0.0 – 0.5 m (top); 0.5 – 1.0 m (bottom)



Photo 18 | WBE19
Depth: 0.0 – 0.6 m





Photo 19 | WBE20
Depth: 0.0 – 0.5 m (top); 0.5 –1.0 m (bottom)





Photo 20 | WBE21
Depth: 0.0 – 0.5 m (top); 0.5 –1.0 m (bottom)

Appendix D
Primary Laboratory Results

CHAIN OF CUSTODY

ALS Environmental

ALS Laboratory: please tick →

ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com

BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com

GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com

MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com

MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com

MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com

NEWCASTLE 5 [illegible]

ORANGE 277 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com

TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com

WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS: ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: (1) 2 3 4 5 6 7	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006 OF: 1 2 3 4 5 (6) 7	Other comment:	
SAMPLER: Georgina Korr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 3 February 2015	DATE/TIME: 3 February 2015
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: Kschafer	RECEIVED BY: Dan
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 4.2.15 1600	DATE/TIME: 5/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1 (NOT including EP080-SD)	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	[redacted]	3/02/2015	S	Glass Jar (250 ml)	1	1								
2	[redacted]	3/02/2015	S	Glass Jar (250 ml)	1	1								
3	PC10-0.7	3/02/2015	S	Glass Jar (250 ml)	1			1						
4	PC10-0.7	3/02/2015	S	Glass Jar (250 ml)	1			1						
5	PC10.0-0.5B	3/02/2015	S	Bag (White label)	1		1							
6	PC10.5-1.0B	3/02/2015	S	Bag (White label)	1		1							
7	Triplicate 1A	3/02/2015	S	Glass Jar (250 ml)	2	1								
8	Triplicate 2B	3/02/2015	S	Glass Jar (250 ml)	2		1							
9	Trip Blank	3/02/2015	S	Pre-filled glass jar	1	1								
10	Rinsate 1	3/02/2015	W	Bottle	8	1								
				TOTAL	19	5	3	2						

Euro Rush / Hold only (2) (3)

Subcon / Forward Lab / Split WO

Lab / Analysis: Brisbane / 731 Organised By / Date: (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15) (16) (17) (18) (19) (20) (21) (22) (23) (24) (25) (26) (27) (28) (29) (30) (31) (32) (33) (34) (35) (36) (37) (38) (39) (40) (41) (42) (43) (44) (45) (46) (47) (48) (49) (50) (51) (52) (53) (54) (55) (56) (57) (58) (59) (60) (61) (62) (63) (64) (65) (66) (67) (68) (69) (70) (71) (72) (73) (74) (75) (76) (77) (78) (79) (80) (81) (82) (83) (84) (85) (86) (87) (88) (89) (90) (91) (92) (93) (94) (95) (96) (97) (98) (99) (100) (101) (102) (103) (104) (105) (106) (107) (108) (109) (110) (111) (112) (113) (114) (115) (116) (117) (118) (119) (120) (121) (122) (123) (124) (125) (126) (127) (128) (129) (130) (131) (132) (133) (134) (135) (136) (137) (138) (139) (140) (141) (142) (143) (144) (145) (146) (147) (148) (149) (150) (151) (152) (153) (154) (155) (156) (157) (158) (159) (160) (161) (162) (163) (164) (165) (166) (167) (168) (169) (170) (171) (172) (173) (174) (175) (176) 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TRT (water)

Environmental Division Sydney

Work Order

ES1502604

Telephone : +61-2-8784 8555

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric P - Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph. 07 7471 5600 E. gladstone@alsglobal.com
MACKAY 70 Harbour Road Mackay QLD 4740 Ph. 07 4944 0177 E. mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph. 03 8549 9600 E. samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph. 02 6372 6735 E. mudgee.mail@alsglobal.com
NEWCASTLE 5 Rosa Gu... Ph. 02 4968 0433 E. ...
NOWRA 4/13 Geary Place ... Ph. 02 4423 2063 E. ...
PERTH 10 Hod Way ... Ph. 08 6260 7855 E. ...
... Smithfield NSW 2164 ... Ph. 02 8784 8555 ... Wollongong NSW 2500 ... alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 (2) 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 (6) 7	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 3 February 2015	DATE/TIME: 3 February 2015
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: KSchafer	RECEIVED BY: [signature]
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 4-2-15 1600	DATE/TIME: 5/2 0400

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1 (NOT Including EP080-SD)	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
11	[redacted]	3/02/2015	S	Glass Jar (250 ml)	1	1								
12	[redacted]	3/02/2015	S	Glass Jar (250 ml)	1	1								
13	PC2 0.3V	3/02/2015	S	Glass Jar (250 ml)	1			1						
14	PC2 0.7V	3/02/2015	S	Glass Jar (250 ml)	1			1						
15	PC2 0.5-1.0B	3/02/2015	S	Bag (White label)	1		1							
16	PC2 0.0-0.5B	3/02/2015	S	Bag (White label)	1		1							
				TOTAL	6	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5800 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 24 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: melbourne@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: newcastle@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: perth@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A; Free ice / frozen ice bricks present upon receipt? Yes No N/A; Random Sample Temperature on Receipt: °C; Other comment:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 (3) 4 5 6 7 OF: 1 2 3 4 5 (6) 7	
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr DATE/TIME: 3 February 2015	RECEIVED BY: Kelly Schafer DATE/TIME: 3 February 2015
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		RELINQUISHED BY: Kschafer DATE/TIME: 4·2·15 1600
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			RECEIVED BY: DATE/TIME: 5/2 09:00
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1 (NOT Including EP080-SD)	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
17	PC3 0.5-1.0B	3/02/2015	S	Bag (White label)			1							
18	PC3 0.0-0.5B	3/02/2015	S	Bag (White label)			1							
19	[redacted]	3/02/2015	S	Glass Jar (250 ml)	1	1								
20	[redacted]	3/02/2015	S	Glass Jar (250 ml)	1	1								
21	PC 3053V	3/02/2015	S	Glass Jar (250 ml)				1						
22	PC3007V	3/02/2015	S	Glass Jar (250 ml)				1						
				TOTAL	2	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 08 8359 0890 E: adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053
Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
TOWNSVILLE Unit 1, 14 Dalmore Street Garbutt QLD 4814
Ph: 07 4796 0600 E: townsville@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 24 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: melbourne@alsglobal.com
GLADSTONE 27 Sydney Road Fullgate QLD 4680
Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
ORANGE 10 Hugo Place Orange NSW 2800
Ph: 02 6360 6788 E: orange@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: wollongong@alsglobal.com

ALS Environmental

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free Ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 (4) 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 (6) 7	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 3 February 2015	DATE/TIME: 3 February 2015
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: Kschafer	RECEIVED BY: Dan
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 4.2.15 1600	DATE/TIME: 5/2 am

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS (MATRIX: SOLID (S) WATER (W))			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1 (NOT including EP080-SD)	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
23		3/02/2015	S	Glass Jar (250 ml)	1	1								
24		3/02/2015	S	Glass Jar (250 ml)	1	1								
25	PC4 0.5V	3/02/2015	S	Glass Jar (250 ml)	1			1						
26	PC4 0.7V	3/02/2015	S	Glass Jar (250 ml)	1			1						
27	DUP 1A	3/02/2015	S	Glass Jar (250 ml)	3	1								ALS to analyse 2 of the 3 jars. Please send the 3rd jar to Eurofins for analysis
28	DUP1B	3/02/2015	S	Bag (White label)	3		1							ALS to analyse 2 of the 3 jars. Please send the 3rd jar to Eurofins for analysis
29	PC4 0.5-1.0B	3/02/2015	S	Bag (White label)	1		1							
30	PC4 0.0-0.5B	3/02/2015	S	Bag (White label)	1		1							
				TOTAL	12	3	3	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
DARWIN 16 Ptd 84 Carlanderon Drive Eaton QLD 4650
Ph: 07 7471 5600 E: gladstone@alsglobal.com
MACKAY 72 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
PERTH 27 Sydney Road Muresk WA 6055
Ph: 02 8372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
PERTH 10 Hod Way Malaga
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
Wagga Wagga NSW 2650

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Free ice / frozen ice Packs present upon receipt? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 7	Other comments:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 3 February 2015	DATE/TIME: 3 February 2015
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: Kschafer	RECEIVED BY: Dan
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 4.2.15 1600	DATE/TIME: 5/2

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION	ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1 (NOT including EP080-SD)	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
31		3/02/2015	S	Glass Jar (250 ml)	1	1								
32		3/02/2015	S	Glass Jar (250 ml)	1	1								
33	WB1 06V	3/02/2015	S	Glass Jar (250 ml)	1			1						
34	WB1 07V	3/02/2015	S	Glass Jar (250 ml)	1			1						
35	WB10 5-1.0B	3/02/2015	S	Bag (White label)			1							
36	WB10 0.0-0.5 B	3/02/2015	S	Bag (White label)			1							
				TOTAL	4	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
SYDNEY 27 Sydney Road Muswellbrook NSW 2333 Ph: 02 6372 6735 E: muswellbrook@alsglobal.com
NEWCASTLE 5 Rose Gum Road Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4-13 Geary Place Nowra Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga Ph: 08 9209 7655 E: samples.perth@alsglobal.com
Smithfields NSW 2164
Wollongong NSW 2500

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	Kelly Schafer	KSchafer	Dwl
DATE/TIME: 3 February 2015	DATE/TIME: 3 February 2015	DATE/TIME: 4-2-15 1600	DATE/TIME: 5/2 09u

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOIL (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1 (NOT including EP080-SD)	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
37	WB2 0.0-0.5 B	3/02/2015	S	Bag (White label)	1		1							
38	WB2 0.5-1.0 B	3/02/2015	S	Bag (White label)	1		1							
39	[redacted]	3/02/2015	S	Glass Jar (250 ml)	1	1								
40	[redacted]	3/02/2015	S	Glass Jar (250 ml)	1	1								
41	WB2 0.5 V	3/02/2015	S	Glass Jar (250 ml)	1			1						
42	WB2 0.7 V	3/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	6	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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extra

Sample

ALS Environmental

Tailored Analytical Services & Charges - Sediments - Aurecon Suite 1

Parameter	ALS Code	Technique/ Method Reference	LOR (mg/kg) (or as indicated)	No.	Price per Sample $	Total ($)
Moisture	EA055	In-house	1%	-	No Charge	Nil
Metals by ICP/MS (15 metals incl. Sb, As, Cd, Cr, Cu, Pb, Mn, Ni, Ag, Zn + low level Hg)	SD-3	USEPA 6020 APHA 3112.Hg-B	Sb:0.5 Cd, Ag:0.1 Mn:10 Others:1 Hg: 0.01	412	48.00	19,776.00
Organotins (Monobutyltin, Dibutyltin, Tributyltin)	EP090	In house GC/MS	0.5-1 µg Sn/kg		130.00	53,560.00
TRH (C10-C40) – Ultra trace including sum of C10-C40	EP071-SD	USEPA 3510/8015	3-5 per fraction		24.00	9,888.00
Ultra trace OC/OP Pesticides, PCB and PAH	SD-2	USEPA 3640/3620 USEPA8081/8082 USEPA 3640/8270	PAH: 0.004-0.005 PCB: 0.005 OC/OP: 0.0005-0.01		175.00	72,100.00
Ammonia as N - Low level	EK255A-SD	Rayment & Lyon 7Cl & 7C2	0.2		20.00	8,240.00
Nitrites N and Nitrates N	NT-4S	APHA 4500 NO3- - I/NO_2^--B APHA 4500 NO2- - I	0.1		55.00	22,660.00
Total Phosphorus as P	EK067	APHA 4500-P	2			
Total Nitrogen	EK062	APHA 4500 N_{Org}/NO_3	20			
TOC (High temp furnace incl. prep)	EP003	In house	0.02%		20.00	8,240.00
TOTAL PROJECT COST FOR SEDIMENT SAMPLES (EXCL. GST):						194,464.00

Tailored Analytical Services & Charges - Sediments - Aurecon Suite 2

Parameter	ALS Code	Technique/ Method Reference	LOR (mg/kg) (or as indicated)	No.	Price per Sample $	Total ($)
Settling Rate - Settleability of Sediment in Saline Water Non NATA 10% w/w and/or 20% w/w Suspensions	EA151-10 and /or EA151-20	In house / EN14702-1:2006	0.01mm/min	412	80.00	32,960.00
Sizing - Particle Sizing plus Soil Particle Density (<2.36mm) and Hydrometer to 1-5 µm¹	EA150-H/EA152	AS 1289 3.6.3	1%		110.00	45,320.00
TOTAL PROJECT COST FOR SEDIMENT SAMPLES (EXCL. GST):						78,280.00

ALS Environmental

Aurecon Rinsate Suite - Waters

Parameter	ALS Code	Technique/ Method Reference	LOR (mg/L) (or as indicated)	No.	Price per Sample $	Total ($)
Total Metals: Sb, As, Cd, Cr, Cu, Pb, Mn, Ni, Ag, Zn (incl. digestion)	EG020T	USEPA 6020 ICP/MS	0.0001-0.01	48	25.00	1,200.00
Mercury - Total	EG035T	APHA 3112 Hg-B CV/FIMS	0.0001			
Organotins (Monobutyltin, Dibutyltin, Tributyltin)	EP090	In house GC/MS	2 ng Sn/L		130.00	6,240.00
TRH(C6-C40)/BTEXN/PAH	W-7	GC/FID, P&T/HS/MS GC/MS - SIM	PAH: 0.5-2 µg/L TPH: 20-100 µg/L BTEX:1-5 µg/L		110.00	5,280.00
OC/OP/PCB	W-13	GC/ECD/FPD-MS	0.5-2 µg/L			
Total Nitrogen as N	EK062	APHA 4500 Norg/NO_3	0.1		48.00	2,304.00
Phosphorus Total as P	EK067	APHA 4500 P - F	0.01			
Ammonia as N	EK055	APHA 4500 NH_3- - G	0.01			
Nitrate as N	EK058	APHA VCl3 reduction 4500 NO_3- + NO_2-B	0.01			
Nitrite as N	EK057	APHA 4500 NO_2- - I	0.01			
TOTAL PROJECT SUITE COST PER RINSATE SAMPLE (EXCL. GST):					313.00	-
TOTAL PROJECT COST FOR RINSATE SAMPLES (EXCL. GST):						15,024.00

Aurecon Trip Blank Suite - Sediments

Parameter	ALS Code	Technique/ Method Reference	LOR (mg/kg) (or as indicated)	No.	Price per Sample $	Total ($)
BTEX- Low level and TRH (C6-C9)	EP080-SD	USEPA 5030/8260	TRH: 3 BTEX: 0.2 (200 µg/kg)	48	24.00	1,152.00
TRH (C10-C40) - Ultra trace including sum of C10-C40	EP071-SD	USEPA 3510/8015	3-5 per fraction		24.00	1,152.00
TOTAL PROJECT SUITE COST PER TRIP BLANK SAMPLE (EXCL. GST):					48.00	-
TOTAL PROJECT COST FOR TRIP BLANK SAMPLES (EXCL. GST):						2,304.00

Tailored Analytical Services & Charges - Sediments - Aurecon Other Analysis Suite

Parameter	ALS Code	Technique/ Method Reference	LOR (mg/kg) (or as indicated)	No.	Price per Sample $	Total ($)
Dioxins & Furans	EP300	USEPA 1613B/8290	0.0005-0.01 µg/kg (0.5-10 pg/g)	22	720.00	15,840.00
pH_F and pH_{FOX} - Fast Field Screen - Non NATA accredited	EA037	QASSIT (2004)	0.1 pH Units	496	3.50	1,736.00
SPOCAS Suite - Complete	EA029	AS4969	various	690	60.00	41,400.00
BTEX- Low level and TRH (C6-C9)	EP080-SD	USEPA 5030/8260	TRH: 3 BTEX: 0.2 (200 µg/kg)	412	24.00	9,888.00
TOTAL PROJECT COST FOR SEDIMENT SAMPLES (EXCL. GST):						68,864.00

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1502604**	Page	: 1 of 50
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553		
C-O-C number	: ----	Date Samples Received	: 05-FEB-2015
Sampler	: GK	Issue Date	: 26-FEB-2015
Site	: ----		
		No. of samples received	: 41
Quote number	: SY/1021/14 V2	No. of samples analysed	: 41

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **EA150H: Soil Particle Density as required for Hydrometer analysis according to AS 1289.3.6.3 2003 was unable to be performed for sample 18 as insufficient sample was supplied by the client. Typical SPD values used for calculations and consequently NATA endorsement does not apply to hydrometer results.**
- **EA151: ALS does not hold NATA accreditation for Settleability.**
- **EP090: High failing LCS deemed acceptable as all associated analyte results are less than LOR.**
- **EP090: Samples 'PC1 0.5-1.0A' and 'WB1 0.51.0A' show poor matrix spike recovery for Monobutyltin due to matrix interference.**

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Ashesh Patel	Inorganic Chemist	Sydney Inorganics
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics
		Sydney Organics
Kim McCabe	Senior Inorganic Chemist	Brisbane Acid Sulphate Soils
Matt Frost	Senior Organic Chemist	Brisbane Organics
Nanthini Coilparampil	Laboratory Manager - Inorganics	Sydney Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
		Sydney Organics
Peter Keyte	Newcastle Manager	Newcastle - Inorganics
Phalak Inthakesone	Laboratory Manager - Organics	Sydney Organics
Shobhna Chandra	Metals Coordinator	Sydney Inorganics
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	PC1 0.5-1.0A	PC1 0.0-0.5A	PC1 0.3V	PC1 0.7V	PC1 0.0-0.5B
				Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
					ES1502604-001	ES1502604-002	ES1502604-003	ES1502604-004	ES1502604-005
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	----	**57**
+150µm	----	1	%		----	----	----	----	**45**
+300µm	----	1	%		----	----	----	----	**42**
+425µm	----	1	%		----	----	----	----	**39**
+600µm	----	1	%		----	----	----	----	**36**
+1180µm	----	1	%		----	----	----	----	**30**
+2.36mm	----	1	%		----	----	----	----	**23**
+4.75mm	----	1	%		----	----	----	----	**14**
+9.5mm	----	1	%		----	----	----	----	<1
+19.0mm	----	1	%		----	----	----	----	<1
+37.5mm	----	1	%		----	----	----	----	<1
+75.0mm	----	1	%		----	----	----	----	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**23.5**	**52.8**	**26.5**	**23.1**	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	----	**19**
Silt (2-60 µm)	----	1	%		----	----	----	----	**14**
Sand (0.06-2.00 mm)	----	1	%		----	----	----	----	**42**
Gravel (>2mm)	----	1	%		----	----	----	----	**25**
Cobbles (>6cm)	----	1	%		----	----	----	----	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	----	**2.67**
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**7190**	**14500**	----	----	----
Iron	7439-89-6	50	mg/kg		**17000**	**20200**	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		**13.2**	**11.7**	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	----	----	----
Chromium	7440-47-3	1.0	mg/kg		**14.7**	**21.3**	----	----	----
Copper	7440-50-8	1.0	mg/kg		**11.6**	**17.8**	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		**10.6**	**10.8**	----	----	----
Lead	7439-92-1	1.0	mg/kg		**6.4**	**7.5**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	PC1 0.5-1.0A	PC1 0.0-0.5A	PC1 0.3V	PC1 0.7V	PC1 0.0-0.5B
				Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
					ES1502604-001	ES1502604-002	ES1502604-003	ES1502604-004	ES1502604-005
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		206	320	----	----	----
Nickel	7440-02-0	1.0	mg/kg		6.7	11.4	----	----	----
Selenium	7782-49-2	0.1	mg/kg		2.4	4.2	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.1	<0.1	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		50.0	46.3	----	----	----
Zinc	7440-66-6	1.0	mg/kg		19.4	44.2	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	0.02	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		0.2	0.2	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		0.2	0.2	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		90	820	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		90	820	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		154	339	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		1.3	18.2	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		0.27	0.53	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	5	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		<3	16	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	7	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	28	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	<3	<3	----
C10 - C14 Fraction	----	3	mg/kg		<3	5	----	----	----
C15 - C28 Fraction	----	3	mg/kg		<3	11	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	PC1 0.5-1.0A	PC1 0.0-0.5A	PC1 0.3V	PC1 0.7V	PC1 0.0-0.5B
				Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
					ES1502604-001	ES1502604-002	ES1502604-003	ES1502604-004	ES1502604-005
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	**10**	----	----	----
^ **C10 - C36 Fraction (sum)**	----	3	mg/kg		<3	**26**	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	<3	<3	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	<0.2	<0.2	----
Toluene	108-88-3	0.2	mg/kg		----	----	<0.2	<0.2	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	<0.2	<0.2	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	<0.2	<0.2	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	<0.2	<0.2	----
^ **Total Xylenes**	1330-20-7	0.5	mg/kg		----	----	<0.5	<0.5	----
^ **Sum of BTEX**	----	0.2	mg/kg		----	----	<0.2	<0.2	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	<1	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	<1	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	<0.5	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	<10	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	<10	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	<10.0	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	<10	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	<10	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	<10	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	<10	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	<10	----	----	----
Ethion	563-12-2	10	µg/kg		<10	<10	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	<10	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	<10	----	----	----
Malathion	121-75-5	10	µg/kg		<10	<10	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	<10	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	<10	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	PC1 0.5-1.0A	PC1 0.0-0.5A	PC1 0.3V	PC1 0.7V	PC1 0.0-0.5B
				Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1502604-001	ES1502604-002	ES1502604-003	ES1502604-004	ES1502604-005
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	<10	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	<10	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	<10	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	<10	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	<0.50	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		**0.75**	<0.50	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		**0.75**	<0.50	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	<0.50	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	<0.50	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	<0.50	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	<0.25	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	<0.50	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	<0.25	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	<0.25	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	<0.25	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	<0.50	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	<5.0	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	PC1 0.5-1.0A	PC1 0.0-0.5A	PC1 0.3V	PC1 0.7V	PC1 0.0-0.5B
				Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
					ES1502604-001	ES1502604-002	ES1502604-003	ES1502604-004	ES1502604-005
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	<5.0	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	<5	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	<5	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	<4	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	<4	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	<4	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	**8**	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	<4	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	**8**	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	**9**	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	**5**	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	**10**	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	**4**	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	<4	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	<4	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	<4	----	----	----
Perylene	198-55-0	4	µg/kg		<4	**7**	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	**5**	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	<5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	<5	----	----	----
Coronene	191-07-1	5	µg/kg		<5	<5	----	----	----
^ **Sum of PAHs**	----	4	µg/kg		<4	**56**	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	**80.6**	**82.5**	----
Toluene-D8	2037-26-5	0.1	%		----	----	**90.0**	**96.6**	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	**91.0**	**91.2**	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**95.9**	**62.1**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	PC1 0.5-1.0A	PC1 0.0-0.5A	PC1 0.3V	PC1 0.7V	PC1 0.0-0.5B
			Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1502604-001	ES1502604-002	ES1502604-003	ES1502604-004	ES1502604-005
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	76.2	71.7	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	50.6	50.6	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	87.5	62.5	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	109	84.4	----	----	----
Anthracene-d10	1719-06-8	0.1	%	116	106	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	110	92.9	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	PC1 0.5-1.0B	TRIPLICATE 1A	TRIPLICATE 1B	TRIP BLANK	PC2 0.0-0.5A
				Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
					ES1502604-006	ES1502604-007	ES1502604-008	ES1502604-009	ES1502604-011
EA150: Particle Sizing									
+75µm	----	1	%		**67**	----	----	----	----
+150µm	----	1	%		**64**	----	----	----	----
+300µm	----	1	%		**52**	----	----	----	----
+425µm	----	1	%		**44**	----	----	----	----
+600µm	----	1	%		**37**	----	----	----	----
+1180µm	----	1	%		**24**	----	----	----	----
+2.36mm	----	1	%		**14**	----	----	----	----
+4.75mm	----	1	%		**7**	----	----	----	----
+9.5mm	----	1	%		**2**	----	----	----	----
+19.0mm	----	1	%		<1	----	----	----	----
+37.5mm	----	1	%		<1	----	----	----	----
+75.0mm	----	1	%		<1	----	----	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	**46.6**	**47.8**	----	**38.4**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		**19**	----	----	----	----
Silt (2-60 µm)	----	1	%		**9**	----	----	----	----
Sand (0.06-2.00 mm)	----	1	%		**55**	----	----	----	----
Gravel (>2mm)	----	1	%		**17**	----	----	----	----
Cobbles (>6cm)	----	1	%		<1	----	----	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		**2.70**	----	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	**12500**	**10600**	----	**12700**
Iron	7439-89-6	50	mg/kg		----	**21800**	**17700**	----	**17300**
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	<0.50	<0.50	----	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	**14.2**	**9.85**	----	**10.8**
Cadmium	7440-43-9	0.1	mg/kg		----	<0.1	<0.1	----	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	**19.3**	**19.2**	----	**19.9**
Copper	7440-50-8	1.0	mg/kg		----	**13.8**	**13.9**	----	**14.2**
Cobalt	7440-48-4	0.5	mg/kg		----	**14.2**	**8.6**	----	**9.1**
Lead	7439-92-1	1.0	mg/kg		----	**6.6**	**6.6**	----	**6.9**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	PC1 0.5-1.0B	TRIPLICATE 1A	TRIPLICATE 1B	TRIP BLANK	PC2 0.0-0.5A
				Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
					ES1502604-006	ES1502604-007	ES1502604-008	ES1502604-009	ES1502604-011
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	377	297	----	250
Nickel	7440-02-0	1.0	mg/kg		----	10.5	9.5	----	10.7
Selenium	7782-49-2	0.1	mg/kg		----	3.9	0.7	----	3.6
Silver	7440-22-4	0.1	mg/kg		----	<0.1	0.2	----	<0.1
Vanadium	7440-62-2	2.0	mg/kg		----	41.3	39.4	----	38.3
Zinc	7440-66-6	1.0	mg/kg		----	40.9	36.2	----	32.7
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	0.02	0.02	----	0.02
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	0.2	<0.1	----	0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	0.2	<0.1	----	0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	560	650	----	480
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	560	650	----	480
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	287	299	----	264
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	1.1	12.7	----	15.3
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	0.69	0.72	----	0.82
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	4	<3	<3	<3
>C16 - C34 Fraction	----	3	mg/kg		----	13	13	<3	9
>C34 - C40 Fraction	----	5	mg/kg		----	<5	<5	<5	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	17	13	<3	9
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	<3	----
C10 - C14 Fraction	----	3	mg/kg		----	4	<3	<3	<3
C15 - C28 Fraction	----	3	mg/kg		----	8	9	<3	5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	PC1 0.5-1.0B	TRIPLICATE 1A	TRIPLICATE 1B	TRIP BLANK	PC2 0.0-0.5A
				Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
					ES1502604-006	ES1502604-007	ES1502604-008	ES1502604-009	ES1502604-011
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	6	7	<5	<5
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	18	16	<3	5
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	<3	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	<0.2	----
Toluene	108-88-3	0.2	mg/kg		----	----	----	<0.2	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	<0.2	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	<0.2	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	<0.2	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	----	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	<0.2	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	<1	<1	----	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	<1	<1	----	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	<0.5	<0.5	----	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	<10	<10	----	<10
Carbophenothion	786-19-6	10	µg/kg		----	<10	<10	----	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	<10.0	<10.0	----	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	<10	<10	----	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	<10	<10	----	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	<10	<10	----	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	<10	<10	----	<10
Diazinon	333-41-5	10	µg/kg		----	<10	<10	----	<10
Dichlorvos	62-73-7	10	µg/kg		----	<10	<10	----	<10
Dimethoate	60-51-5	10	µg/kg		----	<10	<10	----	<10
Ethion	563-12-2	10	µg/kg		----	<10	<10	----	<10
Fenamiphos	22224-92-6	10	µg/kg		----	<10	<10	----	<10
Fenthion	55-38-9	10	µg/kg		----	<10	<10	----	<10
Malathion	121-75-5	10	µg/kg		----	<10	<10	----	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	<10	<10	----	<10
Monocrotophos	6923-22-4	10	µg/kg		----	<10	<10	----	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	PC1 0.5-1.0B	TRIPLICATE 1A	TRIPLICATE 1B	TRIP BLANK	PC2 0.0-0.5A
				Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
					ES1502604-006	ES1502604-007	ES1502604-008	ES1502604-009	ES1502604-011
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	<10	<10	----	<10
Parathion-methyl	298-00-0	10	µg/kg		----	<10	<10	----	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	<10	<10	----	<10
Prothiofos	34643-46-4	10	µg/kg		----	<10	<10	----	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	<0.50	<0.50	----	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	<0.50	<0.50	----	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	<0.50	<0.50	----	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	<0.50	<0.50	----	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	<0.50	<0.50	----	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	<0.50	<0.50	----	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	<0.50	<0.50	----	<0.50
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	<0.50	----	----	<0.50
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	----	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		----	<0.50	<0.50	----	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	<0.50	<0.50	----	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	<0.50	<0.50	----	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	<0.50	<0.50	----	<0.50
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	<0.50	----	----	<0.50
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	----	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		----	<0.50	<0.50	----	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	<0.50	<0.50	----	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	<0.50	<0.50	----	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	<0.50	<0.50	----	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	<0.50	<0.50	----	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	<0.50	<0.50	----	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	<0.25	<0.25	----	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	<0.50	<0.50	----	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	<0.25	<0.25	----	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	<0.25	<0.25	----	<0.25
^ **Total Chlordane (sum)**	----	0.25	µg/kg		----	<0.25	----	----	<0.25
^ **Total Chlordane (sum)**	----	0.25	µg/kg		----	----	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	<0.50	<0.50	----	<0.50

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	PC1 0.5-1.0B	TRIPLICATE 1A	TRIPLICATE 1B	TRIP BLANK	PC2 0.0-0.5A
				Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
					ES1502604-006	ES1502604-007	ES1502604-008	ES1502604-009	ES1502604-011
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		----	<5.0	----	----	<5.0
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	<5.0	<5.0	----	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	<5.0	<5.0	----	<5.0
Aroclor 1232	11141-16-5	5.0	µg/kg		----	<5.0	<5.0	----	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	<5.0	<5.0	----	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	<5.0	<5.0	----	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	<5.0	<5.0	----	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	<5.0	<5.0	----	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	<5	<5	----	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	<5	<5	----	<5
Acenaphthylene	208-96-8	4	µg/kg		----	<4	<4	----	<4
Acenaphthene	83-32-9	4	µg/kg		----	<4	<4	----	<4
Fluorene	86-73-7	4	µg/kg		----	<4	<4	----	<4
Phenanthrene	85-01-8	4	µg/kg		----	**7**	**5**	----	**5**
Anthracene	120-12-7	4	µg/kg		----	<4	<4	----	<4
Fluoranthene	206-44-0	4	µg/kg		----	**8**	**7**	----	**20**
Pyrene	129-00-0	4	µg/kg		----	**9**	**7**	----	**20**
Benz(a)anthracene	56-55-3	4	µg/kg		----	**4**	**6**	----	**14**
Chrysene	218-01-9	4	µg/kg		----	**5**	**8**	----	**11**
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	<4	**8**	----	**6**
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	<4	**7**	----	**8**
Benzo(e)pyrene	192-97-2	4	µg/kg		----	<4	<4	----	**5**
Benzo(a)pyrene	50-32-8	4	µg/kg		----	<4	<4	----	**8**
Perylene	198-55-0	4	µg/kg		----	<4	<4	----	**5**
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	**4**	<4	----	**6**
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	<4	<4	----	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	<4	<4	----	**6**
Coronene	191-07-1	5	µg/kg		----	<5	<5	----	<5
^ **Sum of PAHs**	----	4	µg/kg		----	**37**	**48**	----	**114**
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	**92.5**	----
Toluene-D8	2037-26-5	0.1	%		----	----	----	**106**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	PC1 0.5-1.0B	TRIPLICATE 1A	TRIPLICATE 1B	TRIP BLANK	PC2 0.0-0.5A
			Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1502604-006	ES1502604-007	ES1502604-008	ES1502604-009	ES1502604-011
EP080-SD: TPH(V)/BTEX Surrogates - Continued								
4-Bromofluorobenzene	460-00-4	0.1	%	----	----	----	101	----
EP090S: Organotin Surrogate								
Tripropyltin	----	0.1	%	----	110	130	----	102
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	65.5	68.8	----	72.2
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	50.6	71.2	----	55.7
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	62.5	59.5	----	75.0
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	90.0	114	----	118
Anthracene-d10	1719-06-8	0.1	%	----	114	97.3	----	119
4-Terphenyl-d14	1718-51-0	0.1	%	----	100	85.6	----	118

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	PC2 0.5-1.0A	PC2 0.3V	PC2 0.7V	PC2 0.5-1.0B	PC2 0.0-0.5B
				Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
					ES1502604-012	ES1502604-013	ES1502604-014	ES1502604-015	ES1502604-016
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	**36**	**57**
+150µm	----	1	%		----	----	----	**4**	**36**
+300µm	----	1	%		----	----	----	**3**	**25**
+425µm	----	1	%		----	----	----	**3**	**22**
+600µm	----	1	%		----	----	----	**2**	**19**
+1180µm	----	1	%		----	----	----	**2**	**13**
+2.36mm	----	1	%		----	----	----	**2**	**6**
+4.75mm	----	1	%		----	----	----	<1	**2**
+9.5mm	----	1	%		----	----	----	<1	<1
+19.0mm	----	1	%		----	----	----	<1	<1
+37.5mm	----	1	%		----	----	----	<1	<1
+75.0mm	----	1	%		----	----	----	<1	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**38.1**	**37.4**	**34.2**	----	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	**27**	**22**
Silt (2-60 µm)	----	1	%		----	----	----	**27**	**11**
Sand (0.06-2.00 mm)	----	1	%		----	----	----	**44**	**59**
Gravel (>2mm)	----	1	%		----	----	----	**2**	**8**
Cobbles (>6cm)	----	1	%		----	----	----	<1	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	**2.67**	**2.69**
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**9480**	----	----	----	----
Iron	7439-89-6	50	mg/kg		**14400**	----	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	----	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		**11.0**	----	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	----	----	----	----
Chromium	7440-47-3	1.0	mg/kg		**16.0**	----	----	----	----
Copper	7440-50-8	1.0	mg/kg		**10.2**	----	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		**8.5**	----	----	----	----
Lead	7439-92-1	1.0	mg/kg		**5.6**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	PC2 0.5-1.0A	PC2 0.3V	PC2 0.7V	PC2 0.5-1.0B	PC2 0.0-0.5B
				Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
					ES1502604-012	ES1502604-013	ES1502604-014	ES1502604-015	ES1502604-016
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		**290**	----	----	----	----
Nickel	7440-02-0	1.0	mg/kg		**8.0**	----	----	----	----
Selenium	7782-49-2	0.1	mg/kg		**3.6**	----	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.1	----	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		**31.2**	----	----	----	----
Zinc	7440-66-6	1.0	mg/kg		**31.3**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		**0.02**	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		**0.1**	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		**0.1**	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		**440**	----	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		**440**	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		**263**	----	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		**5.3**	----	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		**0.88**	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	----	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		**8**	----	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	----	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		**8**	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	<3	<3	----	----
C10 - C14 Fraction	----	3	mg/kg		<3	----	----	----	----
C15 - C28 Fraction	----	3	mg/kg		**6**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	PC2 0.5-1.0A	PC2 0.3V	PC2 0.7V	PC2 0.5-1.0B	PC2 0.0-0.5B
				Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
					ES1502604-012	ES1502604-013	ES1502604-014	ES1502604-015	ES1502604-016
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	----	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		**6**	----	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	<3	<3	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	<0.2	<0.2	----	----
Toluene	108-88-3	0.2	mg/kg		----	<0.2	<0.2	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	<0.2	<0.2	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	<0.2	<0.2	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	<0.2	<0.2	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	<0.5	<0.5	----	----
^ Sum of BTEX	----	0.2	mg/kg		----	<0.2	<0.2	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	----	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	----	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	----	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	----	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	----	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	----	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	----	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	----	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	----	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	----	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	----	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	----	----	----	----
Ethion	563-12-2	10	µg/kg		<10	----	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	----	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	----	----	----	----
Malathion	121-75-5	10	µg/kg		<10	----	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	----	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	PC2 0.5-1.0A	PC2 0.3V	PC2 0.7V	PC2 0.5-1.0B	PC2 0.0-0.5B
				Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
					ES1502604-012	ES1502604-013	ES1502604-014	ES1502604-015	ES1502604-016
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	----	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	----	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	----	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	----	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	----	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	----	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	----	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	----	----	----	----
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		<0.50	----	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	----	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	----	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	----	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	----	----	----	----
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		<0.50	----	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	----	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	----	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	----	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	----	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	----	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	----	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	----	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	----	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	----	----	----	----
^ **Total Chlordane (sum)**	----	0.25	µg/kg		<0.25	----	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	PC2 0.5-1.0A	PC2 0.3V	PC2 0.7V	PC2 0.5-1.0B	PC2 0.0-0.5B
				Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
					ES1502604-012	ES1502604-013	ES1502604-014	ES1502604-015	ES1502604-016
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	----	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	----	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	----	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	----	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	----	----	----	----
Phenanthrene	85-01-8	4	µg/kg		**4**	----	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	----	----	----	----
Fluoranthene	206-44-0	4	µg/kg		**5**	----	----	----	----
Pyrene	129-00-0	4	µg/kg		**7**	----	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	----	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	----	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	----	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	----	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	----	----	----	----
Perylene	198-55-0	4	µg/kg		<4	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	----	----	----	----
Coronene	191-07-1	5	µg/kg		<5	----	----	----	----
^ **Sum of PAHs**	----	4	µg/kg		**16**	----	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	**75.3**	**79.2**	----	----
Toluene-D8	2037-26-5	0.1	%		----	**88.3**	**86.4**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	**84.8**	**89.0**	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**110**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	PC2 0.5-1.0A	PC2 0.3V	PC2 0.7V	PC2 0.5-1.0B	PC2 0.0-0.5B
			Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1502604-012	ES1502604-013	ES1502604-014	ES1502604-015	ES1502604-016
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**74.1**	----	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**82.6**	----	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**75.0**	----	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**89.7**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**117**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	**103**	----	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	PC3 0.5-1.0B	PC3 0.0-0.5B	PC3 0.5-1.0A	PC3 0.0-0.5A	PC3 0.3V
				Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
					ES1502604-017	ES1502604-018	ES1502604-019	ES1502604-020	ES1502604-021
EA150: Particle Sizing									
+75µm	----	1	%		**32**	**39**	----	----	----
+150µm	----	1	%		**2**	**20**	----	----	----
+300µm	----	1	%		**1**	**16**	----	----	----
+425µm	----	1	%		**1**	**14**	----	----	----
+600µm	----	1	%		<1	**11**	----	----	----
+1180µm	----	1	%		<1	**7**	----	----	----
+2.36mm	----	1	%		<1	**3**	----	----	----
+4.75mm	----	1	%		<1	<1	----	----	----
+9.5mm	----	1	%		<1	<1	----	----	----
+19.0mm	----	1	%		<1	<1	----	----	----
+37.5mm	----	1	%		<1	<1	----	----	----
+75.0mm	----	1	%		<1	<1	----	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	----	**25.3**	**35.8**	**28.9**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		**24**	**27**	----	----	----
Silt (2-60 µm)	----	1	%		**24**	**20**	----	----	----
Sand (0.06-2.00 mm)	----	1	%		**51**	**49**	----	----	----
Gravel (>2mm)	----	1	%		**1**	**4**	----	----	----
Cobbles (>6cm)	----	1	%		<1	<1	----	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		**2.67**	----	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	**7940**	**10700**	----
Iron	7439-89-6	50	mg/kg		----	----	**14000**	**16200**	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	<0.50	<0.50	----
Arsenic	7440-38-2	1.00	mg/kg		----	----	**8.66**	**10.5**	----
Cadmium	7440-43-9	0.1	mg/kg		----	----	<0.1	<0.1	----
Chromium	7440-47-3	1.0	mg/kg		----	----	**13.1**	**16.7**	----
Copper	7440-50-8	1.0	mg/kg		----	----	**7.2**	**11.9**	----
Cobalt	7440-48-4	0.5	mg/kg		----	----	**9.4**	**9.7**	----
Lead	7439-92-1	1.0	mg/kg		----	----	**4.4**	**5.7**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	PC3 0.5-1.0B	PC3 0.0-0.5B	PC3 0.5-1.0A	PC3 0.0-0.5A	PC3 0.3V
				Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
					ES1502604-017	ES1502604-018	ES1502604-019	ES1502604-020	ES1502604-021
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	291	303	----
Nickel	7440-02-0	1.0	mg/kg		----	----	6.9	8.7	----
Selenium	7782-49-2	0.1	mg/kg		----	----	2.9	3.2	----
Silver	7440-22-4	0.1	mg/kg		----	----	<0.1	<0.1	----
Vanadium	7440-62-2	2.0	mg/kg		----	----	28.9	32.6	----
Zinc	7440-66-6	1.0	mg/kg		----	----	21.7	32.7	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	<0.01	0.02	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	<0.1	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	0.1	0.1	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	0.1	0.1	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	140	560	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	140	560	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	292	251	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	2.3	12.8	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	0.61	0.86	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	<3	3	----
>C16 - C34 Fraction	----	3	mg/kg		----	----	4	13	----
>C34 - C40 Fraction	----	5	mg/kg		----	----	<5	5	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	4	21	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		----	----	<3	3	----
C15 - C28 Fraction	----	3	mg/kg		----	----	<3	9	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	PC3 0.5-1.0B	PC3 0.0-0.5B	PC3 0.5-1.0A	PC3 0.0-0.5A	PC3 0.3V
				Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
					ES1502604-017	ES1502604-018	ES1502604-019	ES1502604-020	ES1502604-021
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	<5	7	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	<3	19	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	----	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	<1	<1	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	<1	<1	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	<0.5	<0.5	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	<10	<10	----
Carbophenothion	786-19-6	10	µg/kg		----	----	<10	<10	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	<10.0	<10.0	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	<10	<10	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	<10	<10	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	<10	<10	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	<10	<10	----
Diazinon	333-41-5	10	µg/kg		----	----	<10	<10	----
Dichlorvos	62-73-7	10	µg/kg		----	----	<10	<10	----
Dimethoate	60-51-5	10	µg/kg		----	----	<10	<10	----
Ethion	563-12-2	10	µg/kg		----	----	<10	<10	----
Fenamiphos	22224-92-6	10	µg/kg		----	----	<10	<10	----
Fenthion	55-38-9	10	µg/kg		----	----	<10	<10	----
Malathion	121-75-5	10	µg/kg		----	----	<10	<10	----
Azinphos Methyl	86-50-0	10	µg/kg		----	----	<10	<10	----
Monocrotophos	6923-22-4	10	µg/kg		----	----	<10	<10	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	PC3 0.5-1.0B	PC3 0.0-0.5B	PC3 0.5-1.0A	PC3 0.0-0.5A	PC3 0.3V
				Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
					ES1502604-017	ES1502604-018	ES1502604-019	ES1502604-020	ES1502604-021
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	<10	<10	----
Parathion-methyl	298-00-0	10	µg/kg		----	----	<10	<10	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	<10	<10	----
Prothiofos	34643-46-4	10	µg/kg		----	----	<10	<10	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	<0.50	<0.50	----
alpha-BHC	319-84-6	0.50	µg/kg		----	----	<0.50	<0.50	----
beta-BHC	319-85-7	0.50	µg/kg		----	----	<0.50	<0.50	----
delta-BHC	319-86-8	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	<0.50	<0.50	----
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	----	<0.50	<0.50	----
Dieldrin	60-57-1	0.50	µg/kg		----	----	<0.50	<0.50	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	<0.50	<0.50	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	<0.50	<0.50	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	<0.50	<0.50	----
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin	72-20-8	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	<0.50	<0.50	----
Heptachlor	76-44-8	0.50	µg/kg		----	----	<0.50	<0.50	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	<0.50	<0.50	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	<0.50	<0.50	----
gamma-BHC	58-89-9	0.25	µg/kg		----	----	<0.25	<0.25	----
Methoxychlor	72-43-5	0.50	µg/kg		----	----	<0.50	<0.50	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	<0.25	<0.25	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	<0.25	<0.25	----
^ **Total Chlordane (sum)**	----	0.25	µg/kg		----	----	<0.25	<0.25	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	<0.50	<0.50	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	<5.0	<5.0	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	PC3 0.5-1.0B	PC3 0.0-0.5B	PC3 0.5-1.0A	PC3 0.0-0.5A	PC3 0.3V
				Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
					ES1502604-017	ES1502604-018	ES1502604-019	ES1502604-020	ES1502604-021
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	<5.0	<5.0	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	<5	<5	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	<5	<5	----
Acenaphthylene	208-96-8	4	µg/kg		----	----	<4	<4	----
Acenaphthene	83-32-9	4	µg/kg		----	----	<4	<4	----
Fluorene	86-73-7	4	µg/kg		----	----	<4	<4	----
Phenanthrene	85-01-8	4	µg/kg		----	----	<4	**6**	----
Anthracene	120-12-7	4	µg/kg		----	----	<4	<4	----
Fluoranthene	206-44-0	4	µg/kg		----	----	<4	**8**	----
Pyrene	129-00-0	4	µg/kg		----	----	<4	**8**	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	<4	**4**	----
Chrysene	218-01-9	4	µg/kg		----	----	<4	**5**	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	<4	<4	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	<4	<4	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	<4	<4	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	<4	<4	----
Perylene	198-55-0	4	µg/kg		----	----	<4	<4	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	<4	<4	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	<4	<4	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	<4	<4	----
Coronene	191-07-1	5	µg/kg		----	----	<5	<5	----
^ **Sum of PAHs**	----	4	µg/kg		----	----	<4	**31**	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	----	**81.8**
Toluene-D8	2037-26-5	0.1	%		----	----	----	----	**92.3**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	----	**87.5**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	**107**	**106**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	PC3 0.5-1.0B	PC3 0.0-0.5B	PC3 0.5-1.0A	PC3 0.0-0.5A	PC3 0.3V
			Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1502604-017	ES1502604-018	ES1502604-019	ES1502604-020	ES1502604-021
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	75.6	74.8	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	54.2	91.9	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	87.5	87.5	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	93.9	104	----
Anthracene-d10	1719-06-8	0.1	%	----	----	117	124	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	114	120	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	PC3 0.7V	PC4 0.5-1.0A	PC4 0.0-0.5A	PC4 0.3V	PC4 0.7V
				Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
					ES1502604-022	ES1502604-023	ES1502604-024	ES1502604-025	ES1502604-026
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		23.8	43.2	50.6	47.9	36.4
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	16500	21800	----	----
Iron	7439-89-6	50	mg/kg		----	23000	27500	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	<0.50	<0.50	----	----
Arsenic	7440-38-2	1.00	mg/kg		----	13.1	13.0	----	----
Cadmium	7440-43-9	0.1	mg/kg		----	<0.1	<0.1	----	----
Chromium	7440-47-3	1.0	mg/kg		----	23.0	27.6	----	----
Copper	7440-50-8	1.0	mg/kg		----	20.9	29.1	----	----
Cobalt	7440-48-4	0.5	mg/kg		----	11.3	13.0	----	----
Lead	7439-92-1	1.0	mg/kg		----	8.9	9.5	----	----
Manganese	7439-96-5	10	mg/kg		----	344	471	----	----
Nickel	7440-02-0	1.0	mg/kg		----	13.3	14.7	----	----
Selenium	7782-49-2	0.1	mg/kg		----	4.5	1.0	----	----
Silver	7440-22-4	0.1	mg/kg		----	<0.1	<0.1	----	----
Vanadium	7440-62-2	2.0	mg/kg		----	48.1	65.9	----	----
Zinc	7440-66-6	1.0	mg/kg		----	46.9	55.2	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	0.02	0.04	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	0.1	0.1	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	0.1	0.1	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	630	830	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	630	830	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	280	412	----	----
EK255A SD Ammonia in Sediment									

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	PC3 0.7V	PC4 0.5-1.0A	PC4 0.0-0.5A	PC4 0.3V	PC4 0.7V
				Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
					ES1502604-022	ES1502604-023	ES1502604-024	ES1502604-025	ES1502604-026
EK255A SD Ammonia in Sediment - Continued									
Ammonia as N	7664-41-7	0.2	mg/kg		----	**20.0**	**15.2**	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	**1.06**	**1.02**	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	<3	**4**	----	----
>C16 - C34 Fraction	----	3	mg/kg		----	**11**	**20**	----	----
>C34 - C40 Fraction	----	5	mg/kg		----	<5	**10**	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	**11**	**34**	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	----	----	<3	<3
C10 - C14 Fraction	----	3	mg/kg		----	<3	**4**	----	----
C15 - C28 Fraction	----	3	mg/kg		----	**6**	**14**	----	----
C29 - C36 Fraction	----	5	mg/kg		----	**6**	**11**	----	----
^ **C10 - C36 Fraction (sum)**	----	3	mg/kg		----	**12**	**29**	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	----	----	<3	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	<0.2	<0.2
Toluene	108-88-3	0.2	mg/kg		<0.2	----	----	<0.2	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	----	----	<0.2	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	----	----	<0.2	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	----	----	<0.2	<0.2
^ **Total Xylenes**	1330-20-7	0.5	mg/kg		<0.5	----	----	<0.5	<0.5
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	----	----	<0.2	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	<1	<1	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	<1	<1	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	<0.5	<0.5	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	<10	<10	----	----
Carbophenothion	786-19-6	10	µg/kg		----	<10	<10	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	<10.0	<10.0	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	<10	<10	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	PC3 0.7V	PC4 0.5-1.0A	PC4 0.0-0.5A	PC4 0.3V	PC4 0.7V
				Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
					ES1502604-022	ES1502604-023	ES1502604-024	ES1502604-025	ES1502604-026
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Chlorpyrifos	2921-88-2	10	µg/kg		----	<10	<10	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	<10	<10	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	<10	<10	----	----
Diazinon	333-41-5	10	µg/kg		----	<10	<10	----	----
Dichlorvos	62-73-7	10	µg/kg		----	<10	<10	----	----
Dimethoate	60-51-5	10	µg/kg		----	<10	<10	----	----
Ethion	563-12-2	10	µg/kg		----	<10	<10	----	----
Fenamiphos	22224-92-6	10	µg/kg		----	<10	<10	----	----
Fenthion	55-38-9	10	µg/kg		----	<10	<10	----	----
Malathion	121-75-5	10	µg/kg		----	<10	<10	----	----
Azinphos Methyl	86-50-0	10	µg/kg		----	<10	<10	----	----
Monocrotophos	6923-22-4	10	µg/kg		----	<10	<10	----	----
Parathion	56-38-2	10	µg/kg		----	<10	<10	----	----
Parathion-methyl	298-00-0	10	µg/kg		----	<10	<10	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	<10	<10	----	----
Prothiofos	34643-46-4	10	µg/kg		----	<10	<10	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg		----	<0.50	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	<0.50	<0.50	----	----
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	<0.50	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	<0.50	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	<0.50	<0.50	----	----
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg		----	<0.50	<0.50	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	PC3 0.7V	PC4 0.5-1.0A	PC4 0.0-0.5A	PC4 0.3V	PC4 0.7V
				Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
					ES1502604-022	ES1502604-023	ES1502604-024	ES1502604-025	ES1502604-026
EP131A: Organochlorine Pesticides - Continued									
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	<0.50	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	<0.50	<0.50	----	----
gamma-BHC	58-89-9	0.25	µg/kg		----	<0.25	<0.25	----	----
Methoxychlor	72-43-5	0.50	µg/kg		----	<0.50	<0.50	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	<0.25	<0.25	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	<0.25	<0.25	----	----
^ **Total Chlordane (sum)**	----	0.25	µg/kg		----	<0.25	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	<0.50	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1232	11141-16-5	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	<5.0	<5.0	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	<5	**7**	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	<5	<5	----	----
Acenaphthylene	208-96-8	4	µg/kg		----	<4	<4	----	----
Acenaphthene	83-32-9	4	µg/kg		----	<4	<4	----	----
Fluorene	86-73-7	4	µg/kg		----	<4	<4	----	----
Phenanthrene	85-01-8	4	µg/kg		----	<4	**7**	----	----
Anthracene	120-12-7	4	µg/kg		----	<4	<4	----	----
Fluoranthene	206-44-0	4	µg/kg		----	**5**	**8**	----	----
Pyrene	129-00-0	4	µg/kg		----	**7**	**9**	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	<4	<4	----	----
Chrysene	218-01-9	4	µg/kg		----	<4	**6**	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	<4	**4**	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	<4	<4	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	<4	<4	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	<4	<4	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	PC3 0.7V	PC4 0.5-1.0A	PC4 0.0-0.5A	PC4 0.3V	PC4 0.7V
				Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1502604-022	ES1502604-023	ES1502604-024	ES1502604-025	ES1502604-026
EP132B: Polynuclear Aromatic Hydrocarbons - Continued									
Perylene	198-55-0	4	µg/kg		----	8	7	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	<4	4	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	<4	<4	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	<4	<4	----	----
Coronene	191-07-1	5	µg/kg		----	<5	<5	----	----
^ Sum of PAHs	----	4	µg/kg		----	20	52	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		94.7	----	----	75.7	81.9
Toluene-D8	2037-26-5	0.1	%		102	----	----	88.2	88.4
4-Bromofluorobenzene	460-00-4	0.1	%		101	----	----	90.6	85.1
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	107	113	----	----
EP130S: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%		----	75.2	78.5	----	----
EP131S: OC Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.1	%		----	95.3	92.0	----	----
EP131T: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	75.0	100	----	----
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		----	93.1	100	----	----
Anthracene-d10	1719-06-8	0.1	%		----	120	119	----	----
4-Terphenyl-d14	1718-51-0	0.1	%		----	114	123	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	DUP 1A	PC4 0.5-1.0B	PC4 0.0-0.5B	WB1 0.0-0.5A	WB1 0.51.0A
				Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
					ES1502604-027	ES1502604-029	ES1502604-030	ES1502604-031	ES1502604-032
EA150: Particle Sizing									
+75µm	----	1	%		----	**18**	**31**	----	----
+150µm	----	1	%		----	<1	**1**	----	----
+300µm	----	1	%		----	<1	<1	----	----
+425µm	----	1	%		----	<1	<1	----	----
+600µm	----	1	%		----	<1	<1	----	----
+1180µm	----	1	%		----	<1	<1	----	----
+2.36mm	----	1	%		----	<1	<1	----	----
+4.75mm	----	1	%		----	<1	<1	----	----
+9.5mm	----	1	%		----	<1	<1	----	----
+19.0mm	----	1	%		----	<1	<1	----	----
+37.5mm	----	1	%		----	<1	<1	----	----
+75.0mm	----	1	%		----	<1	<1	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**54.3**	----	----	**19.3**	**16.2**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	**38**	**28**	----	----
Silt (2-60 µm)	----	1	%		----	**26**	**21**	----	----
Sand (0.06-2.00 mm)	----	1	%		----	**36**	**51**	----	----
Gravel (>2mm)	----	1	%		----	<1	<1	----	----
Cobbles (>6cm)	----	1	%		----	<1	<1	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	**2.68**	**2.62**	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**18900**	----	----	**3790**	**4490**
Iron	7439-89-6	50	mg/kg		**25000**	----	----	**8760**	**11900**
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	----	----	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		**13.7**	----	----	**17.7**	**10.4**
Cadmium	7440-43-9	0.1	mg/kg		<0.1	----	----	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg		**27.4**	----	----	**6.4**	**7.8**
Copper	7440-50-8	1.0	mg/kg		**22.4**	----	----	**3.1**	**5.3**
Cobalt	7440-48-4	0.5	mg/kg		**11.6**	----	----	**5.0**	**6.0**
Lead	7439-92-1	1.0	mg/kg		**9.5**	----	----	**2.1**	**2.6**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	DUP 1A	PC4 0.5-1.0B	PC4 0.0-0.5B	WB1 0.0-0.5A	WB1 0.51.0A
				Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
					ES1502604-027	ES1502604-029	ES1502604-030	ES1502604-031	ES1502604-032
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		468	----	----	633	533
Nickel	7440-02-0	1.0	mg/kg		13.6	----	----	3.2	4.6
Selenium	7782-49-2	0.1	mg/kg		1.1	----	----	0.4	0.2
Silver	7440-22-4	0.1	mg/kg		1.1	----	----	<0.1	<0.1
Vanadium	7440-62-2	2.0	mg/kg		58.1	----	----	22.0	31.3
Zinc	7440-66-6	1.0	mg/kg		50.6	----	----	11.6	14.6
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		0.03	----	----	<0.01	<0.01
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	<0.1	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		0.1	----	----	0.2	0.2
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		0.1	----	----	0.2	0.2
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		940	----	----	80	40
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		940	----	----	80	40
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		369	----	----	153	161
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		19.1	----	----	0.6	0.6
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		1.16	----	----	0.27	0.06
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		5	----	----	<3	<3
>C16 - C34 Fraction	----	3	mg/kg		16	----	----	5	5
>C34 - C40 Fraction	----	5	mg/kg		8	----	----	<5	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		29	----	----	5	5
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C10 - C14 Fraction	----	3	mg/kg		4	----	----	<3	<3
C15 - C28 Fraction	----	3	mg/kg		12	----	----	<3	4
C29 - C36 Fraction	----	5	mg/kg		10	----	----	<5	<5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	DUP 1A	PC4 0.5-1.0B	PC4 0.0-0.5B	WB1 0.0-0.5A	WB1 0.51.0A
				Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
					ES1502604-027	ES1502604-029	ES1502604-030	ES1502604-031	ES1502604-032
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
^ C10 - C36 Fraction (sum)	----	3	mg/kg		26	----	----	<3	4
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	----	----	<1	<1
Dibutyltin	1002-53-5	1	µgSn/kg		<1	----	----	<1	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	----	----	<0.5	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	----	----	<10	<10
Carbophenothion	786-19-6	10	µg/kg		<10	----	----	<10	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	----	----	<10.0	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	----	----	<10	<10
Chlorpyrifos	2921-88-2	10	µg/kg		<10	----	----	<10	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	----	----	<10	<10
Demeton-S-methyl	919-86-8	10	µg/kg		<10	----	----	<10	<10
Diazinon	333-41-5	10	µg/kg		<10	----	----	<10	<10
Dichlorvos	62-73-7	10	µg/kg		<10	----	----	<10	<10
Dimethoate	60-51-5	10	µg/kg		<10	----	----	<10	<10
Ethion	563-12-2	10	µg/kg		<10	----	----	<10	<10
Fenamiphos	22224-92-6	10	µg/kg		<10	----	----	<10	<10
Fenthion	55-38-9	10	µg/kg		<10	----	----	<10	<10
Malathion	121-75-5	10	µg/kg		<10	----	----	<10	<10
Azinphos Methyl	86-50-0	10	µg/kg		<10	----	----	<10	<10
Monocrotophos	6923-22-4	10	µg/kg		<10	----	----	<10	<10
Parathion	56-38-2	10	µg/kg		<10	----	----	<10	<10
Parathion-methyl	298-00-0	10	µg/kg		<10	----	----	<10	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	----	----	<10	<10
Prothiofos	34643-46-4	10	µg/kg		<10	----	----	<10	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
beta-BHC	319-85-7	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
delta-BHC	319-86-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	----	----	<0.50	<0.50

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	DUP 1A	PC4 0.5-1.0B	PC4 0.0-0.5B	WB1 0.0-0.5A	WB1 0.51.0A
				Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
					ES1502604-027	ES1502604-029	ES1502604-030	ES1502604-031	ES1502604-032
EP131A: Organochlorine Pesticides - Continued									
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Dieldrin	60-57-1	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Endrin	72-20-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Heptachlor	76-44-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	----	----	<0.25	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	----	----	<0.25	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	----	----	<0.25	<0.25
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	----	----	<0.25	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		**6**	----	----	<5	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	----	----	<5	<5
Acenaphthylene	208-96-8	4	µg/kg		<4	----	----	<4	<4
Acenaphthene	83-32-9	4	µg/kg		<4	----	----	<4	<4
Fluorene	86-73-7	4	µg/kg		<4	----	----	<4	<4

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID: DUP 1A	PC4 0.5-1.0B	PC4 0.0-0.5B	WB1 0.0-0.5A	WB1 0.51.0A
				Client sampling date / time: 03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
				ES1502604-027	ES1502604-029	ES1502604-030	ES1502604-031	ES1502604-032
EP132B: Polynuclear Aromatic Hydrocarbons - Continued								
Phenanthrene	85-01-8	4	µg/kg	**8**	----	----	<4	<4
Anthracene	120-12-7	4	µg/kg	<4	----	----	<4	<4
Fluoranthene	206-44-0	4	µg/kg	**8**	----	----	<4	<4
Pyrene	129-00-0	4	µg/kg	**8**	----	----	<4	<4
Benz(a)anthracene	56-55-3	4	µg/kg	**5**	----	----	<4	<4
Chrysene	218-01-9	4	µg/kg	**6**	----	----	<4	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	**5**	----	----	<4	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	----	----	<4	<4
Benzo(e)pyrene	192-97-2	4	µg/kg	**4**	----	----	<4	<4
Benzo(a)pyrene	50-32-8	4	µg/kg	<4	----	----	<4	<4
Perylene	198-55-0	4	µg/kg	**4**	----	----	<4	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg	**5**	----	----	<4	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	----	----	<4	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	----	----	<4	<4
Coronene	191-07-1	5	µg/kg	<5	----	----	<5	<5
^ **Sum of PAHs**	----	4	µg/kg	**59**	----	----	<4	<4
EP090S: Organotin Surrogate								
Tripropyltin	----	0.1	%	**118**	----	----	**120**	**131**
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**68.8**	----	----	**71.1**	**66.7**
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**83.8**	----	----	**74.2**	**50.1**
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**75.0**	----	----	**87.5**	**52.4**
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**92.2**	----	----	**89.8**	**88.5**
Anthracene-d10	1719-06-8	0.1	%	**124**	----	----	**115**	**127**
4-Terphenyl-d14	1718-51-0	0.1	%	**108**	----	----	**113**	**115**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB1 0.3V	WB1 0.7V	WB1 0.5-1.0B	WB1 0.0-0.5B	WB2 0.0-0.5B
				Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1502604-033	ES1502604-034	ES1502604-035	ES1502604-036	ES1502604-037
EA150: Particle Sizing									
+75µm	----	1	%		----	----	91	94	97
+150µm	----	1	%		----	----	87	90	93
+300µm	----	1	%		----	----	68	58	21
+425µm	----	1	%		----	----	57	44	6
+600µm	----	1	%		----	----	49	33	4
+1180µm	----	1	%		----	----	39	23	2
+2.36mm	----	1	%		----	----	33	16	<1
+4.75mm	----	1	%		----	----	26	12	<1
+9.5mm	----	1	%		----	----	9	2	<1
+19.0mm	----	1	%		----	----	<1	<1	<1
+37.5mm	----	1	%		----	----	<1	<1	<1
+75.0mm	----	1	%		----	----	<1	<1	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		16.3	9.0	----	----	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	5	5	2
Silt (2-60 µm)	----	1	%		----	----	2	<1	1
Sand (0.06-2.00 mm)	----	1	%		----	----	58	77	96
Gravel (>2mm)	----	1	%		----	----	35	18	1
Cobbles (>6cm)	----	1	%		----	----	<1	<1	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	2.69	2.68	2.68
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	<3	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	<3	----	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	----	----
Toluene	108-88-3	0.2	mg/kg		<0.2	<0.2	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	<0.2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	<0.2	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	<0.2	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	<0.5	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB1 0.3V	WB1 0.7V	WB1 0.5-1.0B	WB1 0.0-0.5B	WB2 0.0-0.5B
			Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1502604-033	ES1502604-034	ES1502604-035	ES1502604-036	ES1502604-037
EP080-SD: BTEXN - Continued								
^ **Sum of BTEX**	----	0.2	mg/kg	<0.2	<0.2	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**83.0**	**82.7**	----	----	----
Toluene-D8	2037-26-5	0.1	%	**93.9**	**97.2**	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	**89.4**	**91.6**	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB2 0.5-1.0B	WB2 0.0-0.5A	WB2 0.5-1.0A	WB2 0.3V	WB2 0.7V
				Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
					ES1502604-038	ES1502604-039	ES1502604-040	ES1502604-041	ES1502604-042
EA150: Particle Sizing									
+75µm	----	1	%		**96**	----	----	----	----
+150µm	----	1	%		**80**	----	----	----	----
+300µm	----	1	%		**14**	----	----	----	----
+425µm	----	1	%		**6**	----	----	----	----
+600µm	----	1	%		**5**	----	----	----	----
+1180µm	----	1	%		**5**	----	----	----	----
+2.36mm	----	1	%		**4**	----	----	----	----
+4.75mm	----	1	%		**3**	----	----	----	----
+9.5mm	----	1	%		<1	----	----	----	----
+19.0mm	----	1	%		<1	----	----	----	----
+37.5mm	----	1	%		<1	----	----	----	----
+75.0mm	----	1	%		<1	----	----	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	**19.9**	**19.0**	**22.7**	**15.9**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		**3**	----	----	----	----
Silt (2-60 µm)	----	1	%		<1	----	----	----	----
Sand (0.06-2.00 mm)	----	1	%		**92**	----	----	----	----
Gravel (>2mm)	----	1	%		**5**	----	----	----	----
Cobbles (>6cm)	----	1	%		<1	----	----	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		**2.68**	----	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	**3990**	**4090**	----	----
Iron	7439-89-6	50	mg/kg		----	**9340**	**7990**	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	<0.50	<0.50	----	----
Arsenic	7440-38-2	1.00	mg/kg		----	**19.8**	**12.0**	----	----
Cadmium	7440-43-9	0.1	mg/kg		----	<0.1	<0.1	----	----
Chromium	7440-47-3	1.0	mg/kg		----	**6.5**	**7.6**	----	----
Copper	7440-50-8	1.0	mg/kg		----	**2.7**	**2.6**	----	----
Cobalt	7440-48-4	0.5	mg/kg		----	**6.1**	**4.5**	----	----
Lead	7439-92-1	1.0	mg/kg		----	**2.3**	**2.3**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB2 0.5-1.0B	WB2 0.0-0.5A	WB2 0.5-1.0A	WB2 0.3V	WB2 0.7V
				Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
					ES1502604-038	ES1502604-039	ES1502604-040	ES1502604-041	ES1502604-042
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	**1110**	**384**	----	----
Nickel	7440-02-0	1.0	mg/kg		----	**3.6**	**3.3**	----	----
Selenium	7782-49-2	0.1	mg/kg		----	**0.3**	**0.3**	----	----
Silver	7440-22-4	0.1	mg/kg		----	<0.1	<0.1	----	----
Vanadium	7440-62-2	2.0	mg/kg		----	**24.8**	**20.7**	----	----
Zinc	7440-66-6	1.0	mg/kg		----	**13.5**	**11.3**	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	<0.01	<0.01	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	**0.7**	**0.3**	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	**0.7**	**0.3**	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	**60**	**40**	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	**60**	**40**	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	**231**	**168**	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	**0.7**	**0.2**	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	**0.09**	**0.08**	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	<3	<3	----	----
>C16 - C34 Fraction	----	3	mg/kg		----	**4**	<3	----	----
>C34 - C40 Fraction	----	5	mg/kg		----	<5	<5	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	**4**	<3	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	<3	<3
C10 - C14 Fraction	----	3	mg/kg		----	<3	<3	----	----
C15 - C28 Fraction	----	3	mg/kg		----	<3	<3	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB2 0.5-1.0B	WB2 0.0-0.5A	WB2 0.5-1.0A	WB2 0.3V	WB2 0.7V
				Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
					ES1502604-038	ES1502604-039	ES1502604-040	ES1502604-041	ES1502604-042
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	<5	<5	----	----
^ **C10 - C36 Fraction (sum)**	----	3	mg/kg		----	<3	<3	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	<3	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	<0.2	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	<0.2	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	<0.2	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	<0.2	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	<0.2	<0.2
^ **Total Xylenes**	1330-20-7	0.5	mg/kg		----	----	----	<0.5	<0.5
^ **Sum of BTEX**	----	0.2	mg/kg		----	----	----	<0.2	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	<1	<1	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	<1	<1	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	<0.5	<0.5	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	<10	<10	----	----
Carbophenothion	786-19-6	10	µg/kg		----	<10	<10	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	<10.0	<10.0	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	<10	<10	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	<10	<10	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	<10	<10	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	<10	<10	----	----
Diazinon	333-41-5	10	µg/kg		----	<10	<10	----	----
Dichlorvos	62-73-7	10	µg/kg		----	<10	<10	----	----
Dimethoate	60-51-5	10	µg/kg		----	<10	<10	----	----
Ethion	563-12-2	10	µg/kg		----	<10	<10	----	----
Fenamiphos	22224-92-6	10	µg/kg		----	<10	<10	----	----
Fenthion	55-38-9	10	µg/kg		----	<10	<10	----	----
Malathion	121-75-5	10	µg/kg		----	<10	<10	----	----
Azinphos Methyl	86-50-0	10	µg/kg		----	<10	<10	----	----
Monocrotophos	6923-22-4	10	µg/kg		----	<10	<10	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB2 0.5-1.0B	WB2 0.0-0.5A	WB2 0.5-1.0A	WB2 0.3V	WB2 0.7V
				Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
					ES1502604-038	ES1502604-039	ES1502604-040	ES1502604-041	ES1502604-042
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	<10	<10	----	----
Parathion-methyl	298-00-0	10	µg/kg		----	<10	<10	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	<10	<10	----	----
Prothiofos	34643-46-4	10	µg/kg		----	<10	<10	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg		----	<0.50	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	<0.50	<0.50	----	----
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	<0.50	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	<0.50	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	<0.50	<0.50	----	----
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	<0.50	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	<0.50	<0.50	----	----
gamma-BHC	58-89-9	0.25	µg/kg		----	<0.25	<0.25	----	----
Methoxychlor	72-43-5	0.50	µg/kg		----	<0.50	<0.50	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	<0.25	<0.25	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	<0.25	<0.25	----	----
^ **Total Chlordane (sum)**	----	0.25	µg/kg		----	<0.25	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	<0.50	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	<5.0	<5.0	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB2 0.5-1.0B	WB2 0.0-0.5A	WB2 0.5-1.0A	WB2 0.3V	WB2 0.7V
				Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
					ES1502604-038	ES1502604-039	ES1502604-040	ES1502604-041	ES1502604-042
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	<5.0	<5.0	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	<5	<5	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	<5	<5	----	----
Acenaphthylene	208-96-8	4	µg/kg		----	<4	<4	----	----
Acenaphthene	83-32-9	4	µg/kg		----	<4	<4	----	----
Fluorene	86-73-7	4	µg/kg		----	<4	<4	----	----
Phenanthrene	85-01-8	4	µg/kg		----	<4	<4	----	----
Anthracene	120-12-7	4	µg/kg		----	<4	<4	----	----
Fluoranthene	206-44-0	4	µg/kg		----	<4	<4	----	----
Pyrene	129-00-0	4	µg/kg		----	<4	<4	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	<4	<4	----	----
Chrysene	218-01-9	4	µg/kg		----	<4	<4	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	<4	<4	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	<4	<4	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	<4	<4	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	<4	<4	----	----
Perylene	198-55-0	4	µg/kg		----	<4	<4	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	<4	<4	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	<4	<4	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	<4	<4	----	----
Coronene	191-07-1	5	µg/kg		----	<5	<5	----	----
^ **Sum of PAHs**	----	4	µg/kg		----	<4	<4	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	**83.2**	**91.8**
Toluene-D8	2037-26-5	0.1	%		----	----	----	**90.5**	**96.5**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	**88.6**	**95.7**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	**111**	**115**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB2 0.5-1.0B	WB2 0.0-0.5A	WB2 0.5-1.0A	WB2 0.3V	WB2 0.7V
			Client sampling date / time	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00	03-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1502604-038	ES1502604-039	ES1502604-040	ES1502604-041	ES1502604-042
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	66.0	68.8	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	34.0	34.1	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	39.0	50.0	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	87.4	105	----	----
Anthracene-d10	1719-06-8	0.1	%	----	119	122	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	114	114	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 1	----	----	----	----
				Client sampling date / time	03-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1502604-010	----	----	----	----
EG020T: Total Metals by ICP-MS									
Antimony	7440-36-0	0.001	mg/L		<0.001	----	----	----	----
Arsenic	7440-38-2	0.001	mg/L		<0.001	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	----	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	----	----	----	----
Manganese	7439-96-5	0.001	mg/L		<0.001	----	----	----	----
Nickel	7440-02-0	0.001	mg/L		<0.001	----	----	----	----
Silver	7440-22-4	0.001	mg/L		<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L		<0.005	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	----	----	----	----
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		<0.01	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	----	0.01	mg/L		<0.01	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		<0.01	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		<0.01	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L		<0.1	----	----	----	----
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser									
^ Total Nitrogen as N	----	0.1	mg/L		<0.1	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		<0.01	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	1	µg/L		<1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.5	µg/L		<0.5	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L		<0.5	----	----	----	----
beta-BHC	319-85-7	0.5	µg/L		<0.5	----	----	----	----
gamma-BHC	58-89-9	0.5	µg/L		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 1	----	----	----	----
				Client sampling date / time	03-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1502604-010	----	----	----	----
EP068A: Organochlorine Pesticides (OC) - Continued									
delta-BHC	319-86-8	0.5	µg/L		<0.5	----	----	----	----
Heptachlor	76-44-8	0.5	µg/L		<0.5	----	----	----	----
Aldrin	309-00-2	0.5	µg/L		<0.5	----	----	----	----
Heptachlor epoxide	1024-57-3	0.5	µg/L		<0.5	----	----	----	----
trans-Chlordane	5103-74-2	0.5	µg/L		<0.5	----	----	----	----
alpha-Endosulfan	959-98-8	0.5	µg/L		<0.5	----	----	----	----
cis-Chlordane	5103-71-9	0.5	µg/L		<0.5	----	----	----	----
Dieldrin	60-57-1	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDE	72-55-9	0.5	µg/L		<0.5	----	----	----	----
Endrin	72-20-8	0.5	µg/L		<0.5	----	----	----	----
beta-Endosulfan	33213-65-9	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDD	72-54-8	0.5	µg/L		<0.5	----	----	----	----
Endrin aldehyde	7421-93-4	0.5	µg/L		<0.5	----	----	----	----
Endosulfan sulfate	1031-07-8	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDT	50-29-3	2.0	µg/L		<2.0	----	----	----	----
Endrin ketone	53494-70-5	0.5	µg/L		<0.5	----	----	----	----
Methoxychlor	72-43-5	2.0	µg/L		<2.0	----	----	----	----
^ Total Chlordane (sum)	----	0.5	µg/L		<0.5	----	----	----	----
^ Sum of DDD + DDE + DDT	----	0.5	µg/L		<0.5	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L		<0.5	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.5	µg/L		<0.5	----	----	----	----
Demeton-S-methyl	919-86-8	0.5	µg/L		<0.5	----	----	----	----
Monocrotophos	6923-22-4	2.0	µg/L		<2.0	----	----	----	----
Dimethoate	60-51-5	0.5	µg/L		<0.5	----	----	----	----
Diazinon	333-41-5	0.5	µg/L		<0.5	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L		<0.5	----	----	----	----
Parathion-methyl	298-00-0	2.0	µg/L		<2.0	----	----	----	----
Malathion	121-75-5	0.5	µg/L		<0.5	----	----	----	----
Fenthion	55-38-9	0.5	µg/L		<0.5	----	----	----	----
Chlorpyrifos	2921-88-2	0.5	µg/L		<0.5	----	----	----	----
Parathion	56-38-2	2.0	µg/L		<2.0	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	µg/L		<0.5	----	----	----	----
Chlorfenvinphos	470-90-6	0.5	µg/L		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	RINSATE 1	----	----	----	----
			Client sampling date / time	03-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1502604-010	----	----	----	----
EP068B: Organophosphorus Pesticides (OP) - Continued								
Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	----	----	----	----
Fenamiphos	22224-92-6	0.5	µg/L	<0.5	----	----	----	----
Prothiofos	34643-46-4	0.5	µg/L	<0.5	----	----	----	----
Ethion	563-12-2	0.5	µg/L	<0.5	----	----	----	----
Carbophenothion	786-19-6	0.5	µg/L	<0.5	----	----	----	----
Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L	<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L	<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L	<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L	<1.0	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L	<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L	<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L	<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L	<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L	<50	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 1	----	----	----	----
				Client sampling date / time	03-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1502604-010	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L		<20	----	----	----	----
>C10 - C16 Fraction	>C10_C16	100	µg/L		<100	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L		<100	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L		<100	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L		<100	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L		<100	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	----	----	----	----
Toluene	108-88-3	2	µg/L		<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	----	----	----	----
^ **Total Xylenes**	1330-20-7	2	µg/L		<2	----	----	----	----
^ **Sum of BTEX**	----	1	µg/L		<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	----	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	5	ngSn/L		<5	----	----	----	----
Dibutyltin	1002-53-5	5	ngSn/L		<5	----	----	----	----
Tributyltin	56573-85-4	2	ngSn/L		<2	----	----	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**66.7**	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.1	%		**73.1**	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%		**62.8**	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		**24.9**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%		**47.9**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%		**38.0**	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**52.8**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%		**80.2**	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 1	----	----	----	----
				Client sampling date / time	03-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1502604-010	----	----	----	----
EP075(SIM)T: PAH Surrogates - Continued									
4-Terphenyl-d14	1718-51-0	0.1	%		74.7	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		90.9	----	----	----	----
Toluene-D8	2037-26-5	0.1	%		108	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		111	----	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		56.2	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
EP080-SD: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	67	137
Toluene-D8	2037-26-5	74	134
4-Bromofluorobenzene	460-00-4	73	137
EP090S: Organotin Surrogate			
Tripropyltin	----	35	130
EP130S: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	14.4	102
EP131S: OC Pesticide Surrogate			
Dibromo-DDE	21655-73-2	10	119
EP131T: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	10	106
EP132T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	55	135
Anthracene-d10	1719-06-8	70	136
4-Terphenyl-d14	1718-51-0	57	127

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	28.5	129
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	30	120
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	26.8	129
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10.0	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27.4	113
4-Terphenyl-d14	1718-51-0	32	112
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128
EP090S: Organotin Surrogate			
Tripropyltin	----	8.2	108

QUALITY CONTROL REPORT

Work Order	: **ES1502604**	Page	: 1 of 32
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 05-FEB-2015
Sampler	: GK	Issue Date	: 26-FEB-2015
Order number	: 245553		
		No. of samples received	: 41
Quote number	: SY/1021/14 V2	No. of samples analysed	: 41

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Ashesh Patel	Inorganic Chemist	Sydney Inorganics
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics
		Sydney Organics
Kim McCabe	Senior Inorganic Chemist	Brisbane Acid Sulphate Soils
Matt Frost	Senior Organic Chemist	Brisbane Organics
Nanthini Coilparampil	Laboratory Manager - Inorganics	Sydney Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
		Sydney Organics
Peter Keyte	Newcastle Manager	Newcastle - Inorganics
Phalak Inthakesone	Laboratory Manager - Organics	Sydney Organics
Shobhna Chandra	Metals Coordinator	Sydney Inorganics
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA055: Moisture Content (QC Lot: 3815786)									
ES1502341-003	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	<1.0	<1.0	0.0	No Limit
ES1502594-015	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	33.3	32.7	1.9	0% - 20%
EA055: Moisture Content (QC Lot: 3815787)									
ES1502604-009	TRIP BLANK	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	1.1	1.4	24.0	No Limit
ES1502604-024	PC4 0.0-0.5A	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	50.6	50.8	0.3	0% - 20%
EA055: Moisture Content (QC Lot: 3815788)									
ES1502604-040	WB2 0.5-1.0A	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	19.0	19.5	2.8	0% - 50%
ES1502710-001	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	53.2	51.9	2.4	0% - 20%
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3821043)									
ES1502604-001	PC1 0.5-1.0A	EG005-SD: Aluminium	7429-90-5	50	mg/kg	7190	7530	4.6	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	17000	17000	0.09	0% - 20%
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3823531)									
ES1502604-024	PC4 0.0-0.5A	EG005-SD: Aluminium	7429-90-5	50	mg/kg	21800	22200	1.6	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	27500	27000	1.7	0% - 20%
ES1502737-009	Anonymous	EG005-SD: Aluminium	7429-90-5	50	mg/kg	5120	5130	0.3	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	10600	10400	2.2	0% - 20%
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3829999)									
ES1502604-008	TRIPLICATE 1B	EG005-SD: Aluminium	7429-90-5	50	mg/kg	10600	9980	5.8	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	17700	16800	5.3	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3821042)									
ES1502604-001	PC1 0.5-1.0A	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	2.4	2.5	6.2	0% - 20%
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	10.6	10.8	2.1	0% - 20%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	14.7	11.9	21.1	0% - 50%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	11.6	12.0	3.6	0% - 50%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	6.4	7.6	16.2	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	6.7	7.9	16.6	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	19.4	21.3	9.4	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	13.2	13.0	1.9	0% - 50%
		EG020-SD: Manganese	7439-96-5	10	mg/kg	206	206	0.0	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	50.0	48.8	2.5	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3823530)									
ES1502604-024	PC4 0.0-0.5A	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3823530) - continued									
ES1502604-024	PC4 0.0-0.5A	EG020-SD: Selenium	7782-49-2	0.1	mg/kg	1.0	1.0	0.0	0% - 50%
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	13.0	12.6	3.5	0% - 20%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	27.6	26.5	3.9	0% - 20%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	29.1	28.3	2.9	0% - 20%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	9.5	8.7	8.5	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	14.7	14.3	2.7	0% - 50%
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	55.2	52.2	5.5	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	13.0	12.4	4.1	0% - 50%
		EG020-SD: Manganese	7439-96-5	10	mg/kg	471	453	3.9	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	65.9	63.1	4.4	0% - 20%
ES1502737-009	Anonymous	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.4	0.3	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	6.6	6.6	0.0	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	10.4	10.1	3.1	0% - 50%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	3.8	3.8	0.0	No Limit
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	2.9	3.5	19.8	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	4.7	4.6	0.0	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	14.7	14.9	1.3	0% - 50%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	15.5	14.8	4.7	0% - 50%
		EG020-SD: Manganese	7439-96-5	10	mg/kg	559	582	4.1	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	29.1	28.6	1.9	0% - 50%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3829998)									
ES1502604-008	TRIPLICATE 1B	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.7	0.7	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	0.2	0.2	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	8.6	8.4	1.5	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	19.2	19.1	0.8	0% - 50%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	13.9	13.9	0.0	0% - 50%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	6.6	6.6	0.0	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	9.5	9.3	2.8	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	36.2	36.0	0.7	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	9.85	9.74	1.1	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	297	313	5.4	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	39.4	39.2	0.5	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3821041)									

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3821041) - continued									
ES1502604-001	PC1 0.5-1.0A	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3823529)									
ES1502604-024	PC4 0.0-0.5A	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	0.04	0.04	0.0	No Limit
ES1502737-009	Anonymous	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3829997)									
ES1502604-008	TRIPLICATE 1B	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	0.02	0.02	0.0	No Limit
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3820961)									
ES1502604-001	PC1 0.5-1.0A	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1502604-024	PC4 0.0-0.5A	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3829698)									
ES1502604-008	TRIPLICATE 1B	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1503461-025	Anonymous	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3820962)									
ES1502604-001	PC1 0.5-1.0A	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	0.2	0.1	0.0	No Limit
ES1502604-024	PC4 0.0-0.5A	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	0.1	0.1	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3829699)									
ES1502604-008	TRIPLICATE 1B	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1503461-025	Anonymous	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	0.1	0.0	No Limit
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3821302)									
ES1502604-001	PC1 0.5-1.0A	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	90	100	0.0	No Limit
ES1502604-024	PC4 0.0-0.5A	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	830	840	1.7	0% - 20%
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3828825)									
ES1502604-008	TRIPLICATE 1B	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	650	790	19.2	0% - 20%
ES1503000-057	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	280	320	12.1	0% - 50%
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3821303)									
ES1502604-001	PC1 0.5-1.0A	EK067G: Total Phosphorus as P	----	2	mg/kg	154	180	15.8	0% - 20%
ES1502604-024	PC4 0.0-0.5A	EK067G: Total Phosphorus as P	----	2	mg/kg	412	351	15.9	0% - 20%
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3828826)									
ES1502604-008	TRIPLICATE 1B	EK067G: Total Phosphorus as P	----	2	mg/kg	299	292	2.4	0% - 20%
ES1503000-057	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	210	198	5.8	0% - 20%
EK255A SD: Ammonia in Sediment (QC Lot: 3812945)									
ES1502604-001	PC1 0.5-1.0A	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	1.3	1.3	0.0	No Limit
ES1502604-024	PC4 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	15.2	15.2	0.0	0% - 20%
EP003: Total Organic Carbon (TOC) in Soil (QC Lot: 3817266)									
ES1502604-001	PC1 0.5-1.0A	EP003: Total Organic Carbon	----	0.02	%	0.27	0.28	0.0	0% - 50%
ES1502604-024	PC4 0.0-0.5A	EP003: Total Organic Carbon	----	0.02	%	1.02	1.01	1.3	0% - 20%
EP003: Total Organic Carbon (TOC) in Soil (QC Lot: 3820922)									
ES1502604-032	WB1 0.51.0A	EP003: Total Organic Carbon	----	0.02	%	0.06	0.06	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3813264)									
ES1502604-001	PC1 0.5-1.0A	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
ES1502604-024	PC4 0.0-0.5A	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	4	4	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	20	20	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	34	33	3.0	0% - 50%
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	10	9	11.9	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3821455)									
ES1502902-001	Anonymous	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	3	4	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	20	20	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	31	33	6.2	0% - 50%
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	8	9	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3813261)									
ES1502604-003	PC1 0.3V	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
ES1502604-041	WB2 0.3V	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3813264)									
ES1502604-001	PC1 0.5-1.0A	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
ES1502604-024	PC4 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	4	4	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	14	13	12.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	29	27	7.1	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	11	10	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3821327)									
ES1502902-005	Anonymous	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3821455)									
ES1502902-001	Anonymous	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	5	5	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	13	14	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	30	34	12.5	0% - 50%
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	12	15	20.6	No Limit
EP080-SD: BTEXN (QC Lot: 3813261)									
ES1502604-003	PC1 0.3V	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP080-SD: BTEXN (QC Lot: 3813261) - continued									
ES1502604-041	WB2 0.3V	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP080-SD: BTEXN (QC Lot: 3821327)									
ES1502902-005	Anonymous	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP090: Organotin Compounds (QC Lot: 3817042)									
ES1502604-008	TRIPLICATE 1B	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3813257)									
ES1502604-001	PC1 0.5-1.0A	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
ES1502604-024	PC4 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3813257) - continued									
ES1502604-024	PC4 0.0-0.5A	EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
EP131A: Organochlorine Pesticides (QC Lot: 3813258)									
ES1502604-001	PC1 0.5-1.0A	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	0.75	<0.50	40.1	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	0.75	<0.50	40.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP131A: Organochlorine Pesticides (QC Lot: 3813258) - continued									
ES1502604-001	PC1 0.5-1.0A	EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
ES1502604-024	PC4 0.0-0.5A	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 3813259)									
ES1502604-001	PC1 0.5-1.0A	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
ES1502604-024	PC4 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 3813259) - continued									
ES1502604-024	PC4 0.0-0.5A	EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3813263)									
ES1502604-001	PC1 0.5-1.0A	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit
ES1502604-024	PC4 0.0-0.5A	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	7	9	17.3	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	8	8	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	9	9	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	6	6	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	4	5	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3813263) - continued									
ES1502604-024	PC4 0.0-0.5A	EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	7	7	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	4	4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	52	61	15.9	0% - 50%
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	7	9	21.6	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020T: Total Metals by ICP-MS (QC Lot: 3820359)									
ES1502604-010	RINSATE 1	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Manganese	7439-96-5	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.0	No Limit
EW1500289-003	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.001	0.0	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.001	0.0	No Limit
		EG020A-T: Manganese	7439-96-5	0.001	mg/L	0.030	0.031	3.7	0% - 20%
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	0.015	0.016	0.0	0% - 50%
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	0.008	0.023	95.2	No Limit
EG020T: Total Metals by ICP-MS (QC Lot: 3820360)									
ES1502604-010	RINSATE 1	EG020B-T: Silver	7440-22-4	0.001	mg/L	<0.001	<0.001	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3824590)									
ES1502604-010	RINSATE 1	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
ES1502721-001	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EK055G: Ammonia as N by Discrete Analyser (QC Lot: 3814913)									
ES1502584-001	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	0.12	0.12	0.0	0% - 50%
EW1500309-001	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	0.30	0.34	13.0	0% - 20%
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3812204)									

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3812204) - continued									
ES1502546-001	Anonymous	EK057G: Nitrite as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1502711-001	Anonymous	EK057G: Nitrite as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3814912)									
ES1502584-001	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	0.02	0.01	0.0	No Limit
ES1502633-005	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	0.04	0.04	0.0	No Limit
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3814919)									
ES1502604-010	RINSATE 1	EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	<0.1	<0.1	0.0	No Limit
ES1502633-006	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	0.8	0.7	23.1	No Limit
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3814920)									
ES1502604-010	RINSATE 1	EK067G: Total Phosphorus as P	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1502633-006	Anonymous	EK067G: Total Phosphorus as P	----	0.01	mg/L	0.10	0.09	10.6	0% - 50%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3819156)									
ES1502683-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
ES1502727-002	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3819156)									
ES1502683-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
ES1502727-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 3819156)									
ES1502683-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
ES1502727-002	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3821043)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	119	86	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	81.8	70	130
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3823531)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	----	----	----	----
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	90.5	70	130
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3829999)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	93.6	86	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	70.2	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3821042)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	----	----	----	----
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	110	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	101	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	99.2	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	106	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	113	84	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	101	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	106	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	116	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	93.1	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	----	----	----	----
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	102	87	131
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	114	83	137
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3823530)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	----	----	----	----
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	115	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	106	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	120	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	113	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	113	84	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	109	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	127	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	118	86	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3823530) - continued								
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	93.1	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	----	----	----	----
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	126	87	131
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	118	83	137
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3829998)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	4.6 mg/kg	82.9	70	130
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	97.5	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	104	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	99.1	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	99.5	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	105	84	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	104	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	117	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	110	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	112	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	2.10 mg/kg	117	64	148
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	115	87	131
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	110	83	137
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3821041)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.110 mg/kg	74.4	72	116
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3823529)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.110 mg/kg	75.5	72	116
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3829997)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.110 mg/kg	81.8	72	116
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3820961)								
EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	93.6	82	120
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3829698)								
EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	97.9	82	120
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3820962)								
EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	100	89	115
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3829699)								
EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	105	89	115
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3821302)								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	----	500 mg/kg	93.3	70	122
				----	100 mg/kg	89.8	70	127
				<20	1000 mg/kg	88.1	64	114

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3828825)								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	<20	1000 mg/kg	89.0	64	114
				----	500 mg/kg	100	70	122
				----	100 mg/kg	91.5	70	127
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3821303)								
EK067G: Total Phosphorus as P	----	2	mg/kg	----	100 mg/kg	96.8	69	123
				<2	442 mg/kg	89.9	68	116
				----	44.2 mg/kg	104	64	124
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3828826)								
EK067G: Total Phosphorus as P	----	2	mg/kg	<2	442 mg/kg	90.2	68	116
				----	44.2 mg/kg	87.4	64	124
				----	100 mg/kg	101	69	123
EK255A SD: Ammonia in Sediment (QCLot: 3812945)								
EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	<0.2	0.1 mg/kg	101	70	130
EP003: Total Organic Carbon (TOC) in Soil (QCLot: 3817266)								
EP003: Total Organic Carbon	----	0.02	%	<0.02	0.44 %	103	70	130
EP003: Total Organic Carbon (TOC) in Soil (QCLot: 3820922)								
EP003: Total Organic Carbon	----	0.02	%	<0.02	0.11 %	94.5	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3813264)								
EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	6.25 mg/kg	92.8	70	130
EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	8.75 mg/kg	107	74	138
EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	5 mg/kg	72.0	63	131
EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3821455)								
EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	6.25 mg/kg	86.3	70	130
EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	8.75 mg/kg	99.4	74	138
EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	3.75 mg/kg	118	63	131
EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3813261)								
EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	6.2 mg/kg	78.6	61	133
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3813264)								
EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	5 mg/kg	87.0	78	118
EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	7.5 mg/kg	90.7	84	118
EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	5 mg/kg	101	73	119
EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821327)								
EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	6.2 mg/kg	88.7	61	133

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821455)								
EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	5 mg/kg	88.7	78	118
EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	7.5 mg/kg	93.1	84	118
EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	5 mg/kg	108	73	119
EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD: BTEXN (QCLot: 3813261)								
EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	0.2 mg/kg	81.8	66	122
EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	0.2 mg/kg	88.5	69	122
EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.2 mg/kg	91.1	66	126
EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	0.4 mg/kg	91.0	59	129
EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.2 mg/kg	92.6	66	126
EP080-SD: BTEXN (QCLot: 3821327)								
EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	0.2 mg/kg	89.3	66	122
EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	0.2 mg/kg	97.1	69	122
EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.2 mg/kg	99.6	66	126
EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	0.4 mg/kg	99.2	59	129
EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.2 mg/kg	99.7	66	126
EP090: Organotin Compounds (QCLot: 3815611)								
EP090: Monobutyltin	78763-54-9	1.0	µgSn/kg	<1	2.5 µgSn/kg	101	36	128
EP090: Dibutyltin	1002-53-5	1.0	µgSn/kg	<1	2.5 µgSn/kg	89.9	42	132
EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	1.25 µgSn/kg	96.6	52	139
EP090: Organotin Compounds (QCLot: 3817042)								
EP090: Monobutyltin	78763-54-9	1.0	µgSn/kg	<1	2.5 µgSn/kg	# 138	36	128
EP090: Dibutyltin	1002-53-5	1.0	µgSn/kg	<1	2.5 µgSn/kg	105	42	132
EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	1.25 µgSn/kg	128	52	139
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3813257)								
EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	50 µg/kg	74.4	45	139
EP130: Carbophenothion	786-19-6	10	µg/kg	<10	50 µg/kg	73.6	47	117
EP130: Chlorfenvinphos (E)	18708-86-6	10	µg/kg	<10.0	5 µg/kg	76.1	48	156
EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	50 µg/kg	84.8	62	136
EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	50 µg/kg	74.8	57	137
EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	50 µg/kg	74.8	57	121
EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	50 µg/kg	73.2	20.4	142
EP130: Diazinon	333-41-5	10	µg/kg	<10	50 µg/kg	72.6	57	121
EP130: Dichlorvos	62-73-7	10	µg/kg	<10	50 µg/kg	76.0	47	115
EP130: Dimethoate	60-51-5	10	µg/kg	<10	50 µg/kg	85.1	55	133

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3813257) - continued								
EP130: Ethion	563-12-2	10	µg/kg	<10	50 µg/kg	83.0	54	130
EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	50 µg/kg	81.5	57	131
EP130: Fenthion	55-38-9	10	µg/kg	<10	50 µg/kg	71.9	38	130
EP130: Malathion	121-75-5	10	µg/kg	<10	50 µg/kg	81.4	62	138
EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	50 µg/kg	98.9	33	137
EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	50 µg/kg	108	50	148
EP130: Parathion	56-38-2	10	µg/kg	<10	50 µg/kg	72.3	64	140
EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	50 µg/kg	83.9	56	136
EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	50 µg/kg	74.0	50	132
EP130: Prothiofos	34643-46-4	10	µg/kg	<10	50 µg/kg	83.4	55	135
EP131A: Organochlorine Pesticides (QCLot: 3813258)								
EP131A: Aldrin	309-00-2	0.5	µg/kg	<0.50	5 µg/kg	51.7	38	150
EP131A: alpha-BHC	319-84-6	0.5	µg/kg	<0.50	5 µg/kg	60.7	17.6	156
EP131A: beta-BHC	319-85-7	0.5	µg/kg	<0.50	5 µg/kg	45.2	30.5	152
EP131A: delta-BHC	319-86-8	0.5	µg/kg	<0.50	5 µg/kg	63.6	37	151
EP131A: 4.4`-DDD	72-54-8	0.5	µg/kg	<0.50	5 µg/kg	73.7	25.9	150
EP131A: 4.4`-DDE	72-55-9	0.5	µg/kg	<0.50	5 µg/kg	67.6	35	129
EP131A: 4.4`-DDT	50-29-3	0.5	µg/kg	<0.50	5 µg/kg	52.6	23.4	163
EP131A: Sum of DDD + DDE + DDT	----	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Dieldrin	60-57-1	0.5	µg/kg	<0.50	5 µg/kg	73.2	30.2	140
EP131A: alpha-Endosulfan	959-98-8	0.5	µg/kg	<0.50	5 µg/kg	67.2	38	140
EP131A: beta-Endosulfan	33213-65-9	0.5	µg/kg	<0.50	5 µg/kg	71.9	32	152
EP131A: Endosulfan sulfate	1031-07-8	0.5	µg/kg	<0.50	5 µg/kg	71.7	36	162
EP131A: Endosulfan (sum)	115-29-7	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Endrin	72-20-8	0.5	µg/kg	<0.50	5 µg/kg	88.0	25.8	166
EP131A: Endrin aldehyde	7421-93-4	0.5	µg/kg	<0.50	5 µg/kg	82.8	20.1	116
EP131A: Endrin ketone	53494-70-5	0.5	µg/kg	<0.50	5 µg/kg	55.7	13.4	151
EP131A: Heptachlor	76-44-8	0.5	µg/kg	<0.50	5 µg/kg	47.5	39	173
EP131A: Heptachlor epoxide	1024-57-3	0.5	µg/kg	<0.50	5 µg/kg	53.6	34	148
EP131A: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/kg	<0.50	5 µg/kg	67.5	26.1	152
EP131A: gamma-BHC	58-89-9	0.5	µg/kg	<0.50	5 µg/kg	42.6	31.2	159
EP131A: Methoxychlor	72-43-5	0.5	µg/kg	<0.50	5 µg/kg	53.9	36	160
EP131A: cis-Chlordane	5103-71-9	0.5	µg/kg	<0.50	5 µg/kg	57.4	36	142
EP131A: trans-Chlordane	5103-74-2	0.5	µg/kg	<0.50	5 µg/kg	77.0	29.5	138
EP131A: Total Chlordane (sum)	----	0.5	µg/kg	<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3813259)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3813259) - continued								
EP131B: Total Polychlorinated biphenyls	----	5	µg/kg	<5.0	50 µg/kg	94.9	44	136
EP131B: Aroclor 1016	12674-11-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1221	11104-28-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1232	11141-16-5	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1242	53469-21-9	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1248	12672-29-6	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1254	11097-69-1	5	µg/kg	<5.0	50 µg/kg	94.9	44	136
EP131B: Aroclor 1260	11096-82-5	5	µg/kg	<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3813263)								
EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	25 µg/kg	98.0	67	133
EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	25 µg/kg	81.1	63	135
EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	25 µg/kg	86.8	68	132
EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	25 µg/kg	85.0	67	133
EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	25 µg/kg	87.0	69	131
EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	25 µg/kg	88.5	66	138
EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	25 µg/kg	80.1	67	133
EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	25 µg/kg	83.4	64	130
EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	25 µg/kg	86.8	67	133
EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	25 µg/kg	89.2	65	133
EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	25 µg/kg	78.1	70	134
EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	25 µg/kg	93.1	63	133
EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	25 µg/kg	89.6	67	133
EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	25 µg/kg	75.0	64	130
EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	25 µg/kg	85.6	72	130
EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	25 µg/kg	82.0	70	132
EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	25 µg/kg	94.9	65	127
EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	25 µg/kg	95.0	67	135
EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	25 µg/kg	101	62	126
EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	25 µg/kg	129	66	134
EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 3820359)								
EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	----	----	----	----
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	102	79	121

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 3820359) - continued								
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	102	83	113
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	106	84	116
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	104	83	117
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	104	84	116
EG020A-T: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	103	85	115
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	94.8	84	116
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	98.3	77	117
EG020T: Total Metals by ICP-MS (QCLot: 3820360)								
EG020B-T: Silver	7440-22-4	0.001	mg/L	<0.001	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3824590)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	94.6	77	115
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3814913)								
EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	1.0 mg/L	107	86	112
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3812204)								
EK057G: Nitrite as N	----	0.01	mg/L	<0.01	0.5 mg/L	94.0	83	119
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3814912)								
EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	0.5 mg/L	108	87	119
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3814919)								
EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	<0.1	10 mg/L	98.6	66	114
				----	5 mg/L	116	66	119
				----	1.0 mg/L	113	66	126
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3814920)								
EK067G: Total Phosphorus as P	----	0.01	mg/L	----	1.0 mg/L	105	66	124
				----	0.442 mg/L	97.8	63	123
				<0.01	4.42 mg/L	91.6	67	117
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3813093)								
EP066: Total Polychlorinated biphenyls	----	1	µg/L	<1	10 µg/L	77.8	61.6	107
EP068A: Organochlorine Pesticides (OC) (QCLot: 3813092)								
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	5 µg/L	89.9	65	107
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	5 µg/L	66.4	51	119
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	5 µg/L	103	63	113
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	5 µg/L	88.8	62	112
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	5 µg/L	91.6	60	106
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	5 µg/L	81.8	58	108
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	5 µg/L	83.0	58	114
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	5 µg/L	74.4	59	111

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 3813092) - continued								
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	5 µg/L	77.6	62	114
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	5 µg/L	83.0	64	114
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	5 µg/L	85.1	62	114
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	5 µg/L	82.2	59	111
EP068: 4.4`-DDE	72-55-9	0.5	µg/L	<0.5	5 µg/L	81.1	63	111
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	5 µg/L	87.4	61	119
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	5 µg/L	85.4	71	119
EP068: 4.4`-DDD	72-54-8	0.5	µg/L	<0.5	5 µg/L	90.6	70	118
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	5 µg/L	87.7	62	112
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	5 µg/L	90.0	53	113
EP068: 4.4`-DDT	50-29-3	2.0	µg/L	<2.0	5 µg/L	87.2	52	120
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	5 µg/L	82.6	51	117
EP068: Methoxychlor	72-43-5	2.0	µg/L	<2.0	5 µg/L	99.5	53	127
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3813092)								
EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	5 µg/L	84.6	52	122
EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	5 µg/L	86.0	51	123
EP068: Monocrotophos	6923-22-4	0.5	µg/L	<2.0	5 µg/L	28.3	10	89.1
EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	5 µg/L	81.6	61	119
EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	5 µg/L	86.4	67	113
EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	5 µg/L	92.2	60	116
EP068: Parathion-methyl	298-00-0	2.0	µg/L	<2.0	5 µg/L	99.7	64	120
EP068: Malathion	121-75-5	0.5	µg/L	<0.5	5 µg/L	96.4	67	115
EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	5 µg/L	84.6	64	110
EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	5 µg/L	99.6	63	109
EP068: Parathion	56-38-2	2.0	µg/L	<2.0	5 µg/L	104	63	121
EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	5 µg/L	82.6	60	110
EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	5 µg/L	85.5	68	114
EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	5 µg/L	79.9	61	109
EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	5 µg/L	92.3	63	117
EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	5 µg/L	82.7	63	111
EP068: Ethion	563-12-2	0.5	µg/L	<0.5	5 µg/L	86.6	65	115
EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	5 µg/L	108	55	115
EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	5 µg/L	68.6	44	124
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3813095)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	<1.0	5 µg/L	64.0	58.6	119
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	<1.0	5 µg/L	77.9	63.6	114

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3813095) - continued								
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	<1.0	5 µg/L	72.8	62.2	113
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	<1.0	5 µg/L	77.8	63.9	115
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	<1.0	5 µg/L	85.1	62.6	116
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	<1.0	5 µg/L	87.8	64.3	116
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	<1.0	5 µg/L	96.8	63.6	118
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	<1.0	5 µg/L	91.6	63.1	118
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	<1.0	5 µg/L	81.5	64.1	117
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	<1.0	5 µg/L	90.9	62.5	116
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.2	µg/L	<1.0	5 µg/L	78.7	61.7	119
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	<1.0	5 µg/L	83.9	61.7	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	<0.5	5 µg/L	91.2	63.3	117
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.2	µg/L	<1.0	5 µg/L	94.2	59.9	118
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.2	µg/L	<1.0	5 µg/L	90.3	61.2	117
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.2	µg/L	<1.0	5 µg/L	77.4	59.1	118
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3813091)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	2000 µg/L	104	59	129
EP071: C15 - C28 Fraction	----	100	µg/L	<100	3000 µg/L	98.7	71	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	2000 µg/L	101	62	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3819156)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	114	75	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3813091)								
EP071: >C10 - C16 Fraction	>C10_C16	100	µg/L	<100	2500 µg/L	98.0	58.9	131
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	3500 µg/L	101	73.9	138
EP071: >C34 - C40 Fraction	----	50	µg/L	<100	1500 µg/L	103	67	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3819156)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	118	75	127
EP080: BTEXN (QCLot: 3819156)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	106	70	124
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	116	65	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	117	70	120
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	116	69	121
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	119	72	122
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	113	70	124
EP090: Organotin Compounds (QCLot: 3815590)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP090: Organotin Compounds (QCLot: 3815590) - continued								
EP090H: Monobutyltin	78763-54-9	2	ngSn/L	<5	50 ngSn/L	109	25	139
EP090H: Dibutyltin	1002-53-5	2	ngSn/L	<5	50 ngSn/L	70.4	50	114
EP090H: Tributyltin	56573-85-4	1	ngSn/L	<2	50 ngSn/L	39.3	39	120

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3821042)							
ES1502604-002	PC1 0.0-0.5A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	98.3	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	96.5	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	95.8	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	96.5	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	94.8	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	98.4	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	99.0	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3823530)							
ES1502604-027	DUP 1A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	107	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	102	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	113	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	106	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	103	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	104	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	107	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3821041)							
ES1502604-001	PC1 0.5-1.0A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	104	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3823529)							
ES1502604-024	PC4 0.0-0.5A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	123	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3829997)							
ES1502604-008	TRIPLICATE 1B	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	99.1	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3820961)							
ES1502604-001	PC1 0.5-1.0A	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	100	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3829698)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3829698) - continued							
ES1502604-008	TRIPLICATE 1B	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	98.4	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3820962)							
ES1502604-001	PC1 0.5-1.0A	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	114	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3829699)							
ES1502604-008	TRIPLICATE 1B	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	115	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3821302)							
ES1502604-001	PC1 0.5-1.0A	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	81.8	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3828825)							
ES1502604-008	TRIPLICATE 1B	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	100	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3821303)							
ES1502604-001	PC1 0.5-1.0A	EK067G: Total Phosphorus as P	----	100 mg/kg	106	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3828826)							
ES1502604-008	TRIPLICATE 1B	EK067G: Total Phosphorus as P	----	100 mg/kg	96.7	70	130
EK255A SD: Ammonia in Sediment (QCLot: 3812945)							
ES1502604-001	PC1 0.5-1.0A	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	# Not Determined	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3813261)							
ES1502604-003	PC1 0.3V	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	106	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3813264)							
ES1502604-001	PC1 0.5-1.0A	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	119	70	130
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	99.8	70	130
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	83.6	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821327)							
ES1502902-005	Anonymous	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	103	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821455)							
ES1502902-001	Anonymous	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	124	70	130
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	95.8	70	130
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	101	70	130
EP080-SD: BTEXN (QCLot: 3813261)							
ES1502604-003	PC1 0.3V	EP080-SD: Benzene	71-43-2	0.5 mg/kg	81.2	70	130
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	91.4	70	130
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	93.3	70	130
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	94.4	70	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080-SD: BTEXN (QCLot: 3813261) - continued							
ES1502604-003	PC1 0.3V	EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	94.5	70	130
EP080-SD: BTEXN (QCLot: 3821327)							
ES1502902-005	Anonymous	EP080-SD: Benzene	71-43-2	0.5 mg/kg	73.8	70	130
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	81.0	70	130
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	81.1	70	130
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	81.1	70	130
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	81.1	70	130
EP090: Organotin Compounds (QCLot: 3815611)							
ES1502604-001	PC1 0.5-1.0A	EP090: Monobutyltin	78763-54-9	2.5 µgSn/kg	# 30.0	35	130
		EP090: Dibutyltin	1002-53-5	2.5 µgSn/kg	91.2	20	130
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	106	20	130
EP090: Organotin Compounds (QCLot: 3817042)							
ES1502604-008	TRIPLICATE 1B	EP090: Monobutyltin	78763-54-9	2.5 µgSn/kg	# 16.2	35	130
		EP090: Dibutyltin	1002-53-5	2.5 µgSn/kg	78.9	20	130
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	110	20	130
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3813257)							
ES1502604-001	PC1 0.5-1.0A	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	71.6	36	144
		EP130: Carbophenothion	786-19-6	50 µg/kg	73.3	38	120
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	73.4	49	157
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	81.8	53	145
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	72.1	60	140
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	74.7	56	126
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	74.2	9.7	148
		EP130: Diazinon	333-41-5	50 µg/kg	72.9	60	122
		EP130: Dichlorvos	62-73-7	50 µg/kg	78.2	33	123
		EP130: Dimethoate	60-51-5	50 µg/kg	80.0	36	142
		EP130: Ethion	563-12-2	50 µg/kg	79.2	48	136
		EP130: Fenamiphos	22224-92-6	50 µg/kg	82.0	42	136
		EP130: Fenthion	55-38-9	50 µg/kg	69.6	35	131
		EP130: Malathion	121-75-5	50 µg/kg	76.0	55	141
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	94.2	23.5	132
		EP130: Monocrotophos	6923-22-4	50 µg/kg	108	35	153
		EP130: Parathion	56-38-2	50 µg/kg	73.2	57	147
		EP130: Parathion-methyl	298-00-0	50 µg/kg	81.9	48	140
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	70.8	45	137

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3813257) - continued							
ES1502604-001	PC1 0.5-1.0A	EP130: Prothiofos	34643-46-4	50 µg/kg	81.6	51	137
EP131A: Organochlorine Pesticides (QCLot: 3813258)							
ES1502604-001	PC1 0.5-1.0A	EP131A: Aldrin	309-00-2	5 µg/kg	41.8	23.4	153
		EP131A: alpha-BHC	319-84-6	5 µg/kg	49.4	17.6	156
		EP131A: beta-BHC	319-85-7	5 µg/kg	39.0	24.9	153
		EP131A: delta-BHC	319-86-8	5 µg/kg	55.8	25.2	147
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	63.4	25.9	150
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	56.9	31.2	125
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	39.4	23.4	163
		EP131A: Dieldrin	60-57-1	5 µg/kg	52.1	30.2	140
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	50.8	28.8	135
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	62.2	22.6	141
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	65.6	16.1	156
		EP131A: Endrin	72-20-8	5 µg/kg	79.1	17.7	162
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	71.1	20.1	116
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	48.8	13.4	151
		EP131A: Heptachlor	76-44-8	5 µg/kg	40.5	23.8	170
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	49.1	28.3	140
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	52.4	17.7	144
		EP131A: gamma-BHC	58-89-9	5 µg/kg	48.0	21.8	158
		EP131A: Methoxychlor	72-43-5	5 µg/kg	52.8	24.4	158
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	50.0	27.3	139
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	64.6	29.5	138
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3813259)							
ES1502604-001	PC1 0.5-1.0A	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	81.9	44	136
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	81.9	44	136
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3813263)							
ES1502604-001	PC1 0.5-1.0A	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	90.4	70	130
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	115	70	130
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	106	70	130
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	117	70	130
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	108	70	130
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	101	70	130
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	111	70	130
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	101	70	130
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	110	70	130

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Matrix Spike (MS) Report: Recovery Limits (%) Low	Matrix Spike (MS) Report: Recovery Limits (%) High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3813263) - continued							
ES1502604-001	PC1 0.5-1.0A	EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	104	70	130
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	98.8	70	130
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	80.4	70	130
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	85.3	70	130
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	79.9	70	130
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	80.0	70	130
		EP132B-SD: Perylene	198-55-0	25 µg/kg	81.4	70	130
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	79.8	70	130
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	91.3	70	130
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	80.5	70	130
		EP132B-SD: Coronene	191-07-1	25 µg/kg	122	70	130

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Matrix Spike (MS) Report: Recovery Limits (%) Low	Matrix Spike (MS) Report: Recovery Limits (%) High
EG020T: Total Metals by ICP-MS (QCLot: 3820359)							
ES1502846-004	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	106	70	130
		EG020A-T: Cadmium	7440-43-9	0.250 mg/L	105	70	130
		EG020A-T: Chromium	7440-47-3	1 mg/L	108	70	130
		EG020A-T: Copper	7440-50-8	1 mg/L	104	70	130
		EG020A-T: Lead	7439-92-1	1 mg/L	102	70	130
		EG020A-T: Manganese	7439-96-5	1 mg/L	108	70	130
		EG020A-T: Nickel	7440-02-0	1 mg/L	92.7	70	130
		EG020A-T: Zinc	7440-66-6	1 mg/L	99.7	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3824590)							
ES1502633-001	Anonymous	EG035T: Mercury	7439-97-6	0.010 mg/L	100	70	130
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3814913)							
ES1502584-001	Anonymous	EK055G: Ammonia as N	7664-41-7	1 mg/L	94.1	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3812204)							
ES1502546-001	Anonymous	EK057G: Nitrite as N	----	0.5 mg/L	92.7	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3814912)							
ES1502584-001	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.5 mg/L	104	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3814919)							
ES1502633-001	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	5 mg/L	110	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3814920)							

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3814920) - continued							
ES1502633-001	Anonymous	EK067G: Total Phosphorus as P	----	1.0 mg/L	102	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3819156)							
ES1502683-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	78.5	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3819156)							
ES1502683-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	79.7	70	130
EP080: BTEXN (QCLot: 3819156)							
ES1502683-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	74.7	70	130
		EP080: Toluene	108-88-3	25 µg/L	76.9	70	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	83.4	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	82.2	70	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	85.8	70	130
		EP080: Naphthalene	91-20-3	25 µg/L	103	70	130

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

The quality control term Matrix Spike (MS) and Matrix Spike Duplicate (MSD) refers to intralaboratory split samples spiked with a representative set of target analytes. The purpose of these QC parameters are to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EK255A SD: Ammonia in Sediment (QCLot: 3812945)										
ES1502604-001	PC1 0.5-1.0A	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	# Not Determined	----	70	130	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3813257)										
ES1502604-001	PC1 0.5-1.0A	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	71.6	----	36	144	----	----
		EP130: Carbophenothion	786-19-6	50 µg/kg	73.3	----	38	120	----	----
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	73.4	----	49	157	----	----
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	81.8	----	53	145	----	----
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	72.1	----	60	140	----	----
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	74.7	----	56	126	----	----
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	74.2	----	9.7	148	----	----
		EP130: Diazinon	333-41-5	50 µg/kg	72.9	----	60	122	----	----
		EP130: Dichlorvos	62-73-7	50 µg/kg	78.2	----	33	123	----	----
		EP130: Dimethoate	60-51-5	50 µg/kg	80.0	----	36	142	----	----
		EP130: Ethion	563-12-2	50 µg/kg	79.2	----	48	136	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3813257) - continued										
ES1502604-001	PC1 0.5-1.0A	EP130: Fenamiphos	22224-92-6	50 µg/kg	82.0	----	42	136	----	----
		EP130: Fenthion	55-38-9	50 µg/kg	69.6	----	35	131	----	----
		EP130: Malathion	121-75-5	50 µg/kg	76.0	----	55	141	----	----
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	94.2	----	23.5	132	----	----
		EP130: Monocrotophos	6923-22-4	50 µg/kg	108	----	35	153	----	----
		EP130: Parathion	56-38-2	50 µg/kg	73.2	----	57	147	----	----
		EP130: Parathion-methyl	298-00-0	50 µg/kg	81.9	----	48	140	----	----
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	70.8	----	45	137	----	----
		EP130: Prothiofos	34643-46-4	50 µg/kg	81.6	----	51	137	----	----
EP131A: Organochlorine Pesticides (QCLot: 3813258)										
ES1502604-001	PC1 0.5-1.0A	EP131A: Aldrin	309-00-2	5 µg/kg	41.8	----	23.4	153	----	----
		EP131A: alpha-BHC	319-84-6	5 µg/kg	49.4	----	17.6	156	----	----
		EP131A: beta-BHC	319-85-7	5 µg/kg	39.0	----	24.9	153	----	----
		EP131A: delta-BHC	319-86-8	5 µg/kg	55.8	----	25.2	147	----	----
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	63.4	----	25.9	150	----	----
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	56.9	----	31.2	125	----	----
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	39.4	----	23.4	163	----	----
		EP131A: Dieldrin	60-57-1	5 µg/kg	52.1	----	30.2	140	----	----
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	50.8	----	28.8	135	----	----
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	62.2	----	22.6	141	----	----
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	65.6	----	16.1	156	----	----
		EP131A: Endrin	72-20-8	5 µg/kg	79.1	----	17.7	162	----	----
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	71.1	----	20.1	116	----	----
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	48.8	----	13.4	151	----	----
		EP131A: Heptachlor	76-44-8	5 µg/kg	40.5	----	23.8	170	----	----
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	49.1	----	28.3	140	----	----
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	52.4	----	17.7	144	----	----
		EP131A: gamma-BHC	58-89-9	5 µg/kg	48.0	----	21.8	158	----	----
		EP131A: Methoxychlor	72-43-5	5 µg/kg	52.8	----	24.4	158	----	----
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	50.0	----	27.3	139	----	----
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	64.6	----	29.5	138	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3813259)										
ES1502604-001	PC1 0.5-1.0A	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	81.9	----	44	136	----	----
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	81.9	----	44	136	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3813261)										

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3813261) - continued										
ES1502604-003	PC1 0.3V	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	106	----	70	130	----	----
EP080-SD: BTEXN (QCLot: 3813261)										
ES1502604-003	PC1 0.3V	EP080-SD: Benzene	71-43-2	0.5 mg/kg	81.2	----	70	130	----	----
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	91.4	----	70	130	----	----
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	93.3	----	70	130	----	----
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	94.4	----	70	130	----	----
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	94.5	----	70	130	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3813263)										
ES1502604-001	PC1 0.5-1.0A	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	90.4	----	70	130	----	----
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	115	----	70	130	----	----
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	106	----	70	130	----	----
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	117	----	70	130	----	----
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	108	----	70	130	----	----
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	101	----	70	130	----	----
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	111	----	70	130	----	----
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	101	----	70	130	----	----
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	110	----	70	130	----	----
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	104	----	70	130	----	----
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	98.8	----	70	130	----	----
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	80.4	----	70	130	----	----
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	85.3	----	70	130	----	----
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	79.9	----	70	130	----	----
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	80.0	----	70	130	----	----
		EP132B-SD: Perylene	198-55-0	25 µg/kg	81.4	----	70	130	----	----
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	79.8	----	70	130	----	----
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	91.3	----	70	130	----	----
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	80.5	----	70	130	----	----
		EP132B-SD: Coronene	191-07-1	25 µg/kg	122	----	70	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3813264)										
ES1502604-001	PC1 0.5-1.0A	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	119	----	70	130	----	----
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	99.8	----	70	130	----	----
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	83.6	----	70	130	----	----
EP090: Organotin Compounds (QCLot: 3815611)										

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP090: Organotin Compounds (QCLot: 3815611) - continued										
ES1502604-001	PC1 0.5-1.0A	EP090: Monobutyltin	78763-54-9	2.5 µgSn/kg	# 30.0	----	35	130	----	----
		EP090: Dibutyltin	1002-53-5	2.5 µgSn/kg	91.2	----	20	130	----	----
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	106	----	20	130	----	----
EP090: Organotin Compounds (QCLot: 3817042)										
ES1502604-008	TRIPLICATE 1B	EP090: Monobutyltin	78763-54-9	2.5 µgSn/kg	# 16.2	----	35	130	----	----
		EP090: Dibutyltin	1002-53-5	2.5 µgSn/kg	78.9	----	20	130	----	----
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	110	----	20	130	----	----
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3820961)										
ES1502604-001	PC1 0.5-1.0A	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	100	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3820962)										
ES1502604-001	PC1 0.5-1.0A	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	114	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3821041)										
ES1502604-001	PC1 0.5-1.0A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	104	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3821042)										
ES1502604-002	PC1 0.0-0.5A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	98.3	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	96.5	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	95.8	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	96.5	----	70	130	----	----
		EG020-SD: Lead	7439-92-1	250 mg/kg	94.8	----	70	130	----	----
		EG020-SD: Nickel	7440-02-0	50 mg/kg	98.4	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	99.0	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3821302)										
ES1502604-001	PC1 0.5-1.0A	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	81.8	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3821303)										
ES1502604-001	PC1 0.5-1.0A	EK067G: Total Phosphorus as P	----	100 mg/kg	106	----	70	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821327)										
ES1502902-005	Anonymous	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	103	----	70	130	----	----
EP080-SD: BTEXN (QCLot: 3821327)										
ES1502902-005	Anonymous	EP080-SD: Benzene	71-43-2	0.5 mg/kg	73.8	----	70	130	----	----
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	81.0	----	70	130	----	----
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	81.1	----	70	130	----	----
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	81.1	----	70	130	----	----
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	81.1	----	70	130	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821455)										
ES1502902-001	Anonymous	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	124	----	70	130	----	----
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	95.8	----	70	130	----	----
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	101	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3823529)										
ES1502604-024	PC4 0.0-0.5A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	123	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3823530)										
ES1502604-027	DUP 1A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	107	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	102	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	113	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	106	----	70	130	----	----
		EG020-SD: Lead	7439-92-1	250 mg/kg	103	----	70	130	----	----
		EG020-SD: Nickel	7440-02-0	50 mg/kg	104	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	107	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3828825)										
ES1502604-008	TRIPLICATE 1B	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	100	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3828826)										
ES1502604-008	TRIPLICATE 1B	EK067G: Total Phosphorus as P	----	100 mg/kg	96.7	----	70	130	----	----
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3829698)										
ES1502604-008	TRIPLICATE 1B	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	98.4	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3829699)										
ES1502604-008	TRIPLICATE 1B	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	115	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3829997)										
ES1502604-008	TRIPLICATE 1B	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	99.1	----	70	130	----	----

Sub-Matrix: **WATER**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3812204)										
ES1502546-001	Anonymous	EK057G: Nitrite as N	----	0.5 mg/L	92.7	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3814912)										
ES1502584-001	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.5 mg/L	104	----	70	130	----	----
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3814913)										
ES1502584-001	Anonymous	EK055G: Ammonia as N	7664-41-7	1 mg/L	94.1	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3814919)										
ES1502633-001	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	5 mg/L	110	----	70	130	----	----

Sub-Matrix: **WATER**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3814920)										
ES1502633-001	Anonymous	EK067G: Total Phosphorus as P	----	1.0 mg/L	102	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3819156)										
ES1502683-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	78.5	----	70	130	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3819156)										
ES1502683-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	79.7	----	70	130	----	----
EP080: BTEXN (QCLot: 3819156)										
ES1502683-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	74.7	----	70	130	----	----
		EP080: Toluene	108-88-3	25 µg/L	76.9	----	70	130	----	----
		EP080: Ethylbenzene	100-41-4	25 µg/L	83.4	----	70	130	----	----
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	82.2	----	70	130	----	----
		EP080: ortho-Xylene	95-47-6	25 µg/L	85.8	----	70	130	----	----
		EP080: Naphthalene	91-20-3	25 µg/L	103	----	70	130	----	----
EG020T: Total Metals by ICP-MS (QCLot: 3820359)										
ES1502846-004	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	106	----	70	130	----	----
		EG020A-T: Cadmium	7440-43-9	0.250 mg/L	105	----	70	130	----	----
		EG020A-T: Chromium	7440-47-3	1 mg/L	108	----	70	130	----	----
		EG020A-T: Copper	7440-50-8	1 mg/L	104	----	70	130	----	----
		EG020A-T: Lead	7439-92-1	1 mg/L	102	----	70	130	----	----
		EG020A-T: Manganese	7439-96-5	1 mg/L	108	----	70	130	----	----
		EG020A-T: Nickel	7440-02-0	1 mg/L	92.7	----	70	130	----	----
		EG020A-T: Zinc	7440-66-6	1 mg/L	99.7	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3824590)										
ES1502633-001	Anonymous	EG035T: Mercury	7439-97-6	0.010 mg/L	100	----	70	130	----	----

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1502604**	Page	: 1 of 18
Client	: AURECON AUSTRALASIA PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
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E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 05-FEB-2015
Sampler	: GK	Issue Date	: 26-FEB-2015
Order number	: 245553		
		No. of samples received	: 41
Quote number	: SY/1021/14 V2	No. of samples analysed	: 41

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with recommended holding times (USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content								
Soil Glass Jar - Unpreserved (EA055-103)								
PC1 0.5-1.0A,	PC1 0.0-0.5A,	**03-FEB-2015**	**----**	----	----	**09-FEB-2015**	17-FEB-2015	✓
PC1 0.3V,	PC1 0.7V,							
TRIPLICATE 1A,	TRIPLICATE 1B,							
PC2 0.0-0.5A,	PC2 0.5-1.0A,							
PC2 0.3V,	PC2 0.7V,							
PC3 0.5-1.0A,	PC3 0.0-0.5A,							
PC3 0.3V,	PC3 0.7V,							
PC4 0.5-1.0A,	PC4 0.0-0.5A,							
PC4 0.3V,	PC4 0.7V,							
DUP 1A,	WB1 0.0-0.5A,							
WB1 0.51.0A,	WB1 0.3V,							
WB1 0.7V,	WB2 0.0-0.5A,							
WB2 0.5-1.0A,	WB2 0.3V,							
WB2 0.7V								
EA150: Particle Sizing								
Snap Lock Bag - Separate bag received (EA150H)								
PC1 0.0-0.5B,	PC1 0.5-1.0B,	**03-FEB-2015**	**---**	02-AUG-2015	----	**24-FEB-2015**	02-AUG-2015	✓
PC2 0.5-1.0B,	PC2 0.0-0.5B,							
PC3 0.5-1.0B,	PC3 0.0-0.5B,							
PC4 0.5-1.0B,	PC4 0.0-0.5B,							
WB1 0.5-1.0B,	WB1 0.0-0.5B,							
WB2 0.0-0.5B,	WB2 0.5-1.0B							
EA150: Soil Classification based on Particle Size								
Snap Lock Bag - Separate bag received (EA150H)								
PC1 0.0-0.5B,	PC1 0.5-1.0B,	**03-FEB-2015**	**---**	02-AUG-2015	----	**24-FEB-2015**	02-AUG-2015	✓
PC2 0.5-1.0B,	PC2 0.0-0.5B,							
PC3 0.5-1.0B,	PC3 0.0-0.5B,							
PC4 0.5-1.0B,	PC4 0.0-0.5B,							
WB1 0.5-1.0B,	WB1 0.0-0.5B,							
WB2 0.0-0.5B,	WB2 0.5-1.0B							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA152: Soil Particle Density								
Snap Lock Bag - Separate bag received (EA152)								
PC1 0.0-0.5B,	PC1 0.5-1.0B,	**03-FEB-2015**	---	02-AUG-2015	----	**24-FEB-2015**	02-AUG-2015	✓
PC2 0.5-1.0B,	PC2 0.0-0.5B,							
PC3 0.5-1.0B,	PC4 0.5-1.0B,							
PC4 0.0-0.5B,	WB1 0.5-1.0B,							
WB1 0.0-0.5B,	WB2 0.0-0.5B,							
WB2 0.5-1.0B								
EG005-SD: Total Metals in Sediments by ICP-AES								
Soil Glass Jar - Unpreserved (EG005-SD)								
PC1 0.5-1.0A,	PC1 0.0-0.5A,	**03-FEB-2015**	**12-FEB-2015**	02-AUG-2015	✓	**15-FEB-2015**	02-AUG-2015	✓
TRIPLICATE 1A,	PC2 0.0-0.5A,							
PC2 0.5-1.0A,	PC3 0.5-1.0A,							
PC3 0.0-0.5A,	PC4 0.5-1.0A							
Soil Glass Jar - Unpreserved (EG005-SD)								
PC4 0.0-0.5A,	DUP 1A,	**03-FEB-2015**	**13-FEB-2015**	02-AUG-2015	✓	**14-FEB-2015**	02-AUG-2015	✓
WB1 0.0-0.5A,	WB1 0.51.0A,							
WB2 0.0-0.5A,	WB2 0.5-1.0A							
Soil Glass Jar - Unpreserved (EG005-SD)								
TRIPLICATE 1B		**03-FEB-2015**	**19-FEB-2015**	02-AUG-2015	✓	**19-FEB-2015**	02-AUG-2015	✓
EG020-SD: Total Metals in Sediments by ICPMS								
Soil Glass Jar - Unpreserved (EG020-SD)								
PC1 0.5-1.0A,	PC1 0.0-0.5A,	**03-FEB-2015**	**12-FEB-2015**	02-AUG-2015	✓	**15-FEB-2015**	02-AUG-2015	✓
TRIPLICATE 1A,	PC2 0.0-0.5A,							
PC2 0.5-1.0A,	PC3 0.5-1.0A,							
PC3 0.0-0.5A,	PC4 0.5-1.0A							
Soil Glass Jar - Unpreserved (EG020-SD)								
PC4 0.0-0.5A,	DUP 1A,	**03-FEB-2015**	**13-FEB-2015**	02-AUG-2015	✓	**14-FEB-2015**	02-AUG-2015	✓
WB1 0.0-0.5A,	WB1 0.51.0A,							
WB2 0.0-0.5A,	WB2 0.5-1.0A							
Soil Glass Jar - Unpreserved (EG020-SD)								
TRIPLICATE 1B		**03-FEB-2015**	**19-FEB-2015**	02-AUG-2015	✓	**20-FEB-2015**	02-AUG-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T-LL)							
PC1 0.5-1.0A, PC1 0.0-0.5A, TRIPLICATE 1A, PC2 0.0-0.5A, PC2 0.5-1.0A, PC3 0.5-1.0A, PC3 0.0-0.5A, PC4 0.5-1.0A	**03-FEB-2015**	**12-FEB-2015**	03-MAR-2015	✓	**16-FEB-2015**	03-MAR-2015	✓
Soil Glass Jar - Unpreserved (EG035T-LL)							
PC4 0.0-0.5A, DUP 1A, WB1 0.0-0.5A, WB1 0.51.0A, WB2 0.0-0.5A, WB2 0.5-1.0A	**03-FEB-2015**	**13-FEB-2015**	03-MAR-2015	✓	**16-FEB-2015**	03-MAR-2015	✓
Soil Glass Jar - Unpreserved (EG035T-LL)							
TRIPLICATE 1B	**03-FEB-2015**	**19-FEB-2015**	03-MAR-2015	✓	**20-FEB-2015**	03-MAR-2015	✓
EK057G: Nitrite as N by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK057G)							
PC1 0.5-1.0A, PC1 0.0-0.5A, TRIPLICATE 1A, PC2 0.0-0.5A, PC2 0.5-1.0A, PC3 0.5-1.0A, PC3 0.0-0.5A, PC4 0.5-1.0A, PC4 0.0-0.5A, DUP 1A, WB1 0.0-0.5A, WB1 0.51.0A, WB2 0.0-0.5A, WB2 0.5-1.0A	**03-FEB-2015**	**12-FEB-2015**	02-AUG-2015	✓	**12-FEB-2015**	02-AUG-2015	✓
Soil Glass Jar - Unpreserved (EK057G)							
TRIPLICATE 1B	**03-FEB-2015**	**19-FEB-2015**	02-AUG-2015	✓	**19-FEB-2015**	02-AUG-2015	✓
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK059G)							
PC1 0.5-1.0A, PC1 0.0-0.5A, TRIPLICATE 1A, PC2 0.0-0.5A, PC2 0.5-1.0A, PC3 0.5-1.0A, PC3 0.0-0.5A, PC4 0.5-1.0A, PC4 0.0-0.5A, DUP 1A, WB1 0.0-0.5A, WB1 0.51.0A, WB2 0.0-0.5A, WB2 0.5-1.0A	**03-FEB-2015**	**12-FEB-2015**	02-AUG-2015	✓	**12-FEB-2015**	02-AUG-2015	✓
Soil Glass Jar - Unpreserved (EK059G)							
TRIPLICATE 1B	**03-FEB-2015**	**19-FEB-2015**	02-AUG-2015	✓	**19-FEB-2015**	02-AUG-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser							
Soil Glass Jar - Unpreserved (EK061G)							
PC1 0.5-1.0A, PC1 0.0-0.5A, TRIPLICATE 1A, PC2 0.0-0.5A, PC2 0.5-1.0A, PC3 0.5-1.0A, PC3 0.0-0.5A, PC4 0.5-1.0A, PC4 0.0-0.5A, DUP 1A, WB1 0.0-0.5A, WB1 0.51.0A, WB2 0.0-0.5A, WB2 0.5-1.0A	**03-FEB-2015**	**12-FEB-2015**	02-AUG-2015	✓	**12-FEB-2015**	02-AUG-2015	✓
Soil Glass Jar - Unpreserved (EK061G)							
TRIPLICATE 1B	**03-FEB-2015**	**19-FEB-2015**	02-AUG-2015	✓	**19-FEB-2015**	02-AUG-2015	✓
EK067G: Total Phosphorus as P by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK067G)							
PC1 0.5-1.0A, PC1 0.0-0.5A, TRIPLICATE 1A, PC2 0.0-0.5A, PC2 0.5-1.0A, PC3 0.5-1.0A, PC3 0.0-0.5A, PC4 0.5-1.0A, PC4 0.0-0.5A, DUP 1A, WB1 0.0-0.5A, WB1 0.51.0A, WB2 0.0-0.5A, WB2 0.5-1.0A	**03-FEB-2015**	**12-FEB-2015**	02-AUG-2015	✓	**12-FEB-2015**	02-AUG-2015	✓
Soil Glass Jar - Unpreserved (EK067G)							
TRIPLICATE 1B	**03-FEB-2015**	**19-FEB-2015**	02-AUG-2015	✓	**19-FEB-2015**	02-AUG-2015	✓
EK255A SD Ammonia in Sediment							
Soil Glass Jar - Unpreserved (EK255A SD)							
PC1 0.5-1.0A, PC1 0.0-0.5A, TRIPLICATE 1A, TRIPLICATE 1B, PC2 0.0-0.5A, PC2 0.5-1.0A, PC3 0.5-1.0A, PC3 0.0-0.5A, PC4 0.5-1.0A, PC4 0.0-0.5A, DUP 1A, WB1 0.0-0.5A, WB1 0.51.0A, WB2 0.0-0.5A, WB2 0.5-1.0A	**03-FEB-2015**	**----**	----	----	**06-FEB-2015**	02-AUG-2015	✓
EP003: Total Organic Carbon (TOC) in Soil							
Pulp Bag (EP003)							
PC1 0.5-1.0A, PC1 0.0-0.5A, TRIPLICATE 1A, TRIPLICATE 1B, PC2 0.0-0.5A, PC2 0.5-1.0A, PC3 0.5-1.0A, PC3 0.0-0.5A, PC4 0.5-1.0A, PC4 0.0-0.5A, DUP 1A, WB1 0.0-0.5A, WB2 0.0-0.5A, WB2 0.5-1.0A	**03-FEB-2015**	**10-FEB-2015**	03-MAR-2015	✓	**10-FEB-2015**	03-MAR-2015	✓
Pulp Bag (EP003)							
WB1 0.51.0A	**03-FEB-2015**	**12-FEB-2015**	03-MAR-2015	✓	**12-FEB-2015**	03-MAR-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP071-SD)								
PC1 0.5-1.0A,	PC1 0.0-0.5A,	**03-FEB-2015**	**09-FEB-2015**	17-FEB-2015	✓	**11-FEB-2015**	21-MAR-2015	✓
TRIPLICATE 1A,	TRIPLICATE 1B,							
PC2 0.0-0.5A,	PC2 0.5-1.0A,							
PC3 0.5-1.0A,	PC3 0.0-0.5A,							
PC4 0.5-1.0A,	PC4 0.0-0.5A,							
DUP 1A,	WB1 0.0-0.5A,							
WB1 0.51.0A,	WB2 0.0-0.5A,							
WB2 0.5-1.0A								
Soil Glass Jar - Unpreserved (EP071-SD)								
TRIP BLANK		**03-FEB-2015**	**13-FEB-2015**	17-FEB-2015	✓	**16-FEB-2015**	25-MAR-2015	✓
EP080-SD: BTEXN								
Soil Glass Jar - Unpreserved (EP080-SD)								
PC1 0.3V,	PC1 0.7V,	**03-FEB-2015**	**06-FEB-2015**	17-FEB-2015	✓	**13-FEB-2015**	17-FEB-2015	✓
PC2 0.3V,	PC2 0.7V,							
PC3 0.3V,	PC3 0.7V,							
PC4 0.3V,	PC4 0.7V,							
WB1 0.3V,	WB1 0.7V,							
WB2 0.3V,	WB2 0.7V							
Soil Glass Jar - Unpreserved (EP080-SD)								
TRIP BLANK		**03-FEB-2015**	**13-FEB-2015**	17-FEB-2015	✓	**15-FEB-2015**	17-FEB-2015	✓
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080-SD)								
PC1 0.3V,	PC1 0.7V,	**03-FEB-2015**	**06-FEB-2015**	17-FEB-2015	✓	**13-FEB-2015**	17-FEB-2015	✓
PC2 0.3V,	PC2 0.7V,							
PC3 0.3V,	PC3 0.7V,							
PC4 0.3V,	PC4 0.7V,							
WB1 0.3V,	WB1 0.7V,							
WB2 0.3V,	WB2 0.7V							
Soil Glass Jar - Unpreserved (EP080-SD)								
TRIP BLANK		**03-FEB-2015**	**13-FEB-2015**	17-FEB-2015	✓	**15-FEB-2015**	17-FEB-2015	✓
EP090: Organotin Compounds								
Soil Glass Jar - Unpreserved (EP090)								
PC1 0.5-1.0A,	PC1 0.0-0.5A,	**03-FEB-2015**	**09-FEB-2015**	17-FEB-2015	✓	**10-FEB-2015**	21-MAR-2015	✓
TRIPLICATE 1A,	PC2 0.0-0.5A,							
PC2 0.5-1.0A,	PC3 0.5-1.0A,							
PC3 0.0-0.5A,	PC4 0.5-1.0A,							
PC4 0.0-0.5A,	DUP 1A,							
WB1 0.0-0.5A,	WB2 0.0-0.5A,							
WB2 0.5-1.0A								
Soil Glass Jar - Unpreserved (EP090)								
TRIPLICATE 1B,	WB1 0.51.0A	**03-FEB-2015**	**11-FEB-2015**	17-FEB-2015	✓	**12-FEB-2015**	23-MAR-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP130A: Organophosphorus Pesticides (Ultra-trace)							
Soil Glass Jar - Unpreserved (EP130)							
PC1 0.5-1.0A, PC1 0.0-0.5A, TRIPLICATE 1A, TRIPLICATE 1B, PC2 0.0-0.5A, PC2 0.5-1.0A, PC3 0.5-1.0A, PC3 0.0-0.5A, PC4 0.5-1.0A, PC4 0.0-0.5A, DUP 1A, WB1 0.0-0.5A, WB1 0.51.0A, WB2 0.0-0.5A, WB2 0.5-1.0A	**03-FEB-2015**	**09-FEB-2015**	17-FEB-2015	✓	**12-FEB-2015**	21-MAR-2015	✓
EP131A: Organochlorine Pesticides							
Soil Glass Jar - Unpreserved (EP131A)							
PC1 0.5-1.0A, PC1 0.0-0.5A, TRIPLICATE 1A, TRIPLICATE 1B, PC2 0.0-0.5A, PC2 0.5-1.0A, PC3 0.5-1.0A, PC3 0.0-0.5A, PC4 0.5-1.0A, PC4 0.0-0.5A, DUP 1A, WB1 0.0-0.5A, WB1 0.51.0A, WB2 0.0-0.5A, WB2 0.5-1.0A	**03-FEB-2015**	**09-FEB-2015**	17-FEB-2015	✓	**12-FEB-2015**	21-MAR-2015	✓
EP131B: Polychlorinated Biphenyls (as Aroclors)							
Soil Glass Jar - Unpreserved (EP131B)							
PC1 0.5-1.0A, PC1 0.0-0.5A, TRIPLICATE 1A, TRIPLICATE 1B, PC2 0.0-0.5A, PC2 0.5-1.0A, PC3 0.5-1.0A, PC3 0.0-0.5A, PC4 0.5-1.0A, PC4 0.0-0.5A, DUP 1A, WB1 0.0-0.5A, WB1 0.51.0A, WB2 0.0-0.5A, WB2 0.5-1.0A	**03-FEB-2015**	**09-FEB-2015**	17-FEB-2015	✓	**12-FEB-2015**	21-MAR-2015	✓
EP132B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP132B-SD)							
PC1 0.5-1.0A, PC1 0.0-0.5A, TRIPLICATE 1A, TRIPLICATE 1B, PC2 0.0-0.5A, PC2 0.5-1.0A, PC3 0.5-1.0A, PC3 0.0-0.5A, PC4 0.5-1.0A, PC4 0.0-0.5A, DUP 1A, WB1 0.0-0.5A, WB1 0.51.0A, WB2 0.0-0.5A, WB2 0.5-1.0A	**03-FEB-2015**	**09-FEB-2015**	17-FEB-2015	✓	**12-FEB-2015**	21-MAR-2015	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG020A-T)							
RINSATE 1	**03-FEB-2015**	**12-FEB-2015**	02-AUG-2015	✓	**12-FEB-2015**	02-AUG-2015	✓
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG020B-T)							
RINSATE 1	**03-FEB-2015**	**12-FEB-2015**	02-AUG-2015	✓	**12-FEB-2015**	02-AUG-2015	✓
EG035T: Total Recoverable Mercury by FIMS							
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG035T)							
RINSATE 1	**03-FEB-2015**	**----**	----	----	**16-FEB-2015**	03-MAR-2015	✓
EK055G: Ammonia as N by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK055G)							
RINSATE 1	**03-FEB-2015**	**---**	03-MAR-2015	----	**09-FEB-2015**	03-MAR-2015	✓
EK057G: Nitrite as N by Discrete Analyser							
Clear Plastic Bottle - Natural (EK057G)							
RINSATE 1	**03-FEB-2015**	**---**	05-FEB-2015	----	**05-FEB-2015**	05-FEB-2015	✓
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK059G)							
RINSATE 1	**03-FEB-2015**	**---**	03-MAR-2015	----	**09-FEB-2015**	03-MAR-2015	✓
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK061G)							
RINSATE 1	**03-FEB-2015**	**09-FEB-2015**	03-MAR-2015	✓	**09-FEB-2015**	03-MAR-2015	✓
EK067G: Total Phosphorus as P by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK067G)							
RINSATE 1	**03-FEB-2015**	**09-FEB-2015**	03-MAR-2015	✓	**09-FEB-2015**	03-MAR-2015	✓
EP066: Polychlorinated Biphenyls (PCB)							
Amber Glass Bottle - Unpreserved (EP066)							
RINSATE 1	**03-FEB-2015**	**---**	10-FEB-2015	----	**09-FEB-2015**	10-FEB-2015	✓
EP068A: Organochlorine Pesticides (OC)							
Amber Glass Bottle - Unpreserved (EP068)							
RINSATE 1	**03-FEB-2015**	**---**	10-FEB-2015	----	**09-FEB-2015**	10-FEB-2015	✓
EP068B: Organophosphorus Pesticides (OP)							
Amber Glass Bottle - Unpreserved (EP068)							
RINSATE 1	**03-FEB-2015**	**---**	10-FEB-2015	----	**09-FEB-2015**	10-FEB-2015	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071)							
RINSATE 1	**03-FEB-2015**	**---**	10-FEB-2015	----	**09-FEB-2015**	10-FEB-2015	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
RINSATE 1	**03-FEB-2015**	**---**	10-FEB-2015	----	**09-FEB-2015**	10-FEB-2015	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
RINSATE 1	**03-FEB-2015**	**12-FEB-2015**	17-FEB-2015	✓	**12-FEB-2015**	17-FEB-2015	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons							
Amber VOC Vial - Sulfuric Acid (EP080)							
RINSATE 1	**03-FEB-2015**	**12-FEB-2015**	17-FEB-2015	✓	**12-FEB-2015**	17-FEB-2015	✓
EP090: Organotin Compounds							
Amber Glass Bottle - Unpreserved (EP090H)							
RINSATE 1	**03-FEB-2015**	**10-FEB-2015**	10-FEB-2015	✓	**10-FEB-2015**	22-MAR-2015	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Ammonia in Sediments	EK255A SD	2	15	**13.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Moisture Content	EA055-103	6	58	**10.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	4	35	**11.4**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	4	35	**11.4**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	2	15	**13.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	2	15	**13.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	1	2	**50.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	2	15	**13.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	2	15	**13.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	4	41	**9.8**	**9.5**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	4	29	**13.8**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	4	29	**13.8**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	4	29	**13.8**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	3	15	**20.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	4	39	**10.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	3	23	**13.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	3	22	**13.6**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Ammonia in Sediments	EK255A SD	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	2	35	**5.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	2	35	**5.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	2	15	**13.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	6	41	**14.6**	**14.3**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	3	29	**10.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	3	29	**10.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	3	29	**10.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	2	15	**13.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	6	39	**15.4**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	2	23	**8.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	2	22	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Method Blanks (MB)							
Ammonia in Sediments	EK255A SD	1	15	6.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	2	35	5.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	2	35	5.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	15	6.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	15	6.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	2	15	13.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	15	6.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	15	6.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	2	41	4.9	4.8	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	3	29	10.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	3	29	10.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	3	29	10.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	2	15	13.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	2	39	5.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	2	23	8.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	2	22	9.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia in Sediments	EK255A SD	1	15	6.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	2	35	5.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	2	35	5.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	15	6.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	15	6.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	2	15	13.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	15	6.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	15	6.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	2	41	4.9	4.8	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	3	29	10.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	28	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	2	39	5.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	2	23	8.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	2	22	9.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Ammonia as N by Discrete analyser	EK055G	2	19	10.5	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	2	14	14.3	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	2	18	11.1	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP) - Continued							
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	2	14	**14.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	1	**100.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	2	18	**11.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Ammonia as N by Discrete analyser	EK055G	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	14	**7.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Compounds (Soluble)	EP090H	1	1	**100.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	6	**16.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	8	**12.5**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	4	**25.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	3	14	**21.4**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	1	**100.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	3	20	**15.0**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Ammonia as N by Discrete analyser	EK055G	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	14	**7.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Compounds (Soluble)	EP090H	1	1	**100.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	6	**16.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	8	**12.5**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	4	**25.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	14	**7.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	1	**100.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia as N by Discrete analyser	EK055G	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	14	**7.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Matrix Spikes (MS) - Continued							
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	14	**7.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055-103	SOIL	In-house. A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Particle Size Analysis by Hydrometer	EA150H	SOIL	Particle Size Analysis by Hydrometer according to AS1289.3.6.3 - 2003
Soil Particle Density	* EA152	SOIL	Soil Particle Density by AS 1289.3.5.1-2006 : Methods of testing soils for engineering purposes - Soil classification tests - Determination of the soil particle density of a soil - Standard method A modification of the AS 1289.3.5.1 method may apply when testing dispersed soils also tested by AS1289.3.6.3. This modification uses the dispersion solution from AS1289.3.6.3 in place of water for density determinations
Total Fe and Al in Sediments by ICPAES	EG005-SD	SOIL	In house: Referenced to APHA 21st ed., 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3). LORs per NODG
Total Metals in Sediments by ICPMS	EG020-SD	SOIL	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector. Analyte list and LORs per NODG.
Total Mercury by FIMS (Low Level)	EG035T-LL	SOIL	In house: Referenced to AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Nitrite as N - Soluble by Discrete Analyser	EK057G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3- B. Nitrite in a water extract is determined by direct colourimetry by Discrete Analyser.
Nitrate as N - Soluble by Discrete Analyser	EK058G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3--F. Nitrate in the 1:5 soil:water extract is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results.
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3- F. Combined oxidised Nitrogen (NO2+NO3) in a water extract is determined by Chemical Reduction, and direct colourimetry by Discrete Analyser.
TKN as N By Discrete Analyser	EK061G	SOIL	In house: Referenced to APHA 21st ed., 4500-Norg-D Soil samples are digested using Kjeldahl digestion followed by determination by Discrete Analyser.
Total Nitrogen as N (TKN + NOx) By Discrete Analyser	EK062G	SOIL	In house: Referenced to APHA 21st ed., 4500 Norg/NO3- Total Nitrogen is determined as the sum of TKN and Oxidised Nitrrogen, each determined seperately as N.
Total Phosporus By Discrete Analyser	EK067G	SOIL	In house: Referenced to APHA 21st ed., 4500 P-B&F This procedure involves sulfuric acid digestion and quantification using Discrete Analyser.
Ammonia in Sediments	EK255A SD	SOIL	Rayment and Higginson (1992) Method 7C1 and 7C2. This method measures exchangeable ammonium which is defined by the amount of ammonium released by shaking sediment with an un-buffered 2M potassium chloride solution.

Analytical Methods	Method	Matrix	Method Descriptions
Total Organic Carbon	EP003	SOIL	In-house C-IR17. Dried and pulverised sample is reacted with acid to remove inorganic Carbonates, then combusted in a LECO furnace in the presence of strong oxidants / catalysts. The evolved (Organic) Carbon (as CO2) is automaticaly measured by infra-red detector.
TPH - Semivolatile Fraction	EP071-SD	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 504)
TRH Volatiles/BTEX in Sediments	EP080-SD	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve.
Organotin Analysis	EP090	SOIL	(USEPA SW 846 - 8270D) Prepared sample extracts are analysed by GC/MS coupled with high volume injection, and quanitified against an established calibration curve.
Organophosphorus Pesticides (Ultra-trace)	EP130	SOIL	USEPA Method 3640 (GPC cleanup), 8141 (GC/FPD - Capillary Column) This technique is compliant with NEPM (2013) Schedule B(3) (Method 505)
Organochlorine Pesticides (Ultra-trace)	EP131A	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (2013) Schedule B(3) (Method 504)
PCB's (Ultra-trace)	EP131B	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (2013) Schedule B(3) (Method 504)
PAHs in Sediments by GCMS(SIM)	EP132B-SD	SOIL	USEPA 8270 GCMS Capillary column, SIM mode using large volume programmed temperature vaporisation injection.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Metals by ICP-MS - Suite B	EG020B-T	WATER	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Mercury by FIMS	EG035T	WATER	In house: Referenced to AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Ammonia as N by Discrete analyser	EK055G	WATER	In house: Referenced to APHA 21st ed., 4500-NH3 G Ammonia is determined by direct colorimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Nitrite as N by Discrete Analyser	EK057G	WATER	In house: Referenced to APHA 21st ed., 4500-NO2- B. Nitrite is determined by direct colourimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Nitrate as N by Discrete Analyser	EK058G	WATER	In house: Referenced to APHA 21st ed., 4500-NO3- F. Nitrate is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results. This method is compliant with NEPM (2013) Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	WATER	In house: Referenced to APHA 21st ed., 4500-NO3- F. Combined oxidised Nitrogen (NO2+NO3) is determined by Chemical Reduction and direct colourimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	WATER	In house: Referenced to APHA 21st ed., 4500-Norg D (In house). An aliquot of sample is digested using a high temperature Kjeldahl digestion to convert nitrogenous compounds to ammonia. Ammonia is determined colorimetrically by discrete analyser. This method is compliant with NEPM (2013) Schedule B(3)
Total Nitrogen as N (TKN + Nox) By Discrete Analyser	EK062G	WATER	In house: Referenced to APHA 21st ed., 4500-Norg / 4500-NO3-. This method is compliant with NEPM (2013) Schedule B(3)
Total Phosphorus as P By Discrete Analyser	EK067G	WATER	In house: Referenced to APHA 21st ed., 4500-P H, Jirka et al (1976), Zhang et al (2006). This procedure involves sulphuric acid digestion of a sample aliquot to break phosphorus down to orthophosphate. The orthophosphate reacts with ammonium molybdate and antimony potassium tartrate to form a complex which is then reduced and its concentration measured at 880nm using discrete analyser. This method is compliant with NEPM (2013) Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Pesticides by GCMS	EP068	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
Organotin Compounds (Soluble)	EP090H	WATER	(USEPA SW 846 - 8270D, ALS QWI-ORG/EP090) Sample extracts (ALS QWI-ORG/035) are analysed by GC/MS coupled with high volume injection (10-50µL). Quantitation is achieved using internal standard and average response factor quantitation techniques against an established five-point curve. Butyltin results are reported in either "as tin" units eg. ng Sn/L or "ng TBT+/L". The analytical standards are prepared in "as tin" units. Sample results are converted to TBT+ results as required.

Preparation Methods	Method	Matrix	Method Descriptions
TKN/TP Digestion	EK061/EK067	SOIL	APHA 21st ed., 4500 Norg- D; APHA 21st ed., 4500 P - H. Macro Kjeldahl digestion.
1:5 solid / water leach for soluble analytes	EN34	SOIL	10 g of soil is mixed with 50 mL of distilled water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids/ Sample Cleanup	ORG17A-UTP	SOIL	In-house, Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. Samples are extracted, concentrated (by KD) and exchanged into an appropriate solvent for GPC and florisil cleanup as required.

Preparation Methods	Method	Matrix	Method Descriptions
Tumbler Extraction of Solids for LVI (Non-concentrating)	ORG17D	SOIL	In house: 10g of sample, Na2SO4 and surrogate are extracted with 50mL 1:1 DCM/Acetone by end over end tumbling. An aliquot is concentrated by nitrogen blowdown to a reduced volume for analysis if required.
Organotin Sample Preparation	ORG35	SOIL	In house. 20g sample is spiked with surrogate and leached in a methanol:acetic acid:UHP water mix and vacuum filtered. Reagents and solvents are added to the sample and the mixture tumbled. The butyltin compounds are simultaneously derivatised and extracted. The extract is further extracted with petroleum ether. The resultant extracts are combined and concentrated for analysis.
TKN/TP Digestion	EK061/EK067	WATER	APHA 21st ed., 4500 Norg - D; APHA 21st ed., 4500 P - H. This method is compliant with NEPM (2013) Schedule B(3)
Digestion for Total Recoverable Metals	EN25	WATER	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (2013) Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (2013) Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Organotin Sample Preparation	ORG34H	WATER	(IN HOUSE, ALS QWI-ORG/35) A specified volume (determined by the detection limit requirement) of sample is spiked with surrogate, acidified and vacuum filtered. Reagents and solvent are added to the sample and the mixture tumbled for 20 minutes. The butyltin compounds is derivitisated, extracted and the subtitution reaction is completed. The extracts is transferred to a separatory funnel and further extracted two times using petroleum ether. The resultant extracts are combined and concentrated to the desired volume for analysis.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW 846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP090: Organotin Compounds	4596905-002	----	**Monobutyltin**	78763-54-9	138 %	36-128%	**Recovery greater than upper control limit**
Matrix Spike (MS) Recoveries							
EK255A SD: Ammonia in Sediment	ES1502604-001	PC1 0.5-1.0A	**Ammonia as N**	7664-41-7	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP090: Organotin Compounds	ES1502604-008	TRIPLICATE 1B	**Monobutyltin**	78763-54-9	16.2 %	35-130%	**Recovery less than lower data quality objective**
EP090: Organotin Compounds	ES1502604-001	PC1 0.5-1.0A	**Monobutyltin**	78763-54-9	30.0 %	35-130%	**Recovery less than lower data quality objective**

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Duplicate outliers occur.**

Regular Sample Surrogates

Sub-Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP090S: Organotin Surrogate	ES1502604-032	WB1 0.51.0A	**Tripropyltin**	----	131 %	35-130 %	**Recovery greater than upper data quality objective**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- **No Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

CHAIN OF CUSTODY

ALS Environmental

ALS Laboratory: please tick →

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6	Other comment:	

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer	K Schafer	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		4 February 2015	4 February 2015	5.2.15 1600	6/2/15 9:00

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	WB3 0.0-1.0A	4/02/2015	S	Glass Jar (250 ml)	1	1								
2	WB3 0.0-0.5A	4/02/2015	S	Glass Jar (250 ml)	1	1								
3	WB3 0.3V	4/02/2015	S	Glass Jar (250 ml)	1			1						
4	WB3 0.7V	4/02/2015	S	Glass Jar (250 ml)	1			1						
5	WB3 0.0-0.5B	4/02/2015	S	Bag (White label)	1		1							
6	WB3 0.5-1.0B	4/02/2015	S	Bag (White label)	1		1							
7	Triplicate 2A	4/02/2015	S	Glass Jar (250 ml)	1	1								
8	Triplicate 2B	4/02/2015	S	Glass Jar (250 ml)	1	1								
9	Duplicate 2A	4/02/2015	S	Glass Jar (250 ml)	1									
~~10~~	Duplicate 2B	4/02/2015	S	Glass Jar (250 ml)	1									
11	Trip Blank 1	4/02/2015	S	Pre-filled glass jar	1	1								
12	Trip Blank 2	4/02/2015	S	Pre-filled glass jar	1	1								
13	Rinsate 2	4/02/2015	W	Bottle	8	1								
				TOTAL	22	7	2	2						

Subcon / Forward Lab / Split WO

Lab / Analysis: Eurofins / 10

Organised By / Date: Brisbane / TBT @ LOC

Relinquished By / Date: 1-6-5-8-14-15-22-23,

Connote / Courier: 26-27, 32-33, 40-41, 44-47,

WO No: 52-53, 58-59, 10 (TBT only - Water)

Attach By PO / Internal Sheet: -----

Newcastle BSD

5-6, 18-29, 30-31, 36, 37

38-39, 44-45, 58-51

56-57,

SENT TO EUROFINS

Environmental Division Sydney

Work Order

ES1502737

Telephone : +61-2-8784 8555

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS: ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround		Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 (2) 3 4 5 6 7	Random Sample Temperature on Receipt °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		4 February 2015	4 February 2015

RELINQUISHED BY:	RECEIVED BY:
KS	
DATE/TIME: 5.2.15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
14	WB4 0.5-0.6A	4/02/2015	S	Glass Jar (250 ml)	1	1								
15	WB4 0.5-1.0A	4/02/2015	S	Glass Jar (250 ml)	1	1								
16	WB4 0.3V	4/02/2015	S	Glass Jar (250 ml)	1			1						
17	WB4 0.7V	4/02/2015	S	Glass Jar (250 ml)	1			1						
18	WB4 0.5-1.0B	4/02/2015	S	Bag (White label)	1		1							
19	WB4 0.0-0.5B	4/02/2015	S	Bag (White label)	1		1							
				TOTAL	6	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A; Free ice / frozen ice bricks present upon receipt? Yes No N/A; Random Sample Temperature on Receipt: °C; Other comments:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8005	OF: 1 2 3 4 5 6 (7)	

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		4 February 2015	4 February 2015

RELINQUISHED BY:	RECEIVED BY:	
DATE/TIME: 5-2-15 1600	DATE/TIME:	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE?	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH				Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
20	WB5 0.5-1.0B	4/02/2015	S	Bag (White label)			1								
21	WB5 0.0-0.5B	4/02/2015	S	Bag (White label)			1								
22	WB5 0.5-1A	4/02/2015	S	Glass Jar (250 ml)	1	1									
23	WB5 0.0-0.5A	4/02/2015	S	Glass Jar (250 ml)	1	1									
24	WB5 0.3V	4/02/2015	S	Glass Jar (250 ml)				1							
25	WB5 0.7V	4/02/2015	S	Glass Jar (250 ml)				1							
				TOTAL	2	2	2	2							

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ALS Environmental

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OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	(Ice Bag / Frozen Ice Bricks present upon receipt?)	Yes / No / N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 (4) 5 6 7	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8008	OF: 1 2 3 4 5 6 (7)	Other comments:	

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY: / RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME: 5.2.15 1600
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		4 February 2015	4 February 2015	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH				Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
26	WB8 0.5-1.0A	4/02/2015	S	Glass Jar (250 ml)	1	1									
27	WB8 0.0-0.5A	4/02/2015	S	Glass Jar (250 ml)	1	1									
28	WB8 0.3V	4/02/2015	S	Glass Jar (250 ml)	1			1							
29	WB8 0.7V	4/02/2015	S	Glass Jar (250 ml)	1			1							
30	WB8 0.5-1.0B	4/02/2015	S	Bag (White label)	1		1				1				
31	WB8 0.0-0.5B	4/02/2015	S	Bag (White label)	1		1								
				TOTAL	6	2	2	2							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Free ice / frozen ice bricks present upon receipt? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: C
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 7	Other comment:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		RELINQUISHED BY: KS
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 4 February 2015	DATE/TIME: 4 February 2015
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			RECEIVED BY:
			DATE/TIME: 5.2.15 1600

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
32	WB9 0.0-0.5A	4/02/2015	S	Glass Jar (250 ml)	1	1								
33	WB9 0.5-1.0A	4/02/2015	S	Glass Jar (250 ml)	1	1								
34	WB9 0.3V	4/02/2015	S	Glass Jar (250 ml)	1			1						
35	WB9 0.7V	4/02/2015	S	Glass Jar (250 ml)	1			1						
36	WB9 0.5-1.0B	4/02/2015	S	Bag (White label)			1							
37	WB9 0.0-0.5 B	4/02/2015	S	Bag (White label)			1							
				TOTAL	4	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free Ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		4 February 2015	4 February 2015

RELINQUISHED BY:	RECEIVED BY:
KS	
DATE/TIME: 5-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
38	WB12 0.0-0.5 B	4/02/2015	S	Bag (White label)	1		1							
39	WB12 0.5-1.0 B	4/02/2015	S	Bag (White label)	1		1							
40	WB12 0.0-1.0 A	4/02/2015	S	Glass Jar (250 ml)	1	1								
41	WB12 0.0-1.0 A	4/02/2015	S	Glass Jar (250 ml)	1	1								
42	WB12 0.3V	4/02/2015	S	Glass Jar (250 ml)	1			1						
43	WB12 0.7V	4/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	6	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free Ice / frozen Ice Packs present upon receipt?	Yes / No / N/A
ORDER NUMBER: 246553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006		Other comments:	

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6609	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*	*K Schafer*	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		4 February 2015	4 February 2015	5.2.15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
44	WB13 0.0-0.5 B	4/02/2015	S	Bag (White label)	1		1							
45	WB13 0.5-1.0 B	4/02/2015	S	Bag (White label)	1		1							
46	WB13 0.0-0.5 A	4/02/2015	S	Glass Jar (250 ml)	1	1								
47	WB13 0.5-1.0 A	4/02/2015	S	Glass Jar (250 ml)	1	1								
48	WB13 0.3 V	4/02/2015	S	Glass Jar (250 ml)	1			1						
49	WB13 0.7 V	4/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	6	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Free Ice / Frozen Ice Pack present upon receipt? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6	Random Sample Temperature on Receipt: °C
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6	Other comment:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 4 February 2015	DATE/TIME: 4 February 2015
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY:	RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 5.2.15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
50	WB16 0.0-0.5 B	4/02/2015	S	Bag (White label)	1		1							
51	WB16 0.5-1.0 B	4/02/2015	S	Bag (White label)	1		1							
52	WB16 0.0-0.5 A	4/02/2015	S	Glass Jar (250 ml)	1	1								
53	WB16 0.5-1.0 A	4/02/2015	S	Glass Jar (250 ml)	1	1								
54	WB16 0.3V	4/02/2015	S	Glass Jar (250 ml)	1			1						
55	WB16 0.7V	4/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	6	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS: ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 OF: 1 2 3 4 5 6	Random Sample Temperature on Receipt	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006		Other comment:	
SAMPLER: Georgina Kerr SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO) EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com	DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com	4 February 2015	4 February 2015	5.2.15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
56	WB18 0.0-0.5 B	4/02/2015	S	Bag (White label)	1		1							
57	WB18 0.5-1.0 B	4/02/2015	S	Bag (White label)	1		1							
58	WB18 0.0-0.5 A	4/02/2015	S	Glass Jar (250 ml)	1	1								
59	WB18 0.5-1.0 A	4/02/2015	S	Glass Jar (250 ml)	1	1								
60	WB18 0.3V	4/02/2015	S	Glass Jar (250 ml)	1			1						
61	WB18 0.7V	4/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	6	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Wanida Roberts

From: Jacob Waugh
Sent: Thursday, 12 February 2015 2:52 PM
To: Wanida Roberts
Cc: Saman Taeidi
Subject: FW: ES1502737-009 Duplicate 2A didnt have any analysis selected on the COC

From: Saman Taeidi
Sent: Thursday, 12 February 2015 2:51 PM
To: Jacob Waugh
Subject: RE: ES1502737-009 Duplicate 2A didnt have any analysis selected on the COC

Thanks Jacob for picking that up.

Yes this is a mistake on the CoC – Please schedule Duplicate 2A for Aurecon Suite 1.

Kind Regards

Saman Taeidi

Client Services Officer
ALS | Environmental Division

277-289 Woodpark Road
Smithfield NSW 2164 Australia

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F +61 2 8784 8500

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EnviroMail™ 85 – Temperature Management Best Practice
EnviroMail™ 00 - Summary of all EnviroMails™ by Category

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From: Jacob Waugh
Sent: Thursday, 12 February 2015 2:34 PM
To: Saman Taeidi
Subject: ES1502737-009 Duplicate 2A didnt have any analysis selected on the COC

Hi Saman,

Can you confirm if sample #9 should really be on hold or was it a mistake on the COC?

Jacob Waugh

Laboratory Co-ordinator
ALS | Environmental Division

277-289 Woodpark Road
Smithfield NSW 2164 Australia

T +61 2 8784 8555
F +61 2 8784 8500

We are keen for your feedback! Please click here for your 1 question survey

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EnviroMail™ 85 - Temperature Management Best Practice

EnviroMail™ 00 - Summary of all EnviroMails™ by Category

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ALS Laboratory: please tick →

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☐BRISBANE 32 Shand Street Stafford QLD 4053 Ph 07 3243 7222 E samples.brisbane@alsglobal.com
☐GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph 07 7471 5600 E gladstone@alsglobal.com
☐MACKAY 78 Harbour Road Mackay QLD 4740 Ph 07 4944 0177 E mackay@alsglobal.com
☐MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph 03 8549 9600 E samples.melbourne@alsglobal.com
☐MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph 02 6372 6735 E mudgee.mail@alsglobal.com
☐NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph 02 4968 9433 E samples.newcastle@alsglobal.com
☐NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph 02 4423 2063 E nowra@alsglobal.com
☐PERTH 10 Hod Way Malaga WA 6090 Ph 08 9209 7655 E samples.perth@alsglobal.com
☐SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph 02 8784 8555 E samples.sydney@alsglobal.com
☐TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph 07 4796 0600 E townsville.environmental@alsglobal.com
☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph 02 4225 3125 E portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: (1) 2 3 4 5 6 7	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comment:	
SAMPLER: Georgina Kerr SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr DATE/TIME: 4 February 2015	RECEIVED BY: Kelly Schafer DATE/TIME: 4 February 2015	RELINQUISHED BY: DATE/TIME: 5.2.15 1600
COC emailed to ALS? (YES / NO) EDD FORMAT (or default):			RECEIVED BY: DATE/TIME: 6/2/15 900
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	WB3 0.5-1.0A	4/02/2015	S	Glass Jar (250 ml)	1	1								
2	WB3 0.0-0.5A	4/02/2015	S	Glass Jar (250 ml)	1	1								
3	WB3 0.3V	4/02/2015	S	Glass Jar (250 ml)	1			1						
4	WB3 0.7V	4/02/2015	S	Glass Jar (250 ml)	1			1						
5	WB3 0.0-0.5B	4/02/2015	S	Bag (White label)	1		1							
6	WB3 0.5-1.0B	4/02/2015	S	Bag (White label)	1		1							
7	Triplicate 2A	4/02/2015	S	Glass Jar (250 ml)	1	1								
8	Triplicate 2B	4/02/2015	S	Glass Jar (250 ml)	1	1								
9	Duplicate 2A	4/02/2015	S	Glass Jar (250 ml)	1									
10	Duplicate 2B	4/02/2015	S	Glass Jar (250 ml)	1									
11	Trip Blank 1	4/02/2015	S	Pre-filled glass jar	1	1								
12	Trip Blank 2	4/02/2015	S	Pre-filled glass jar	1	1								
13	Rinsate 2	4/02/2015	W	Bottle	8	1								
				TOTAL	22	7	2	2						

SENT TO EUROFINS

Environmental Division Sydney

Work Order

ES1502737

Telephone : +61-2-8784 8555

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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BRISBANE 32 Shand Street Stafford QLD 4053
Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 46 Callemondah Drive Clinton QLD 4680
Ph: 07 7471 5600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
ORANGE 4/13 Geary Place North Nowra NSW 2541
Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 (2) 3 4 5 6 7	Random Sample Temperature on Receipt
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		4 February 2015	4 February 2015

RELINQUISHED BY:	RECEIVED BY:
KS	
DATE/TIME: 5·2·15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
14	[redacted]	4/02/2015	S	Glass Jar (250 ml)	1	1								
15	[redacted]	4/02/2015	S	Glass Jar (250 ml)	1	1								
16	WB4 0.3V	4/02/2015	S	Glass Jar (250 ml)	1			1						
17	WB4 0.7V	4/02/2015	S	Glass Jar (250 ml)	1			1						
18	WB4 0.5-1.0B	4/02/2015	S	Bag (White label)	1		1							
19	WB4 0.0-0.5B	4/02/2015	S	Bag (White label)	1		1							
				TOTAL	6	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VD = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes / No / N/A; Free ice / frozen ice bricks present upon receipt? Yes / No / N/A; Random Sample Temperature on Receipt: °C; Other comments:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		4 February 2015	4 February 2015

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 5-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB, Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH				
20	WB5 0.5-1.0B	4/02/2015	S	Bag (White label)			1								
21	WB5 0.0-0.5B	4/02/2015	S	Bag (White label)			1								
22	[redacted]	4/02/2015	S	Glass Jar (250 ml)	1	1									
23	[redacted]	4/02/2015	S	Glass Jar (250 ml)	1	1									
24	WB5 0.5V	4/02/2015	S	Glass Jar (250 ml)				1							
25	WB5 0.7V	4/02/2015	S	Glass Jar (250 ml)				1							
				TOTAL	2	2	2	2							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 8433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A; Free Ice / frozen ice bricks present upon receipt? Yes No N/A; Random Sample Temperature on Receipt: °C; Other comments:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 (4) 5 6 7	
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 (7)	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	Kelly Schafer	KS	
DATE/TIME: 4 February 2015	DATE/TIME: 4 February 2015	DATE/TIME: 5.2.15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION	ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
26	WB8 0.1A	4/02/2015	S	Glass Jar (250 ml)	1	1								
27	WB8 0.2A	4/02/2015	S	Glass Jar (250 ml)	1	1								
28	WB8 0.3V	4/02/2015	S	Glass Jar (250 ml)	1			1						
29	WB8 0.7V	4/02/2015	S	Glass Jar (250 ml)	1			1						
30	WB8 0.5-1.0B	4/02/2015	S	Bag (White label)	1		1							
31	WB8 0.0-0.5B	4/02/2015	S	Bag (White label)	1		1							
					6	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A; Free ice / frozen ice bricks present upon receipt? Yes No N/A; Random Sample Temperature on Receipt °C; Quote comments
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 7	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
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RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	Kelly Schafer		
DATE/TIME: 4 February 2015	DATE/TIME: 4 February 2015	DATE/TIME: 5.2.15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
32	[redacted]	4/02/2015	S	Glass Jar (250 ml)	1	1								
33	[redacted]	4/02/2015	S	Glass Jar (250 ml)	1	1								
34	WB9 0.3V	4/02/2015	S	Glass Jar (250 ml)	1			1						
35	WB9 0.7V	4/02/2015	S	Glass Jar (250 ml)	1			1						
36	WB9 0.5-1.0B	4/02/2015	S	Bag (White label)			1							
37	WB9 0.0-0.5 B	4/02/2015	S	Bag (White label)			1							
				TOTAL	4	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle): Custody Seal Intact? Yes No N/A; Free ice / frozen ice bricks present upon receipt? Yes No N/A; Random Sample Temperature on Receipt: °C; Other comment:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 7	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 4 February 2015	DATE/TIME: 4 February 2015
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: GK DATE/TIME: 5-2-15 1600	RECEIVED BY: DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB, Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
38	WB12 0.0-0.5 B	4/02/2015	S	Bag (White label)	1		1							
39	WB12 0.5-1.0 B	4/02/2015	S	Bag (White label)	1		1							
40	[redacted]	4/02/2015	S	Glass Jar (250 ml)	1	1								
41	[redacted]	4/02/2015	S	Glass Jar (250 ml)	1	1								
42	WB12 0.5V	4/02/2015	S	Glass Jar (250 ml)	1			1						
43	WB12 0.7V	4/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	6	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Frozen/Frozen Ice Packs present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	Kelly Schafer	Schafer	
DATE/TIME: 4 February 2015	DATE/TIME: 4 February 2015	DATE/TIME: 5.2.15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
44	WB13 0.0-0.5 B	4/02/2015	S	Bag (White label)	1		1							
45	WB13 0.5-1.0 B	4/02/2015	S	Bag (White label)	1		1							
46	[redacted]	4/02/2015	S	Glass Jar (250 ml)	1	1								
47	[redacted]	4/02/2015	S	Glass Jar (250 ml)	1	1								
48	WB13 0.5 V	4/02/2015	S	Glass Jar (250 ml)	1			1						
49	WB13 0.7 V	4/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	6	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2060 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Freeze/Frozen ice brick present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6	Random Sample Temperature on Receipt: 8 9
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		4 February 2015	4 February 2015

RELINQUISHED BY:	RECEIVED BY:
KS	
DATE/TIME: 5.2.15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
50	WB16 0.0-0.5 B	4/02/2015	S	Bag (White label)	1		1							
51	WB16 0.5-1.0 B	4/02/2015	S	Bag (White label)	1		1							
52	[redacted]	4/02/2015	S	Glass Jar (250 ml)	1	1								
53	[redacted]	4/02/2015	S	Glass Jar (250 ml)	1	1								
54	WB16 3V	4/02/2015	S	Glass Jar (250 ml)	1			1						
55	WB16 7V	4/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	6	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: porkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A; Free ice/frozen ice bricks present upon arrival? Yes No N/A; Random Sample Temperature on Receipt: °C; Other comments:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 OF: 1 2 3 4 5 6	
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 4 February 2015	DATE/TIME: 4 February 2015
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY:	RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 5-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB, Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
56	WB18 0.0-0.5 B	4/02/2015	S	Bag (White label)	1		1							
57	WB18 0.5-1.0 B	4/02/2015	S	Bag (White label)	1		1							
58	[redacted]	4/02/2015	S	Glass Jar (250 ml)	1	1								
59	[redacted]	4/02/2015	S	Glass Jar (250 ml)	1	1								
60	WB18 0.5-V	4/02/2015	S	Glass Jar (250 ml)	1			1						
61	WB18 0.7-V	4/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	6	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1502737**	Page	: 1 of 76
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553		
C-O-C number	: ----	Date Samples Received	: 06-FEB-2015
Sampler	: GK	Issue Date	: 27-FEB-2015
Site	: ----		
		No. of samples received	: 60
Quote number	: SY/1021/14 V2	No. of samples analysed	: 60

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.**
- **EK067G: Poor duplicate precision due to sample heterogeneity. Confirmed by re-extraction and re-analysis.**
- **EP090: High failing LCS deemed acceptable as all associated analyte results are less than LOR.**

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Dianne Blane	Laboratory Coordinator (2IC)	Newcastle - Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
		Sydney Organics
Phalak Inthakesone	Laboratory Manager - Organics	Sydney Inorganics
Ryan Story	2IC Organic Instrument Chemist	Brisbane Organics
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils
Shobhna Chandra	Metals Coordinator	Sydney Inorganics
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB3 0.5-1.0a	WB3 0.0-0.5a	WB3 0.3V	WB3 0.7V	WB3 0.0-0.5B
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-001	ES1502737-002	ES1502737-003	ES1502737-004	ES1502737-005
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	----	**98**
+150µm	----	1	%		----	----	----	----	**97**
+300µm	----	1	%		----	----	----	----	**30**
+425µm	----	1	%		----	----	----	----	**5**
+600µm	----	1	%		----	----	----	----	**1**
+1180µm	----	1	%		----	----	----	----	<1
+2.36mm	----	1	%		----	----	----	----	<1
+4.75mm	----	1	%		----	----	----	----	<1
+9.5mm	----	1	%		----	----	----	----	<1
+19.0mm	----	1	%		----	----	----	----	<1
+37.5mm	----	1	%		----	----	----	----	<1
+75.0mm	----	1	%		----	----	----	----	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**20.4**	**22.0**	**24.7**	**20.4**	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	----	**1**
Silt (2-60 µm)	----	1	%		----	----	----	----	<1
Sand (0.06-2.00 mm)	----	1	%		----	----	----	----	**99**
Gravel (>2mm)	----	1	%		----	----	----	----	<1
Cobbles (>6cm)	----	1	%		----	----	----	----	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	----	**2.70**
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**3930**	**4200**	----	----	----
Iron	7439-89-6	50	mg/kg		**10000**	**9680**	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		**22.1**	**23.0**	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	----	----	----
Chromium	7440-47-3	1.0	mg/kg		**7.3**	**7.1**	----	----	----
Copper	7440-50-8	1.0	mg/kg		**2.8**	**2.8**	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		**6.3**	**6.3**	----	----	----
Lead	7439-92-1	1.0	mg/kg		**2.6**	**2.5**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB3 0.5-1.0a	WB3 0.0-0.5a	WB3 0.3V	WB3 0.7V	WB3 0.0-0.5B
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-001	ES1502737-002	ES1502737-003	ES1502737-004	ES1502737-005
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		1400	1490	----	----	----
Nickel	7440-02-0	1.0	mg/kg		3.6	3.7	----	----	----
Selenium	7782-49-2	0.1	mg/kg		0.3	0.3	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.1	<0.1	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		27.7	27.5	----	----	----
Zinc	7440-66-6	1.0	mg/kg		13.5	14.1	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	<0.01	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		0.4	0.8	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		0.4	0.8	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		60	60	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		60	60	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		205	190	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		3.6	2.0	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		0.06	0.05	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	<3	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		8	4	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	<5	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		8	4	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	<3	<3	----
C10 - C14 Fraction	----	3	mg/kg		<3	<3	----	----	----
C15 - C28 Fraction	----	3	mg/kg		5	<3	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB3 0.5-1.0a	WB3 0.0-0.5a	WB3 0.3V	WB3 0.7V	WB3 0.0-0.5B
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-001	ES1502737-002	ES1502737-003	ES1502737-004	ES1502737-005
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	<5	----	----	----
^ **C10 - C36 Fraction (sum)**	----	3	mg/kg		**5**	<3	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	<3	<3	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	<0.2	<0.2	----
Toluene	108-88-3	0.2	mg/kg		----	----	<0.2	<0.2	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	<0.2	<0.2	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	<0.2	<0.2	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	<0.2	<0.2	----
^ **Total Xylenes**	1330-20-7	0.5	mg/kg		----	----	<0.5	<0.5	----
^ **Sum of BTEX**	----	0.2	mg/kg		----	----	<0.2	<0.2	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	<1	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	<1	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	<0.5	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	<10	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	<10	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	<10.0	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	<10	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	<10	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	<10	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	<10	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	<10	----	----	----
Ethion	563-12-2	10	µg/kg		<10	<10	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	<10	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	<10	----	----	----
Malathion	121-75-5	10	µg/kg		<10	<10	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	<10	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	<10	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB3 0.5-1.0a	WB3 0.0-0.5a	WB3 0.3V	WB3 0.7V	WB3 0.0-0.5B
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-001	ES1502737-002	ES1502737-003	ES1502737-004	ES1502737-005
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	<10	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	<10	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	<10	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	<10	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	<0.50	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	<0.50	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	<0.50	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	<0.50	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	<0.50	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	<0.25	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	<0.50	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	<0.25	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	<0.25	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	<0.25	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	<0.50	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	<5.0	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB3 0.5-1.0a	WB3 0.0-0.5a	WB3 0.3V	WB3 0.7V	WB3 0.0-0.5B
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1502737-001	ES1502737-002	ES1502737-003	ES1502737-004	ES1502737-005
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	<5.0	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	<5	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	<5	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	<4	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	<4	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	<4	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	<4	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	<4	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	<4	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	<4	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	<4	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	<4	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	<4	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	<4	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	<4	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	<4	----	----	----
Perylene	198-55-0	4	µg/kg		<4	<4	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	<4	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	<4	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	<4	----	----	----
Coronene	191-07-1	5	µg/kg		<5	<5	----	----	----
^ Sum of PAHs	----	4	µg/kg		<4	<4	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	75.9	85.6	----
Toluene-D8	2037-26-5	0.1	%		----	----	81.2	83.0	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	95.8	98.9	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		66.4	74.8	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB3 0.5-1.0a	WB3 0.0-0.5a	WB3 0.3V	WB3 0.7V	WB3 0.0-0.5B
			Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1502737-001	ES1502737-002	ES1502737-003	ES1502737-004	ES1502737-005
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	73.3	81.4	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	114	72.1	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	104	64.6	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	112	102	----	----	----
Anthracene-d10	1719-06-8	0.1	%	116	118	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	120	119	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB3 0.5-1.0B	TRIPLICATE 2A	TRIPLICATE 2B	DUPLICATE 2A	TRIP BLANK 1
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-006	ES1502737-007	ES1502737-008	ES1502737-009	ES1502737-011
EA150: Particle Sizing									
+75µm	----	1	%		**96**	----	----	----	----
+150µm	----	1	%		**93**	----	----	----	----
+300µm	----	1	%		**25**	----	----	----	----
+425µm	----	1	%		**9**	----	----	----	----
+600µm	----	1	%		**6**	----	----	----	----
+1180µm	----	1	%		**3**	----	----	----	----
+2.36mm	----	1	%		**2**	----	----	----	----
+4.75mm	----	1	%		<1	----	----	----	----
+9.5mm	----	1	%		<1	----	----	----	----
+19.0mm	----	1	%		<1	----	----	----	----
+37.5mm	----	1	%		<1	----	----	----	----
+75.0mm	----	1	%		<1	----	----	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	**16.6**	**24.3**	**24.3**	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		**2**	----	----	----	----
Silt (2-60 µm)	----	1	%		**1**	----	----	----	----
Sand (0.06-2.00 mm)	----	1	%		**95**	----	----	----	----
Gravel (>2mm)	----	1	%		**2**	----	----	----	----
Cobbles (>6cm)	----	1	%		<1	----	----	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		**2.72**	----	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	**4250**	**4060**	**5120**	----
Iron	7439-89-6	50	mg/kg		----	**10500**	**9300**	**10600**	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	<0.50	<0.50	<0.50	----
Arsenic	7440-38-2	1.00	mg/kg		----	**22.5**	**20.5**	**15.5**	----
Cadmium	7440-43-9	0.1	mg/kg		----	<0.1	<0.1	<0.1	----
Chromium	7440-47-3	1.0	mg/kg		----	**8.2**	**7.5**	**10.4**	----
Copper	7440-50-8	1.0	mg/kg		----	**2.8**	**2.6**	**3.8**	----
Cobalt	7440-48-4	0.5	mg/kg		----	**6.5**	**6.0**	**6.6**	----
Lead	7439-92-1	1.0	mg/kg		----	**2.8**	**2.6**	**2.9**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB3 0.5-1.0B	TRIPLICATE 2A	TRIPLICATE 2B	DUPLICATE 2A	TRIP BLANK 1
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-006	ES1502737-007	ES1502737-008	ES1502737-009	ES1502737-011
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	1600	1500	559	----
Nickel	7440-02-0	1.0	mg/kg		----	4.0	3.8	4.7	----
Selenium	7782-49-2	0.1	mg/kg		----	0.4	0.4	0.4	----
Silver	7440-22-4	0.1	mg/kg		----	<0.1	<0.1	<0.1	----
Vanadium	7440-62-2	2.0	mg/kg		----	30.5	26.2	29.1	----
Zinc	7440-66-6	1.0	mg/kg		----	14.2	13.9	14.7	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	<0.01	<0.01	<0.01	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	<0.1	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	0.2	0.2	0.2	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	0.2	0.2	0.2	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	50	60	80	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	50	60	80	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	197	215	240	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	3.3	2.6	1.8	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	0.04	0.04	0.08	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	<3	<3	<3	<3
>C16 - C34 Fraction	----	3	mg/kg		----	6	4	<3	<3
>C34 - C40 Fraction	----	5	mg/kg		----	<5	<5	<5	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	6	4	<3	<3
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		----	<3	<3	<3	<3
C15 - C28 Fraction	----	3	mg/kg		----	3	3	<3	<3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB3 0.5-1.0B	TRIPLICATE 2A	TRIPLICATE 2B	DUPLICATE 2A	TRIP BLANK 1
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-006	ES1502737-007	ES1502737-008	ES1502737-009	ES1502737-011
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	<5	<5	<5	<5
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	3	3	<3	<3
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	----	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	<1	<1	<1	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	<1	<1	<1	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	<0.5	<0.5	<0.5	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	<10	<10	<10	----
Carbophenothion	786-19-6	10	µg/kg		----	<10	<10	<10	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	<10.0	<10.0	<10.0	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	<10	<10	<10	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	<10	<10	<10	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	<10	<10	<10	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	<10	<10	<10	----
Diazinon	333-41-5	10	µg/kg		----	<10	<10	<10	----
Dichlorvos	62-73-7	10	µg/kg		----	<10	<10	<10	----
Dimethoate	60-51-5	10	µg/kg		----	<10	<10	<10	----
Ethion	563-12-2	10	µg/kg		----	<10	<10	<10	----
Fenamiphos	22224-92-6	10	µg/kg		----	<10	<10	<10	----
Fenthion	55-38-9	10	µg/kg		----	<10	<10	<10	----
Malathion	121-75-5	10	µg/kg		----	<10	<10	<10	----
Azinphos Methyl	86-50-0	10	µg/kg		----	<10	<10	<10	----
Monocrotophos	6923-22-4	10	µg/kg		----	<10	<10	<10	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB3 0.5-1.0B	TRIPLICATE 2A	TRIPLICATE 2B	DUPLICATE 2A	TRIP BLANK 1
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-006	ES1502737-007	ES1502737-008	ES1502737-009	ES1502737-011
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	<10	<10	<10	----
Parathion-methyl	298-00-0	10	µg/kg		----	<10	<10	<10	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	<10	<10	<10	----
Prothiofos	34643-46-4	10	µg/kg		----	<10	<10	<10	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
alpha-BHC	319-84-6	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
beta-BHC	319-85-7	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
delta-BHC	319-86-8	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
Dieldrin	60-57-1	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
Endrin	72-20-8	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
Heptachlor	76-44-8	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
gamma-BHC	58-89-9	0.25	µg/kg		----	<0.25	<0.25	<0.25	----
Methoxychlor	72-43-5	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	<0.25	<0.25	<0.25	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	<0.25	<0.25	<0.25	----
^ Total Chlordane (sum)	----	0.25	µg/kg		----	<0.25	<0.25	<0.25	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	<5.0	<5.0	<5.0	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	<5.0	<5.0	<5.0	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	<5.0	<5.0	<5.0	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB3 0.5-1.0B	TRIPLICATE 2A	TRIPLICATE 2B	DUPLICATE 2A	TRIP BLANK 1
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-006	ES1502737-007	ES1502737-008	ES1502737-009	ES1502737-011
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	<5.0	<5.0	<5.0	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	<5.0	<5.0	<5.0	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	<5.0	<5.0	<5.0	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	<5.0	<5.0	<5.0	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	<5.0	<5.0	<5.0	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	<5	<5	<5	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	<5	<5	<5	----
Acenaphthylene	208-96-8	4	µg/kg		----	<4	<4	<4	----
Acenaphthene	83-32-9	4	µg/kg		----	<4	<4	<4	----
Fluorene	86-73-7	4	µg/kg		----	<4	<4	<4	----
Phenanthrene	85-01-8	4	µg/kg		----	<4	<4	<4	----
Anthracene	120-12-7	4	µg/kg		----	<4	<4	<4	----
Fluoranthene	206-44-0	4	µg/kg		----	<4	<4	<4	----
Pyrene	129-00-0	4	µg/kg		----	<4	<4	<4	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	<4	<4	<4	----
Chrysene	218-01-9	4	µg/kg		----	<4	<4	<4	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	<4	<4	<4	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	<4	<4	<4	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	<4	<4	<4	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	<4	<4	<4	----
Perylene	198-55-0	4	µg/kg		----	<4	<4	<4	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	<4	<4	<4	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	<4	<4	<4	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	<4	<4	<4	----
Coronene	191-07-1	5	µg/kg		----	<5	<5	<5	----
^ **Sum of PAHs**	----	4	µg/kg		----	<4	<4	<4	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	----	**93.8**
Toluene-D8	2037-26-5	0.1	%		----	----	----	----	**92.4**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	----	**108**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	**79.2**	**67.3**	**158**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB3 0.5-1.0B	TRIPLICATE 2A	TRIPLICATE 2B	DUPLICATE 2A	TRIP BLANK 1
			Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1502737-006	ES1502737-007	ES1502737-008	ES1502737-009	ES1502737-011
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	73.8	76.7	71.3	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	87.8	71.6	82.9	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	81.0	75.5	80.8	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	106	103	90.7	----
Anthracene-d10	1719-06-8	0.1	%	----	123	121	113	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	116	122	119	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	TRIP BLANK 2	WB4 0.0-0.5A	WB4 0.5-1.0A	WB4 0.3V	WB4 0.7V
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-012	ES1502737-014	ES1502737-015	ES1502737-016	ES1502737-017
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	20.4	21.5	16.3	21.9
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	4220	4430	----	----
Iron	7439-89-6	50	mg/kg		----	9040	8980	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	<0.50	<0.50	----	----
Arsenic	7440-38-2	1.00	mg/kg		----	9.36	9.02	----	----
Cadmium	7440-43-9	0.1	mg/kg		----	<0.1	<0.1	----	----
Chromium	7440-47-3	1.0	mg/kg		----	7.9	7.6	----	----
Copper	7440-50-8	1.0	mg/kg		----	3.4	3.5	----	----
Cobalt	7440-48-4	0.5	mg/kg		----	5.2	5.3	----	----
Lead	7439-92-1	1.0	mg/kg		----	2.3	2.5	----	----
Manganese	7439-96-5	10	mg/kg		----	485	711	----	----
Nickel	7440-02-0	1.0	mg/kg		----	3.8	4.0	----	----
Selenium	7782-49-2	0.1	mg/kg		----	0.3	0.3	----	----
Silver	7440-22-4	0.1	mg/kg		----	<0.1	<0.1	----	----
Vanadium	7440-62-2	2.0	mg/kg		----	23.5	24.4	----	----
Zinc	7440-66-6	1.0	mg/kg		----	12.0	12.4	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	<0.01	<0.01	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	0.2	0.2	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	0.2	0.2	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	40	40	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	40	40	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	183	193	----	----
EK255A SD Ammonia in Sediment									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	TRIP BLANK 2	WB4 0.0-0.5A	WB4 0.5-1.0A	WB4 0.3V	WB4 0.7V
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-012	ES1502737-014	ES1502737-015	ES1502737-016	ES1502737-017
EK255A SD Ammonia in Sediment - Continued									
Ammonia as N	7664-41-7	0.2	mg/kg		----	1.7	1.4	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	0.04	0.06	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	<3	<3	----	----
>C16 - C34 Fraction	----	3	mg/kg		<3	9	4	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	<5	<5	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	9	4	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	----	----	<3	<3
C10 - C14 Fraction	----	3	mg/kg		<3	<3	<3	----	----
C15 - C28 Fraction	----	3	mg/kg		<3	6	<3	----	----
C29 - C36 Fraction	----	5	mg/kg		<5	<5	<5	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		<3	6	<3	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	----	----	<3	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	<0.2	<0.2
Toluene	108-88-3	0.2	mg/kg		<0.2	----	----	<0.2	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	----	----	<0.2	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	----	----	<0.2	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	----	----	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	----	----	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	<0.2	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	<1	<1	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	<1	<1	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	<0.5	<0.5	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	<10	<10	----	----
Carbophenothion	786-19-6	10	µg/kg		----	<10	<10	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	<10.0	<10.0	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	<10	<10	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	TRIP BLANK 2	WB4 0.0-0.5A	WB4 0.5-1.0A	WB4 0.3V	WB4 0.7V
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-012	ES1502737-014	ES1502737-015	ES1502737-016	ES1502737-017
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Chlorpyrifos	2921-88-2	10	µg/kg		----	<10	<10	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	<10	<10	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	<10	<10	----	----
Diazinon	333-41-5	10	µg/kg		----	<10	<10	----	----
Dichlorvos	62-73-7	10	µg/kg		----	<10	<10	----	----
Dimethoate	60-51-5	10	µg/kg		----	<10	<10	----	----
Ethion	563-12-2	10	µg/kg		----	<10	<10	----	----
Fenamiphos	22224-92-6	10	µg/kg		----	<10	<10	----	----
Fenthion	55-38-9	10	µg/kg		----	<10	<10	----	----
Malathion	121-75-5	10	µg/kg		----	<10	<10	----	----
Azinphos Methyl	86-50-0	10	µg/kg		----	<10	<10	----	----
Monocrotophos	6923-22-4	10	µg/kg		----	<10	<10	----	----
Parathion	56-38-2	10	µg/kg		----	<10	<10	----	----
Parathion-methyl	298-00-0	10	µg/kg		----	<10	<10	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	<10	<10	----	----
Prothiofos	34643-46-4	10	µg/kg		----	<10	<10	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg		----	<0.50	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	<0.50	<0.50	----	----
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	<0.50	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	<0.50	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	<0.50	<0.50	----	----
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg		----	<0.50	<0.50	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	TRIP BLANK 2	WB4 0.0-0.5A	WB4 0.5-1.0A	WB4 0.3V	WB4 0.7V
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-012	ES1502737-014	ES1502737-015	ES1502737-016	ES1502737-017
EP131A: Organochlorine Pesticides - Continued									
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	<0.50	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	<0.50	<0.50	----	----
gamma-BHC	58-89-9	0.25	µg/kg		----	<0.25	<0.25	----	----
Methoxychlor	72-43-5	0.50	µg/kg		----	<0.50	<0.50	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	<0.25	<0.25	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	<0.25	<0.25	----	----
^ **Total Chlordane (sum)**	----	0.25	µg/kg		----	<0.25	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	<0.50	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1232	11141-16-5	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	<5.0	<5.0	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	<5	<5	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	<5	<5	----	----
Acenaphthylene	208-96-8	4	µg/kg		----	<4	<4	----	----
Acenaphthene	83-32-9	4	µg/kg		----	<4	<4	----	----
Fluorene	86-73-7	4	µg/kg		----	<4	<4	----	----
Phenanthrene	85-01-8	4	µg/kg		----	<4	<4	----	----
Anthracene	120-12-7	4	µg/kg		----	<4	<4	----	----
Fluoranthene	206-44-0	4	µg/kg		----	<4	<4	----	----
Pyrene	129-00-0	4	µg/kg		----	<4	<4	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	<4	<4	----	----
Chrysene	218-01-9	4	µg/kg		----	<4	<4	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	<4	<4	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	<4	<4	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	<4	<4	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	<4	<4	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	TRIP BLANK 2	WB4 0.0-0.5A	WB4 0.5-1.0A	WB4 0.3V	WB4 0.7V
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-012	ES1502737-014	ES1502737-015	ES1502737-016	ES1502737-017
EP132B: Polynuclear Aromatic Hydrocarbons - Continued									
Perylene	198-55-0	4	µg/kg		----	<4	<4	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	<4	<4	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	<4	<4	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	<4	<4	----	----
Coronene	191-07-1	5	µg/kg		----	<5	<5	----	----
^ **Sum of PAHs**	----	4	µg/kg		----	<4	<4	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**88.1**	----	----	**90.9**	**85.0**
Toluene-D8	2037-26-5	0.1	%		**84.7**	----	----	**92.3**	**82.1**
4-Bromofluorobenzene	460-00-4	0.1	%		**103**	----	----	**104**	**102**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	**77.5**	**65.7**	----	----
EP130S: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%		----	**72.3**	**82.7**	----	----
EP131S: OC Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.1	%		----	**74.8**	**71.4**	----	----
EP131T: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	**75.4**	**61.8**	----	----
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		----	**109**	**93.3**	----	----
Anthracene-d10	1719-06-8	0.1	%		----	**125**	**118**	----	----
4-Terphenyl-d14	1718-51-0	0.1	%		----	**125**	**109**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB4 0.5-1.0B	WB4 0.0-0.5B	WB5 0.5-1.0B	WB5 0.0-0.5B	WB5 0.5-1.0A
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-018	ES1502737-019	ES1502737-020	ES1502737-021	ES1502737-022
EA150: Particle Sizing									
+75µm	----	1	%		92	93	76	95	----
+150µm	----	1	%		86	86	53	87	----
+300µm	----	1	%		24	30	26	24	----
+425µm	----	1	%		10	16	23	16	----
+600µm	----	1	%		4	10	21	12	----
+1180µm	----	1	%		1	6	17	8	----
+2.36mm	----	1	%		<1	3	11	6	----
+4.75mm	----	1	%		<1	2	7	4	----
+9.5mm	----	1	%		<1	1	3	<1	----
+19.0mm	----	1	%		<1	<1	<1	<1	----
+37.5mm	----	1	%		<1	<1	<1	<1	----
+75.0mm	----	1	%		<1	<1	<1	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	----	----	----	22.7
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		3	4	12	4	----
Silt (2-60 µm)	----	1	%		1	1	7	<1	----
Sand (0.06-2.00 mm)	----	1	%		95	91	68	89	----
Gravel (>2mm)	----	1	%		1	4	13	7	----
Cobbles (>6cm)	----	1	%		<1	<1	<1	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		2.69	2.70	2.70	2.69	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	----	----	6470
Iron	7439-89-6	50	mg/kg		----	----	----	----	11500
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	----	----	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	----	----	----	8.88
Cadmium	7440-43-9	0.1	mg/kg		----	----	----	----	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	----	----	----	12.4
Copper	7440-50-8	1.0	mg/kg		----	----	----	----	5.5
Cobalt	7440-48-4	0.5	mg/kg		----	----	----	----	6.4
Lead	7439-92-1	1.0	mg/kg		----	----	----	----	3.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB4 0.5-1.0B	WB4 0.0-0.5B	WB5 0.5-1.0B	WB5 0.0-0.5B	WB5 0.5-1.0A
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-018	ES1502737-019	ES1502737-020	ES1502737-021	ES1502737-022
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	----	----	**1720**
Nickel	7440-02-0	1.0	mg/kg		----	----	----	----	**5.8**
Selenium	7782-49-2	0.1	mg/kg		----	----	----	----	**0.4**
Silver	7440-22-4	0.1	mg/kg		----	----	----	----	<0.1
Vanadium	7440-62-2	2.0	mg/kg		----	----	----	----	**31.9**
Zinc	7440-66-6	1.0	mg/kg		----	----	----	----	**17.8**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	----	----	<0.01
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	----	**0.1**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	----	**0.1**
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	----	----	**140**
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	----	----	**140**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	----	----	**247**
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	----	----	**4.0**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	----	----	**0.23**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	----	----	<3
>C16 - C34 Fraction	----	3	mg/kg		----	----	----	----	**6**
>C34 - C40 Fraction	----	5	mg/kg		----	----	----	----	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	----	----	**6**
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C10 - C14 Fraction	----	3	mg/kg		----	----	----	----	<3
C15 - C28 Fraction	----	3	mg/kg		----	----	----	----	**4**
C29 - C36 Fraction	----	5	mg/kg		----	----	----	----	<5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB4 0.5-1.0B	WB4 0.0-0.5B	WB5 0.5-1.0B	WB5 0.0-0.5B	WB5 0.5-1.0A
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-018	ES1502737-019	ES1502737-020	ES1502737-021	ES1502737-022
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	----	----	4
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	----	----	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	----	----	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	----	----	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	----	----	<10
Carbophenothion	786-19-6	10	µg/kg		----	----	----	----	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	----	----	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	----	----	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	----	----	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	----	----	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	----	----	<10
Diazinon	333-41-5	10	µg/kg		----	----	----	----	<10
Dichlorvos	62-73-7	10	µg/kg		----	----	----	----	<10
Dimethoate	60-51-5	10	µg/kg		----	----	----	----	<10
Ethion	563-12-2	10	µg/kg		----	----	----	----	<10
Fenamiphos	22224-92-6	10	µg/kg		----	----	----	----	<10
Fenthion	55-38-9	10	µg/kg		----	----	----	----	<10
Malathion	121-75-5	10	µg/kg		----	----	----	----	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	----	----	----	<10
Monocrotophos	6923-22-4	10	µg/kg		----	----	----	----	<10
Parathion	56-38-2	10	µg/kg		----	----	----	----	<10
Parathion-methyl	298-00-0	10	µg/kg		----	----	----	----	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	----	----	<10
Prothiofos	34643-46-4	10	µg/kg		----	----	----	----	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	----	----	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	----	----	----	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	----	----	----	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	----	----	<0.50

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB4 0.5-1.0B	WB4 0.0-0.5B	WB5 0.5-1.0B	WB5 0.0-0.5B	WB5 0.5-1.0A
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-018	ES1502737-019	ES1502737-020	ES1502737-021	ES1502737-022
EP131A: Organochlorine Pesticides - Continued									
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	----	----	<0.50
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	----	----	----	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	----	----	----	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	----	----	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	----	----	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	----	----	<0.50
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	----	----	----	<0.50
Endrin	72-20-8	0.50	µg/kg		----	----	----	----	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	----	----	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	----	----	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	----	----	----	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	----	----	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	----	----	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	----	----	----	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	----	----	----	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	----	----	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	----	----	<0.25
^ Total Chlordane (sum)	----	0.25	µg/kg		----	----	----	----	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	----	----	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	----	----	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	----	----	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	----	----	<5
Acenaphthylene	208-96-8	4	µg/kg		----	----	----	----	<4
Acenaphthene	83-32-9	4	µg/kg		----	----	----	----	<4
Fluorene	86-73-7	4	µg/kg		----	----	----	----	<4

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB4 0.5-1.0B	WB4 0.0-0.5B	WB5 0.5-1.0B	WB5 0.0-0.5B	WB5 0.5-1.0A
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-018	ES1502737-019	ES1502737-020	ES1502737-021	ES1502737-022
EP132B: Polynuclear Aromatic Hydrocarbons - Continued									
Phenanthrene	85-01-8	4	µg/kg		----	----	----	----	<4
Anthracene	120-12-7	4	µg/kg		----	----	----	----	<4
Fluoranthene	206-44-0	4	µg/kg		----	----	----	----	<4
Pyrene	129-00-0	4	µg/kg		----	----	----	----	<4
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	----	----	<4
Chrysene	218-01-9	4	µg/kg		----	----	----	----	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	----	----	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	----	----	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	----	----	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	----	----	<4
Perylene	198-55-0	4	µg/kg		----	----	----	----	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	----	----	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	----	----	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	----	----	<4
Coronene	191-07-1	5	µg/kg		----	----	----	----	<5
^ **Sum of PAHs**	----	4	µg/kg		----	----	----	----	<4
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	----	----	**74.4**
EP130S: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%		----	----	----	----	**82.6**
EP131S: OC Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.1	%		----	----	----	----	**77.9**
EP131T: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	----	----	----	**65.5**
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		----	----	----	----	**93.2**
Anthracene-d10	1719-06-8	0.1	%		----	----	----	----	**125**
4-Terphenyl-d14	1718-51-0	0.1	%		----	----	----	----	**118**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB5 0.0-0.5A	WB5 0.3V	WB5 0.7V	WB8 0.5-1.0A	WB8 0.0-0.5A
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-023	ES1502737-024	ES1502737-025	ES1502737-026	ES1502737-027
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		21.7	20.2	23.7	29.4	26.0
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		4260	----	----	9350	5620
Iron	7439-89-6	50	mg/kg		10000	----	----	15000	12100
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	----	----	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		18.0	----	----	17.6	17.4
Cadmium	7440-43-9	0.1	mg/kg		<0.1	----	----	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg		9.0	----	----	14.2	11.1
Copper	7440-50-8	1.0	mg/kg		2.8	----	----	9.4	4.3
Cobalt	7440-48-4	0.5	mg/kg		6.3	----	----	8.5	7.5
Lead	7439-92-1	1.0	mg/kg		2.5	----	----	4.4	3.2
Manganese	7439-96-5	10	mg/kg		1070	----	----	781	737
Nickel	7440-02-0	1.0	mg/kg		3.9	----	----	7.6	5.4
Selenium	7782-49-2	0.1	mg/kg		0.3	----	----	0.5	0.4
Silver	7440-22-4	0.1	mg/kg		<0.1	----	----	<0.1	<0.1
Vanadium	7440-62-2	2.0	mg/kg		27.6	----	----	38.3	30.7
Zinc	7440-66-6	1.0	mg/kg		15.5	----	----	24.3	16.6
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	----	----	<0.01	<0.01
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	<0.1	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		0.6	----	----	0.1	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		0.6	----	----	0.1	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		70	----	----	200	300
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		70	----	----	200	300
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		209	----	----	260	229
EK255A SD Ammonia in Sediment									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB5 0.0-0.5A	WB5 0.3V	WB5 0.7V	WB8 0.5-1.0A	WB8 0.0-0.5A
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-023	ES1502737-024	ES1502737-025	ES1502737-026	ES1502737-027
EK255A SD Ammonia in Sediment - Continued									
Ammonia as N	7664-41-7	0.2	mg/kg		**0.6**	----	----	**20.3**	**5.7**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		**0.05**	----	----	**0.41**	**0.27**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	----	----	<3	<3
>C16 - C34 Fraction	----	3	mg/kg		**4**	----	----	**8**	**10**
>C34 - C40 Fraction	----	5	mg/kg		<5	----	----	<5	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		**4**	----	----	**8**	**10**
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	<3	<3	----	----
C10 - C14 Fraction	----	3	mg/kg		<3	----	----	**3**	<3
C15 - C28 Fraction	----	3	mg/kg		**3**	----	----	**5**	**8**
C29 - C36 Fraction	----	5	mg/kg		<5	----	----	<5	<5
^ **C10 - C36 Fraction (sum)**	----	3	mg/kg		**3**	----	----	**8**	**8**
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	<3	<3	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	<0.2	<0.2	----	----
Toluene	108-88-3	0.2	mg/kg		----	<0.2	<0.2	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	<0.2	<0.2	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	<0.2	<0.2	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	<0.2	<0.2	----	----
^ **Total Xylenes**	1330-20-7	0.5	mg/kg		----	<0.5	<0.5	----	----
^ **Sum of BTEX**	----	0.2	mg/kg		----	<0.2	<0.2	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	----	----	<1	<1
Dibutyltin	1002-53-5	1	µgSn/kg		<1	----	----	<1	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	----	----	<0.5	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	----	----	<10	<10
Carbophenothion	786-19-6	10	µg/kg		<10	----	----	<10	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	----	----	<10.0	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	----	----	<10	<10

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB5 0.0-0.5A	WB5 0.3V	WB5 0.7V	WB8 0.5-1.0A	WB8 0.0-0.5A
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-023	ES1502737-024	ES1502737-025	ES1502737-026	ES1502737-027
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Chlorpyrifos	2921-88-2	10	µg/kg		<10	----	----	<10	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	----	----	<10	<10
Demeton-S-methyl	919-86-8	10	µg/kg		<10	----	----	<10	<10
Diazinon	333-41-5	10	µg/kg		<10	----	----	<10	<10
Dichlorvos	62-73-7	10	µg/kg		<10	----	----	<10	<10
Dimethoate	60-51-5	10	µg/kg		<10	----	----	<10	<10
Ethion	563-12-2	10	µg/kg		<10	----	----	<10	<10
Fenamiphos	22224-92-6	10	µg/kg		<10	----	----	<10	<10
Fenthion	55-38-9	10	µg/kg		<10	----	----	<10	<10
Malathion	121-75-5	10	µg/kg		<10	----	----	<10	<10
Azinphos Methyl	86-50-0	10	µg/kg		<10	----	----	<10	<10
Monocrotophos	6923-22-4	10	µg/kg		<10	----	----	<10	<10
Parathion	56-38-2	10	µg/kg		<10	----	----	<10	<10
Parathion-methyl	298-00-0	10	µg/kg		<10	----	----	<10	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	----	----	<10	<10
Prothiofos	34643-46-4	10	µg/kg		<10	----	----	<10	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
beta-BHC	319-85-7	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
delta-BHC	319-86-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Dieldrin	60-57-1	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Endrin	72-20-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Heptachlor	76-44-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB5 0.0-0.5A	WB5 0.3V	WB5 0.7V	WB8 0.5-1.0A	WB8 0.0-0.5A
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-023	ES1502737-024	ES1502737-025	ES1502737-026	ES1502737-027
EP131A: Organochlorine Pesticides - Continued									
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	----	----	<0.25	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	----	----	<0.25	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	----	----	<0.25	<0.25
^ **Total Chlordane (sum)**	----	0.25	µg/kg		<0.25	----	----	<0.25	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	----	----	<5	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	----	----	<5	<5
Acenaphthylene	208-96-8	4	µg/kg		<4	----	----	<4	<4
Acenaphthene	83-32-9	4	µg/kg		<4	----	----	<4	<4
Fluorene	86-73-7	4	µg/kg		<4	----	----	<4	<4
Phenanthrene	85-01-8	4	µg/kg		<4	----	----	<4	<4
Anthracene	120-12-7	4	µg/kg		<4	----	----	<4	<4
Fluoranthene	206-44-0	4	µg/kg		<4	----	----	<4	<4
Pyrene	129-00-0	4	µg/kg		<4	----	----	<4	<4
Benz(a)anthracene	56-55-3	4	µg/kg		<4	----	----	<4	<4
Chrysene	218-01-9	4	µg/kg		<4	----	----	<4	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	----	----	<4	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	----	----	<4	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	----	----	<4	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	----	----	<4	<4

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB5 0.0-0.5A	WB5 0.3V	WB5 0.7V	WB8 0.5-1.0A	WB8 0.0-0.5A
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1502737-023	ES1502737-024	ES1502737-025	ES1502737-026	ES1502737-027
EP132B: Polynuclear Aromatic Hydrocarbons - Continued									
Perylene	198-55-0	4	µg/kg		<4	----	----	<4	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	----	----	<4	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	----	----	<4	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	----	----	<4	<4
Coronene	191-07-1	5	µg/kg		<5	----	----	<5	<5
^ Sum of PAHs	----	4	µg/kg		<4	----	----	<4	<4
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	86.6	83.6	----	----
Toluene-D8	2037-26-5	0.1	%		----	84.1	81.5	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	100	99.2	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		66.4	----	----	84.5	69.5
EP130S: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%		73.7	----	----	70.6	70.3
EP131S: OC Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.1	%		117	----	----	75.2	61.0
EP131T: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		102	----	----	83.9	102
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		120	----	----	94.1	92.5
Anthracene-d10	1719-06-8	0.1	%		127	----	----	113	121
4-Terphenyl-d14	1718-51-0	0.1	%		111	----	----	103	111

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB8 0.3V	WB8 0.7V	WB8 0.5-1.0B	WB8 0.0-0.5B	WB9 0.0-0.5A
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-028	ES1502737-029	ES1502737-030	ES1502737-031	ES1502737-032
EA150: Particle Sizing									
+75µm	----	1	%		----	----	**97**	**90**	----
+150µm	----	1	%		----	----	**65**	**60**	----
+300µm	----	1	%		----	----	<1	<1	----
+425µm	----	1	%		----	----	<1	<1	----
+600µm	----	1	%		----	----	<1	<1	----
+1180µm	----	1	%		----	----	<1	<1	----
+2.36mm	----	1	%		----	----	<1	<1	----
+4.75mm	----	1	%		----	----	<1	<1	----
+9.5mm	----	1	%		----	----	<1	<1	----
+19.0mm	----	1	%		----	----	<1	<1	----
+37.5mm	----	1	%		----	----	<1	<1	----
+75.0mm	----	1	%		----	----	<1	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**25.0**	**29.5**	----	----	**23.2**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	**3**	**6**	----
Silt (2-60 µm)	----	1	%		----	----	<1	**2**	----
Sand (0.06-2.00 mm)	----	1	%		----	----	**97**	**92**	----
Gravel (>2mm)	----	1	%		----	----	<1	<1	----
Cobbles (>6cm)	----	1	%		----	----	<1	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	**2.70**	**2.69**	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	----	----	**5000**
Iron	7439-89-6	50	mg/kg		----	----	----	----	**12400**
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	----	----	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	----	----	----	**21.4**
Cadmium	7440-43-9	0.1	mg/kg		----	----	----	----	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	----	----	----	**10.3**
Copper	7440-50-8	1.0	mg/kg		----	----	----	----	**3.3**
Cobalt	7440-48-4	0.5	mg/kg		----	----	----	----	**6.8**
Lead	7439-92-1	1.0	mg/kg		----	----	----	----	**2.6**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB8 0.3V	WB8 0.7V	WB8 0.5-1.0B	WB8 0.0-0.5B	WB9 0.0-0.5A
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1502737-028	ES1502737-029	ES1502737-030	ES1502737-031	ES1502737-032
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	----	----	**855**
Nickel	7440-02-0	1.0	mg/kg		----	----	----	----	**4.6**
Selenium	7782-49-2	0.1	mg/kg		----	----	----	----	**0.4**
Silver	7440-22-4	0.1	mg/kg		----	----	----	----	<0.1
Vanadium	7440-62-2	2.0	mg/kg		----	----	----	----	**33.5**
Zinc	7440-66-6	1.0	mg/kg		----	----	----	----	**15.6**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	----	----	<0.01
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	----	**0.1**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	----	**0.1**
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	----	----	**60**
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	----	----	**60**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	----	----	**240**
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	----	----	**3.1**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	----	----	**0.10**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	----	----	<3
>C16 - C34 Fraction	----	3	mg/kg		----	----	----	----	**8**
>C34 - C40 Fraction	----	5	mg/kg		----	----	----	----	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	----	----	**8**
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	<3	----	----	----
C10 - C14 Fraction	----	3	mg/kg		----	----	----	----	<3
C15 - C28 Fraction	----	3	mg/kg		----	----	----	----	**6**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB8 0.3V	WB8 0.7V	WB8 0.5-1.0B	WB8 0.0-0.5B	WB9 0.0-0.5A
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-028	ES1502737-029	ES1502737-030	ES1502737-031	ES1502737-032
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	----	----	<5
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	----	----	6
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	<3	----	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	----	----
Toluene	108-88-3	0.2	mg/kg		<0.2	<0.2	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	<0.2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	<0.2	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	<0.2	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	----	----	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	----	----	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	----	----	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	----	----	<10
Carbophenothion	786-19-6	10	µg/kg		----	----	----	----	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	----	----	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	----	----	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	----	----	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	----	----	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	----	----	<10
Diazinon	333-41-5	10	µg/kg		----	----	----	----	<10
Dichlorvos	62-73-7	10	µg/kg		----	----	----	----	<10
Dimethoate	60-51-5	10	µg/kg		----	----	----	----	<10
Ethion	563-12-2	10	µg/kg		----	----	----	----	<10
Fenamiphos	22224-92-6	10	µg/kg		----	----	----	----	<10
Fenthion	55-38-9	10	µg/kg		----	----	----	----	<10
Malathion	121-75-5	10	µg/kg		----	----	----	----	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	----	----	----	<10
Monocrotophos	6923-22-4	10	µg/kg		----	----	----	----	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB8 0.3V	WB8 0.7V	WB8 0.5-1.0B	WB8 0.0-0.5B	WB9 0.0-0.5A
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-028	ES1502737-029	ES1502737-030	ES1502737-031	ES1502737-032
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	----	----	<10
Parathion-methyl	298-00-0	10	µg/kg		----	----	----	----	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	----	----	<10
Prothiofos	34643-46-4	10	µg/kg		----	----	----	----	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	----	----	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	----	----	----	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	----	----	----	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	----	----	<0.50
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	----	----	----	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	----	----	----	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	----	----	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	----	----	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	----	----	<0.50
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	----	----	----	<0.50
Endrin	72-20-8	0.50	µg/kg		----	----	----	----	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	----	----	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	----	----	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	----	----	----	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	----	----	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	----	----	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	----	----	----	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	----	----	----	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	----	----	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	----	----	<0.25
^ Total Chlordane (sum)	----	0.25	µg/kg		----	----	----	----	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	----	----	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	----	----	<5.0

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB8 0.3V	WB8 0.7V	WB8 0.5-1.0B	WB8 0.0-0.5B	WB9 0.0-0.5A
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-028	ES1502737-029	ES1502737-030	ES1502737-031	ES1502737-032
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	----	----	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	----	----	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	----	----	<5
Acenaphthylene	208-96-8	4	µg/kg		----	----	----	----	<4
Acenaphthene	83-32-9	4	µg/kg		----	----	----	----	<4
Fluorene	86-73-7	4	µg/kg		----	----	----	----	<4
Phenanthrene	85-01-8	4	µg/kg		----	----	----	----	<4
Anthracene	120-12-7	4	µg/kg		----	----	----	----	<4
Fluoranthene	206-44-0	4	µg/kg		----	----	----	----	<4
Pyrene	129-00-0	4	µg/kg		----	----	----	----	<4
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	----	----	<4
Chrysene	218-01-9	4	µg/kg		----	----	----	----	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	----	----	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	----	----	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	----	----	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	----	----	<4
Perylene	198-55-0	4	µg/kg		----	----	----	----	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	----	----	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	----	----	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	----	----	<4
Coronene	191-07-1	5	µg/kg		----	----	----	----	<5
^ **Sum of PAHs**	----	4	µg/kg		----	----	----	----	<4
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**86.5**	**82.3**	----	----	----
Toluene-D8	2037-26-5	0.1	%		**81.0**	**80.3**	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**96.7**	**98.1**	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	----	----	**73.4**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB8 0.3V	WB8 0.7V	WB8 0.5-1.0B	WB8 0.0-0.5B	WB9 0.0-0.5A
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1502737-028	ES1502737-029	ES1502737-030	ES1502737-031	ES1502737-032
EP130S: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%		----	----	----	----	**68.9**
EP131S: OC Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.1	%		----	----	----	----	**61.8**
EP131T: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	----	----	----	**99.0**
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		----	----	----	----	**87.0**
Anthracene-d10	1719-06-8	0.1	%		----	----	----	----	**100**
4-Terphenyl-d14	1718-51-0	0.1	%		----	----	----	----	**93.6**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB9 0.5-1.0A	WB9 0.3V	WB9 0.7V	WB9 0.5-1.0B	WB9 0.0-0.5B
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1502737-033	ES1502737-034	ES1502737-035	ES1502737-036	ES1502737-037
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	97	98
+150µm	----	1	%		----	----	----	72	81
+300µm	----	1	%		----	----	----	3	1
+425µm	----	1	%		----	----	----	2	<1
+600µm	----	1	%		----	----	----	2	<1
+1180µm	----	1	%		----	----	----	1	<1
+2.36mm	----	1	%		----	----	----	1	<1
+4.75mm	----	1	%		----	----	----	1	<1
+9.5mm	----	1	%		----	----	----	<1	<1
+19.0mm	----	1	%		----	----	----	<1	<1
+37.5mm	----	1	%		----	----	----	<1	<1
+75.0mm	----	1	%		----	----	----	<1	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		23.5	23.6	18.3	----	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	2	2
Silt (2-60 µm)	----	1	%		----	----	----	<1	<1
Sand (0.06-2.00 mm)	----	1	%		----	----	----	97	98
Gravel (>2mm)	----	1	%		----	----	----	1	<1
Cobbles (>6cm)	----	1	%		----	----	----	<1	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	2.67	2.69
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		12300	----	----	----	----
Iron	7439-89-6	50	mg/kg		21600	----	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	----	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		9.80	----	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		0.8	----	----	----	----
Chromium	7440-47-3	1.0	mg/kg		20.6	----	----	----	----
Copper	7440-50-8	1.0	mg/kg		66.1	----	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		8.4	----	----	----	----
Lead	7439-92-1	1.0	mg/kg		8.5	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB9 0.5-1.0A	WB9 0.3V	WB9 0.7V	WB9 0.5-1.0B	WB9 0.0-0.5B
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-033	ES1502737-034	ES1502737-035	ES1502737-036	ES1502737-037
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		486	----	----	----	----
Nickel	7440-02-0	1.0	mg/kg		11.1	----	----	----	----
Selenium	7782-49-2	0.1	mg/kg		0.6	----	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.1	----	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		59.0	----	----	----	----
Zinc	7440-66-6	1.0	mg/kg		40.9	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		0.04	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		0.1	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		0.1	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		100	----	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		100	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		217	----	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		6.2	----	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		0.06	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	----	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		7	----	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	----	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		7	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	<3	<3	----	----
C10 - C14 Fraction	----	3	mg/kg		<3	----	----	----	----
C15 - C28 Fraction	----	3	mg/kg		4	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB9 0.5-1.0A	WB9 0.3V	WB9 0.7V	WB9 0.5-1.0B	WB9 0.0-0.5B
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-033	ES1502737-034	ES1502737-035	ES1502737-036	ES1502737-037
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	----	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		4	----	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	<3	<3	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	<0.2	<0.2	----	----
Toluene	108-88-3	0.2	mg/kg		----	<0.2	<0.2	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	<0.2	<0.2	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	<0.2	<0.2	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	<0.2	<0.2	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	<0.5	<0.5	----	----
^ Sum of BTEX	----	0.2	mg/kg		----	<0.2	<0.2	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	----	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	----	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	----	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	----	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	----	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	----	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	----	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	----	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	----	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	----	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	----	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	----	----	----	----
Ethion	563-12-2	10	µg/kg		<10	----	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	----	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	----	----	----	----
Malathion	121-75-5	10	µg/kg		<10	----	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	----	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB9 0.5-1.0A	WB9 0.3V	WB9 0.7V	WB9 0.5-1.0B	WB9 0.0-0.5B
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-033	ES1502737-034	ES1502737-035	ES1502737-036	ES1502737-037
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	----	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	----	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	----	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	----	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	----	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	----	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	----	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	----	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	----	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	----	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	----	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	----	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	----	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	----	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	----	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	----	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	----	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	----	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	----	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	----	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	----	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	----	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	----	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	----	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	----	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB9 0.5-1.0A	WB9 0.3V	WB9 0.7V	WB9 0.5-1.0B	WB9 0.0-0.5B
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-033	ES1502737-034	ES1502737-035	ES1502737-036	ES1502737-037
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	----	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	----	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	----	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	----	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	----	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	----	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	----	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	----	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	----	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	----	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	----	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	----	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	----	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	----	----	----	----
Perylene	198-55-0	4	µg/kg		<4	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	----	----	----	----
Coronene	191-07-1	5	µg/kg		<5	----	----	----	----
^ **Sum of PAHs**	----	4	µg/kg		<4	----	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	**101**	**89.6**	----	----
Toluene-D8	2037-26-5	0.1	%		----	**105**	**81.3**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	**129**	**104**	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**72.8**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB9 0.5-1.0A	WB9 0.3V	WB9 0.7V	WB9 0.5-1.0B	WB9 0.0-0.5B
			Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1502737-033	ES1502737-034	ES1502737-035	ES1502737-036	ES1502737-037
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**89.0**	----	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**63.6**	----	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**68.9**	----	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**97.6**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**123**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	**115**	----	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB12 0.0-0.5B	WB12 0.5-1.0B	WB12 0.0-0.5A	WB12 0.5-1.0A	WB12 0.3V
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-038	ES1502737-039	ES1502737-040	ES1502737-041	ES1502737-042
EA150: Particle Sizing									
+75µm	----	1	%		**96**	**94**	----	----	----
+150µm	----	1	%		**5**	**2**	----	----	----
+300µm	----	1	%		<1	<1	----	----	----
+425µm	----	1	%		<1	<1	----	----	----
+600µm	----	1	%		<1	<1	----	----	----
+1180µm	----	1	%		<1	<1	----	----	----
+2.36mm	----	1	%		<1	<1	----	----	----
+4.75mm	----	1	%		<1	<1	----	----	----
+9.5mm	----	1	%		<1	<1	----	----	----
+19.0mm	----	1	%		<1	<1	----	----	----
+37.5mm	----	1	%		<1	<1	----	----	----
+75.0mm	----	1	%		<1	<1	----	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	----	**23.4**	**21.9**	**22.8**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		**1**	**3**	----	----	----
Silt (2-60 µm)	----	1	%		**1**	**1**	----	----	----
Sand (0.06-2.00 mm)	----	1	%		**98**	**96**	----	----	----
Gravel (>2mm)	----	1	%		<1	<1	----	----	----
Cobbles (>6cm)	----	1	%		<1	<1	----	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		**2.66**	**2.69**	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	**5050**	**4830**	----
Iron	7439-89-6	50	mg/kg		----	----	**10000**	**9850**	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	<0.50	<0.50	----
Arsenic	7440-38-2	1.00	mg/kg		----	----	**8.92**	**8.60**	----
Cadmium	7440-43-9	0.1	mg/kg		----	----	<0.1	<0.1	----
Chromium	7440-47-3	1.0	mg/kg		----	----	**11.6**	**10.6**	----
Copper	7440-50-8	1.0	mg/kg		----	----	**2.9**	**2.7**	----
Cobalt	7440-48-4	0.5	mg/kg		----	----	**5.7**	**5.3**	----
Lead	7439-92-1	1.0	mg/kg		----	----	**2.9**	**2.7**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB12 0.0-0.5B	WB12 0.5-1.0B	WB12 0.0-0.5A	WB12 0.5-1.0A	WB12 0.3V
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-038	ES1502737-039	ES1502737-040	ES1502737-041	ES1502737-042
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	275	251	----
Nickel	7440-02-0	1.0	mg/kg		----	----	4.2	3.9	----
Selenium	7782-49-2	0.1	mg/kg		----	----	0.3	0.3	----
Silver	7440-22-4	0.1	mg/kg		----	----	<0.1	<0.1	----
Vanadium	7440-62-2	2.0	mg/kg		----	----	24.9	22.6	----
Zinc	7440-66-6	1.0	mg/kg		----	----	14.6	13.4	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	<0.01	<0.01	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	<0.1	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	0.1	0.1	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	0.1	0.1	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	40	70	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	40	70	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	167	180	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	5.1	8.0	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	0.05	0.07	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	<3	<3	----
>C16 - C34 Fraction	----	3	mg/kg		----	----	4	6	----
>C34 - C40 Fraction	----	5	mg/kg		----	----	<5	<5	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	4	6	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		----	----	<3	<3	----
C15 - C28 Fraction	----	3	mg/kg		----	----	3	3	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB12 0.0-0.5B	WB12 0.5-1.0B	WB12 0.0-0.5A	WB12 0.5-1.0A	WB12 0.3V
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-038	ES1502737-039	ES1502737-040	ES1502737-041	ES1502737-042
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	<5	<5	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	**3**	**3**	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	----	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	<1	<1	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	<1	<1	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	<0.5	<0.5	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	<10	<10	----
Carbophenothion	786-19-6	10	µg/kg		----	----	<10	<10	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	<10.0	<10.0	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	<10	<10	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	<10	<10	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	<10	<10	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	<10	<10	----
Diazinon	333-41-5	10	µg/kg		----	----	<10	<10	----
Dichlorvos	62-73-7	10	µg/kg		----	----	<10	<10	----
Dimethoate	60-51-5	10	µg/kg		----	----	<10	<10	----
Ethion	563-12-2	10	µg/kg		----	----	<10	<10	----
Fenamiphos	22224-92-6	10	µg/kg		----	----	<10	<10	----
Fenthion	55-38-9	10	µg/kg		----	----	<10	<10	----
Malathion	121-75-5	10	µg/kg		----	----	<10	<10	----
Azinphos Methyl	86-50-0	10	µg/kg		----	----	<10	<10	----
Monocrotophos	6923-22-4	10	µg/kg		----	----	<10	<10	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB12 0.0-0.5B	WB12 0.5-1.0B	WB12 0.0-0.5A	WB12 0.5-1.0A	WB12 0.3V
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-038	ES1502737-039	ES1502737-040	ES1502737-041	ES1502737-042
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	<10	<10	----
Parathion-methyl	298-00-0	10	µg/kg		----	----	<10	<10	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	<10	<10	----
Prothiofos	34643-46-4	10	µg/kg		----	----	<10	<10	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	<0.50	<0.50	----
alpha-BHC	319-84-6	0.50	µg/kg		----	----	<0.50	<0.50	----
beta-BHC	319-85-7	0.50	µg/kg		----	----	<0.50	<0.50	----
delta-BHC	319-86-8	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	<0.50	<0.50	----
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	----	<0.50	<0.50	----
Dieldrin	60-57-1	0.50	µg/kg		----	----	<0.50	<0.50	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	<0.50	<0.50	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	<0.50	<0.50	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	<0.50	<0.50	----
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin	72-20-8	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	<0.50	<0.50	----
Heptachlor	76-44-8	0.50	µg/kg		----	----	<0.50	<0.50	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	<0.50	<0.50	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	<0.50	<0.50	----
gamma-BHC	58-89-9	0.25	µg/kg		----	----	<0.25	<0.25	----
Methoxychlor	72-43-5	0.50	µg/kg		----	----	<0.50	<0.50	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	<0.25	<0.25	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	<0.25	<0.25	----
^ **Total Chlordane (sum)**	----	0.25	µg/kg		----	----	<0.25	<0.25	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	<0.50	<0.50	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	<5.0	<5.0	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB12 0.0-0.5B	WB12 0.5-1.0B	WB12 0.0-0.5A	WB12 0.5-1.0A	WB12 0.3V
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-038	ES1502737-039	ES1502737-040	ES1502737-041	ES1502737-042
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	<5.0	<5.0	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	<5	<5	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	<5	<5	----
Acenaphthylene	208-96-8	4	µg/kg		----	----	<4	<4	----
Acenaphthene	83-32-9	4	µg/kg		----	----	<4	<4	----
Fluorene	86-73-7	4	µg/kg		----	----	<4	<4	----
Phenanthrene	85-01-8	4	µg/kg		----	----	<4	<4	----
Anthracene	120-12-7	4	µg/kg		----	----	<4	<4	----
Fluoranthene	206-44-0	4	µg/kg		----	----	<4	<4	----
Pyrene	129-00-0	4	µg/kg		----	----	<4	<4	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	<4	<4	----
Chrysene	218-01-9	4	µg/kg		----	----	<4	<4	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	<4	<4	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	<4	<4	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	<4	<4	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	<4	<4	----
Perylene	198-55-0	4	µg/kg		----	----	<4	<4	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	<4	<4	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	<4	<4	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	<4	<4	----
Coronene	191-07-1	5	µg/kg		----	----	<5	<5	----
^ **Sum of PAHs**	----	4	µg/kg		----	----	<4	<4	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	----	**85.7**
Toluene-D8	2037-26-5	0.1	%		----	----	----	----	**81.6**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	----	**105**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	**74.4**	**77.6**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB12 0.0-0.5B	WB12 0.5-1.0B	WB12 0.0-0.5A	WB12 0.5-1.0A	WB12 0.3V
			Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1502737-038	ES1502737-039	ES1502737-040	ES1502737-041	ES1502737-042
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	67.1	70.6	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	99.2	61.8	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	90.8	65.6	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	109	116	----
Anthracene-d10	1719-06-8	0.1	%	----	----	121	124	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	126	125	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB12 0.7V	WB13 0.0-0.5B	WB13 0.5-1.0B	WB13 0.0-0.5A	WB13 0.5-1.0A
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-043	ES1502737-044	ES1502737-045	ES1502737-046	ES1502737-047
EA150: Particle Sizing									
+75µm	----	1	%		----	**98**	**98**	----	----
+150µm	----	1	%		----	**30**	**25**	----	----
+300µm	----	1	%		----	<1	<1	----	----
+425µm	----	1	%		----	<1	<1	----	----
+600µm	----	1	%		----	<1	<1	----	----
+1180µm	----	1	%		----	<1	<1	----	----
+2.36mm	----	1	%		----	<1	<1	----	----
+4.75mm	----	1	%		----	<1	<1	----	----
+9.5mm	----	1	%		----	<1	<1	----	----
+19.0mm	----	1	%		----	<1	<1	----	----
+37.5mm	----	1	%		----	<1	<1	----	----
+75.0mm	----	1	%		----	<1	<1	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**22.8**	----	----	**22.5**	**21.2**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	**1**	**1**	----	----
Silt (2-60 µm)	----	1	%		----	<1	**1**	----	----
Sand (0.06-2.00 mm)	----	1	%		----	**99**	**98**	----	----
Gravel (>2mm)	----	1	%		----	<1	<1	----	----
Cobbles (>6cm)	----	1	%		----	<1	<1	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	**2.71**	**2.70**	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	----	**4840**	**4500**
Iron	7439-89-6	50	mg/kg		----	----	----	**11500**	**9790**
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	----	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	----	----	**13.9**	**11.5**
Cadmium	7440-43-9	0.1	mg/kg		----	----	----	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	----	----	**10.5**	**9.4**
Copper	7440-50-8	1.0	mg/kg		----	----	----	**2.9**	**2.7**
Cobalt	7440-48-4	0.5	mg/kg		----	----	----	**5.8**	**5.4**
Lead	7439-92-1	1.0	mg/kg		----	----	----	**2.5**	**2.4**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB12 0.7V	WB13 0.0-0.5B	WB13 0.5-1.0B	WB13 0.0-0.5A	WB13 0.5-1.0A
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-043	ES1502737-044	ES1502737-045	ES1502737-046	ES1502737-047
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	----	**416**	**320**
Nickel	7440-02-0	1.0	mg/kg		----	----	----	**4.2**	**3.7**
Selenium	7782-49-2	0.1	mg/kg		----	----	----	**0.3**	**0.3**
Silver	7440-22-4	0.1	mg/kg		----	----	----	**0.2**	<0.1
Vanadium	7440-62-2	2.0	mg/kg		----	----	----	**29.5**	**23.8**
Zinc	7440-66-6	1.0	mg/kg		----	----	----	**13.9**	**13.2**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	----	<0.01	<0.01
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	----	<0.1	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	**0.5**	**0.2**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	**0.5**	**0.2**
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	----	**60**	**50**
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	----	**60**	**50**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	----	**200**	**211**
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	----	**1.1**	**3.4**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	----	**0.04**	**0.13**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	----	<3	<3
>C16 - C34 Fraction	----	3	mg/kg		----	----	----	**7**	<3
>C34 - C40 Fraction	----	5	mg/kg		----	----	----	<5	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	----	**7**	<3
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	----	----	----	----
C10 - C14 Fraction	----	3	mg/kg		----	----	----	<3	<3
C15 - C28 Fraction	----	3	mg/kg		----	----	----	**5**	<3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB12 0.7V	WB13 0.0-0.5B	WB13 0.5-1.0B	WB13 0.0-0.5A	WB13 0.5-1.0A
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-043	ES1502737-044	ES1502737-045	ES1502737-046	ES1502737-047
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	----	<5	<5
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	----	**5**	<3
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	----	----	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.2	mg/kg		<0.2	----	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	----	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	----	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	----	<1	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	----	<1	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	----	<0.5	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	----	<10	<10
Carbophenothion	786-19-6	10	µg/kg		----	----	----	<10	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	----	<10.0	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	----	<10	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	----	<10	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	----	<10	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	----	<10	<10
Diazinon	333-41-5	10	µg/kg		----	----	----	<10	<10
Dichlorvos	62-73-7	10	µg/kg		----	----	----	<10	<10
Dimethoate	60-51-5	10	µg/kg		----	----	----	<10	<10
Ethion	563-12-2	10	µg/kg		----	----	----	<10	<10
Fenamiphos	22224-92-6	10	µg/kg		----	----	----	<10	<10
Fenthion	55-38-9	10	µg/kg		----	----	----	<10	<10
Malathion	121-75-5	10	µg/kg		----	----	----	<10	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	----	----	<10	<10
Monocrotophos	6923-22-4	10	µg/kg		----	----	----	<10	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB12 0.7V	WB13 0.0-0.5B	WB13 0.5-1.0B	WB13 0.0-0.5A	WB13 0.5-1.0A
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1502737-043	ES1502737-044	ES1502737-045	ES1502737-046	ES1502737-047
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	----	<10	<10
Parathion-methyl	298-00-0	10	µg/kg		----	----	----	<10	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	----	<10	<10
Prothiofos	34643-46-4	10	µg/kg		----	----	----	<10	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	----	<0.50	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	----	----	<0.50	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	----	----	<0.50	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	----	----	<0.50	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	----	<0.50	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	----	<0.50	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	----	<0.50	<0.50
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	----	----	<0.50	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	----	----	<0.50	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	----	<0.50	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	----	<0.50	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	----	<0.50	<0.50
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	----	----	<0.50	<0.50
Endrin	72-20-8	0.50	µg/kg		----	----	----	<0.50	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	----	<0.50	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	----	<0.50	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	----	----	<0.50	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	----	<0.50	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	----	<0.50	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	----	----	<0.25	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	----	----	<0.50	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	----	<0.25	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	----	<0.25	<0.25
^ Total Chlordane (sum)	----	0.25	µg/kg		----	----	----	<0.25	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	----	<0.50	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	----	<5.0	<5.0

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB12 0.7V	WB13 0.0-0.5B	WB13 0.5-1.0B	WB13 0.0-0.5A	WB13 0.5-1.0A
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-043	ES1502737-044	ES1502737-045	ES1502737-046	ES1502737-047
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	----	<5.0	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	----	<5	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	----	<5	<5
Acenaphthylene	208-96-8	4	µg/kg		----	----	----	<4	<4
Acenaphthene	83-32-9	4	µg/kg		----	----	----	<4	<4
Fluorene	86-73-7	4	µg/kg		----	----	----	<4	<4
Phenanthrene	85-01-8	4	µg/kg		----	----	----	<4	<4
Anthracene	120-12-7	4	µg/kg		----	----	----	<4	<4
Fluoranthene	206-44-0	4	µg/kg		----	----	----	<4	<4
Pyrene	129-00-0	4	µg/kg		----	----	----	<4	<4
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	----	<4	<4
Chrysene	218-01-9	4	µg/kg		----	----	----	<4	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	----	<4	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	----	<4	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	----	<4	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	----	<4	<4
Perylene	198-55-0	4	µg/kg		----	----	----	<4	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	----	<4	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	----	<4	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	----	<4	<4
Coronene	191-07-1	5	µg/kg		----	----	----	<5	<5
^ **Sum of PAHs**	----	4	µg/kg		----	----	----	<4	<4
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**90.9**	----	----	----	----
Toluene-D8	2037-26-5	0.1	%		**87.2**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**103**	----	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	----	**70.3**	**79.2**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB12 0.7V	WB13 0.0-0.5B	WB13 0.5-1.0B	WB13 0.0-0.5A	WB13 0.5-1.0A
			Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1502737-043	ES1502737-044	ES1502737-045	ES1502737-046	ES1502737-047
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	----	74.5	79.2
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	----	116	90.9
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	60.8	71.2
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	77.3	111
Anthracene-d10	1719-06-8	0.1	%	----	----	----	104	121
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	107	120

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB13 0.3V	WB13 0.7V	WB16 0.0-0.5B	WB16 0.5-1.0B	WB16 0.0-0.5A
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1502737-048	ES1502737-049	ES1502737-050	ES1502737-051	ES1502737-052
EA150: Particle Sizing									
+75µm	----	1	%		----	----	**96**	**98**	----
+150µm	----	1	%		----	----	**6**	**4**	----
+300µm	----	1	%		----	----	<1	<1	----
+425µm	----	1	%		----	----	<1	<1	----
+600µm	----	1	%		----	----	<1	<1	----
+1180µm	----	1	%		----	----	<1	<1	----
+2.36mm	----	1	%		----	----	<1	<1	----
+4.75mm	----	1	%		----	----	<1	<1	----
+9.5mm	----	1	%		----	----	<1	<1	----
+19.0mm	----	1	%		----	----	<1	<1	----
+37.5mm	----	1	%		----	----	<1	<1	----
+75.0mm	----	1	%		----	----	<1	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**22.1**	**21.3**	----	----	**22.2**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	**1**	**1**	----
Silt (2-60 µm)	----	1	%		----	----	<1	<1	----
Sand (0.06-2.00 mm)	----	1	%		----	----	**99**	**99**	----
Gravel (>2mm)	----	1	%		----	----	<1	<1	----
Cobbles (>6cm)	----	1	%		----	----	<1	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	**2.66**	**2.69**	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	----	----	**4590**
Iron	7439-89-6	50	mg/kg		----	----	----	----	**11400**
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	----	----	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	----	----	----	**10.1**
Cadmium	7440-43-9	0.1	mg/kg		----	----	----	----	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	----	----	----	**12.5**
Copper	7440-50-8	1.0	mg/kg		----	----	----	----	**2.5**
Cobalt	7440-48-4	0.5	mg/kg		----	----	----	----	**5.6**
Lead	7439-92-1	1.0	mg/kg		----	----	----	----	**2.9**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB13 0.3V	WB13 0.7V	WB16 0.0-0.5B	WB16 0.5-1.0B	WB16 0.0-0.5A
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1502737-048	ES1502737-049	ES1502737-050	ES1502737-051	ES1502737-052
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	----	----	**286**
Nickel	7440-02-0	1.0	mg/kg		----	----	----	----	**4.1**
Selenium	7782-49-2	0.1	mg/kg		----	----	----	----	**0.3**
Silver	7440-22-4	0.1	mg/kg		----	----	----	----	<0.1
Vanadium	7440-62-2	2.0	mg/kg		----	----	----	----	**29.6**
Zinc	7440-66-6	1.0	mg/kg		----	----	----	----	**14.4**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	----	----	<0.01
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	----	**0.1**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	----	**0.1**
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	----	----	**40**
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	----	----	**40**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	----	----	**196**
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	----	----	**3.9**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	----	----	**0.05**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	----	----	<3
>C16 - C34 Fraction	----	3	mg/kg		----	----	----	----	**5**
>C34 - C40 Fraction	----	5	mg/kg		----	----	----	----	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	----	----	**5**
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	<3	----	----	----
C10 - C14 Fraction	----	3	mg/kg		----	----	----	----	<3
C15 - C28 Fraction	----	3	mg/kg		----	----	----	----	**3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB13 0.3V	WB13 0.7V	WB16 0.0-0.5B	WB16 0.5-1.0B	WB16 0.0-0.5A
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-048	ES1502737-049	ES1502737-050	ES1502737-051	ES1502737-052
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	----	----	<5
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	----	----	3
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	<3	----	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	----	----
Toluene	108-88-3	0.2	mg/kg		<0.2	<0.2	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	<0.2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	<0.2	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	<0.2	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	----	----	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	----	----	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	----	----	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	----	----	<10
Carbophenothion	786-19-6	10	µg/kg		----	----	----	----	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	----	----	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	----	----	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	----	----	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	----	----	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	----	----	<10
Diazinon	333-41-5	10	µg/kg		----	----	----	----	<10
Dichlorvos	62-73-7	10	µg/kg		----	----	----	----	<10
Dimethoate	60-51-5	10	µg/kg		----	----	----	----	<10
Ethion	563-12-2	10	µg/kg		----	----	----	----	<10
Fenamiphos	22224-92-6	10	µg/kg		----	----	----	----	<10
Fenthion	55-38-9	10	µg/kg		----	----	----	----	<10
Malathion	121-75-5	10	µg/kg		----	----	----	----	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	----	----	----	<10
Monocrotophos	6923-22-4	10	µg/kg		----	----	----	----	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB13 0.3V	WB13 0.7V	WB16 0.0-0.5B	WB16 0.5-1.0B	WB16 0.0-0.5A
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1502737-048	ES1502737-049	ES1502737-050	ES1502737-051	ES1502737-052
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	----	----	<10
Parathion-methyl	298-00-0	10	µg/kg		----	----	----	----	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	----	----	<10
Prothiofos	34643-46-4	10	µg/kg		----	----	----	----	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	----	----	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	----	----	----	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	----	----	----	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	----	----	<0.50
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	----	----	----	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	----	----	----	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	----	----	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	----	----	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	----	----	<0.50
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	----	----	----	<0.50
Endrin	72-20-8	0.50	µg/kg		----	----	----	----	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	----	----	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	----	----	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	----	----	----	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	----	----	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	----	----	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	----	----	----	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	----	----	----	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	----	----	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	----	----	<0.25
^ Total Chlordane (sum)	----	0.25	µg/kg		----	----	----	----	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	----	----	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	----	----	<5.0

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB13 0.3V	WB13 0.7V	WB16 0.0-0.5B	WB16 0.5-1.0B	WB16 0.0-0.5A
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-048	ES1502737-049	ES1502737-050	ES1502737-051	ES1502737-052
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	----	----	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	----	----	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	----	----	<5
Acenaphthylene	208-96-8	4	µg/kg		----	----	----	----	<4
Acenaphthene	83-32-9	4	µg/kg		----	----	----	----	<4
Fluorene	86-73-7	4	µg/kg		----	----	----	----	<4
Phenanthrene	85-01-8	4	µg/kg		----	----	----	----	<4
Anthracene	120-12-7	4	µg/kg		----	----	----	----	<4
Fluoranthene	206-44-0	4	µg/kg		----	----	----	----	<4
Pyrene	129-00-0	4	µg/kg		----	----	----	----	<4
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	----	----	<4
Chrysene	218-01-9	4	µg/kg		----	----	----	----	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	----	----	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	----	----	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	----	----	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	----	----	<4
Perylene	198-55-0	4	µg/kg		----	----	----	----	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	----	----	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	----	----	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	----	----	<4
Coronene	191-07-1	5	µg/kg		----	----	----	----	<5
^ **Sum of PAHs**	----	4	µg/kg		----	----	----	----	<4
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**85.9**	**93.1**	----	----	----
Toluene-D8	2037-26-5	0.1	%		**81.0**	**85.6**	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**101**	**106**	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	----	----	**72.7**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB13 0.3V	WB13 0.7V	WB16 0.0-0.5B	WB16 0.5-1.0B	WB16 0.0-0.5A
			Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1502737-048	ES1502737-049	ES1502737-050	ES1502737-051	ES1502737-052
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	----	----	**68.2**
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	----	----	**117**
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	----	**62.0**
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	----	**84.9**
Anthracene-d10	1719-06-8	0.1	%	----	----	----	----	**112**
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	----	**117**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB16 0.5-1.0A	WB16 0.3V	WB16 0.7V	WB18 0.0-0.5B	WB18 0.5-1.0B
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-053	ES1502737-054	ES1502737-055	ES1502737-056	ES1502737-057
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	**97**	**96**
+150µm	----	1	%		----	----	----	**38**	**25**
+300µm	----	1	%		----	----	----	<1	<1
+425µm	----	1	%		----	----	----	<1	<1
+600µm	----	1	%		----	----	----	<1	<1
+1180µm	----	1	%		----	----	----	<1	<1
+2.36mm	----	1	%		----	----	----	<1	<1
+4.75mm	----	1	%		----	----	----	<1	<1
+9.5mm	----	1	%		----	----	----	<1	<1
+19.0mm	----	1	%		----	----	----	<1	<1
+37.5mm	----	1	%		----	----	----	<1	<1
+75.0mm	----	1	%		----	----	----	<1	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**22.9**	**27.9**	**26.7**	----	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	**1**	**3**
Silt (2-60 µm)	----	1	%		----	----	----	<1	<1
Sand (0.06-2.00 mm)	----	1	%		----	----	----	**99**	**97**
Gravel (>2mm)	----	1	%		----	----	----	<1	<1
Cobbles (>6cm)	----	1	%		----	----	----	<1	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	**2.66**	**2.67**
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**4710**	----	----	----	----
Iron	7439-89-6	50	mg/kg		**10400**	----	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	----	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		**10.5**	----	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	----	----	----	----
Chromium	7440-47-3	1.0	mg/kg		**10.9**	----	----	----	----
Copper	7440-50-8	1.0	mg/kg		**2.4**	----	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		**5.6**	----	----	----	----
Lead	7439-92-1	1.0	mg/kg		**2.6**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB16 0.5-1.0A	WB16 0.3V	WB16 0.7V	WB18 0.0-0.5B	WB18 0.5-1.0B
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1502737-053	ES1502737-054	ES1502737-055	ES1502737-056	ES1502737-057
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		**263**	----	----	----	----
Nickel	7440-02-0	1.0	mg/kg		**3.9**	----	----	----	----
Selenium	7782-49-2	0.1	mg/kg		**0.3**	----	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.1	----	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		**25.1**	----	----	----	----
Zinc	7440-66-6	1.0	mg/kg		**13.5**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		**0.3**	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		**0.3**	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		**50**	----	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		**50**	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		**184**	----	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		**6.0**	----	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		**0.06**	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	----	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		**5**	----	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	----	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		**5**	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	<3	<3	----	----
C10 - C14 Fraction	----	3	mg/kg		<3	----	----	----	----
C15 - C28 Fraction	----	3	mg/kg		**3**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB16 0.5-1.0A	WB16 0.3V	WB16 0.7V	WB18 0.0-0.5B	WB18 0.5-1.0B
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1502737-053	ES1502737-054	ES1502737-055	ES1502737-056	ES1502737-057
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	----	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		3	----	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	<3	<3	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	<0.2	<0.2	----	----
Toluene	108-88-3	0.2	mg/kg		----	<0.2	<0.2	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	<0.2	<0.2	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	<0.2	<0.2	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	<0.2	<0.2	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	<0.5	<0.5	----	----
^ Sum of BTEX	----	0.2	mg/kg		----	<0.2	<0.2	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	----	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	----	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	----	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	----	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	----	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	----	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	----	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	----	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	----	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	----	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	----	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	----	----	----	----
Ethion	563-12-2	10	µg/kg		<10	----	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	----	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	----	----	----	----
Malathion	121-75-5	10	µg/kg		<10	----	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	----	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB16 0.5-1.0A	WB16 0.3V	WB16 0.7V	WB18 0.0-0.5B	WB18 0.5-1.0B
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-053	ES1502737-054	ES1502737-055	ES1502737-056	ES1502737-057
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	----	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	----	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	----	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	----	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	----	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	----	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	----	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	----	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	----	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	----	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	----	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	----	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	----	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	----	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	----	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	----	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	----	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	----	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	----	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	----	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	----	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	----	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	----	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	----	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB16 0.5-1.0A	WB16 0.3V	WB16 0.7V	WB18 0.0-0.5B	WB18 0.5-1.0B
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
					ES1502737-053	ES1502737-054	ES1502737-055	ES1502737-056	ES1502737-057
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	----	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	----	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	----	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	----	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	----	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	----	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	----	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	----	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	----	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	----	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	----	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	----	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	----	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	----	----	----	----
Perylene	198-55-0	4	µg/kg		<4	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	----	----	----	----
Coronene	191-07-1	5	µg/kg		<5	----	----	----	----
^ **Sum of PAHs**	----	4	µg/kg		<4	----	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	**76.0**	**86.8**	----	----
Toluene-D8	2037-26-5	0.1	%		----	**77.3**	**82.7**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	**97.3**	**105**	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**74.8**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB16 0.5-1.0A	WB16 0.3V	WB16 0.7V	WB18 0.0-0.5B	WB18 0.5-1.0B
			Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1502737-053	ES1502737-054	ES1502737-055	ES1502737-056	ES1502737-057
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**68.1**	----	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**102**	----	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**91.0**	----	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**108**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**122**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	**119**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB18 0.0-0.5A	WB18 0.5-1.0A	WB18 0.3V	WB18 0.7V	----
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	----
Compound	CAS Number	LOR	Unit		ES1502737-058	ES1502737-059	ES1502737-060	ES1502737-061	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		23.6	23.3	22.2	27.2	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		5320	5680	----	----	----
Iron	7439-89-6	50	mg/kg		11400	15000	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		13.3	17.8	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	----	----	----
Chromium	7440-47-3	1.0	mg/kg		9.0	11.5	----	----	----
Copper	7440-50-8	1.0	mg/kg		3.4	4.0	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		6.0	7.5	----	----	----
Lead	7439-92-1	1.0	mg/kg		2.6	3.2	----	----	----
Manganese	7439-96-5	10	mg/kg		551	742	----	----	----
Nickel	7440-02-0	1.0	mg/kg		4.3	5.3	----	----	----
Selenium	7782-49-2	0.1	mg/kg		0.4	0.4	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.1	<0.1	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		25.1	35.1	----	----	----
Zinc	7440-66-6	1.0	mg/kg		13.7	16.2	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	<0.01	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		0.2	0.2	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		0.2	0.2	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		70	60	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		70	60	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		210	252	----	----	----
EK255A SD Ammonia in Sediment									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB18 0.0-0.5A	WB18 0.5-1.0A	WB18 0.3V	WB18 0.7V	----
				Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	----
Compound	CAS Number	LOR	Unit		ES1502737-058	ES1502737-059	ES1502737-060	ES1502737-061	----
EK255A SD Ammonia in Sediment - Continued									
Ammonia as N	7664-41-7	0.2	mg/kg		1.8	4.9	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		0.06	0.06	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	<3	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		5	5	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	<5	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		5	5	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	<3	<3	----
C10 - C14 Fraction	----	3	mg/kg		<3	<3	----	----	----
C15 - C28 Fraction	----	3	mg/kg		4	<3	----	----	----
C29 - C36 Fraction	----	5	mg/kg		<5	<5	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		4	<3	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	<3	<3	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	<0.2	<0.2	----
Toluene	108-88-3	0.2	mg/kg		----	----	<0.2	<0.2	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	<0.2	<0.2	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	<0.2	<0.2	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	<0.2	<0.2	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	<0.5	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg		----	----	<0.2	<0.2	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	<1	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	<1	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	<0.5	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	<10	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	<10	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	<10.0	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	<10	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB18 0.0-0.5A	WB18 0.5-1.0A	WB18 0.3V	WB18 0.7V	----
			Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	----
Compound	CAS Number	LOR	Unit	ES1502737-058	ES1502737-059	ES1502737-060	ES1502737-061	----
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued								
Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	----	----	----
Diazinon	333-41-5	10	µg/kg	<10	<10	----	----	----
Dichlorvos	62-73-7	10	µg/kg	<10	<10	----	----	----
Dimethoate	60-51-5	10	µg/kg	<10	<10	----	----	----
Ethion	563-12-2	10	µg/kg	<10	<10	----	----	----
Fenamiphos	22224-92-6	10	µg/kg	<10	<10	----	----	----
Fenthion	55-38-9	10	µg/kg	<10	<10	----	----	----
Malathion	121-75-5	10	µg/kg	<10	<10	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	----	----	----
Monocrotophos	6923-22-4	10	µg/kg	<10	<10	----	----	----
Parathion	56-38-2	10	µg/kg	<10	<10	----	----	----
Parathion-methyl	298-00-0	10	µg/kg	<10	<10	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	----	----	----
Prothiofos	34643-46-4	10	µg/kg	<10	<10	----	----	----
EP131A: Organochlorine Pesticides								
Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	----	----	----
beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	----	----	----
delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	----	----	----
Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	----	----	----
Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	----	----	----
Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB18 0.0-0.5A	WB18 0.5-1.0A	WB18 0.3V	WB18 0.7V	----
			Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	----
Compound	CAS Number	LOR	Unit	ES1502737-058	ES1502737-059	ES1502737-060	ES1502737-061	----
EP131A: Organochlorine Pesticides - Continued								
Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg	<0.50	<0.50	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)								
^ Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	----	----	----
Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	5	µg/kg	<5	<5	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	----	----	----
Acenaphthylene	208-96-8	4	µg/kg	<4	<4	----	----	----
Acenaphthene	83-32-9	4	µg/kg	<4	<4	----	----	----
Fluorene	86-73-7	4	µg/kg	<4	<4	----	----	----
Phenanthrene	85-01-8	4	µg/kg	<4	<4	----	----	----
Anthracene	120-12-7	4	µg/kg	<4	<4	----	----	----
Fluoranthene	206-44-0	4	µg/kg	<4	<4	----	----	----
Pyrene	129-00-0	4	µg/kg	<4	<4	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	----	----	----
Chrysene	218-01-9	4	µg/kg	<4	<4	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB18 0.0-0.5A	WB18 0.5-1.0A	WB18 0.3V	WB18 0.7V	----
			Client sampling date / time	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	04-FEB-2015 15:00	----
Compound	CAS Number	LOR	Unit	ES1502737-058	ES1502737-059	ES1502737-060	ES1502737-061	----
EP132B: Polynuclear Aromatic Hydrocarbons - Continued								
Perylene	198-55-0	4	µg/kg	<4	<4	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	----	----	----
Coronene	191-07-1	5	µg/kg	<5	<5	----	----	----
^ Sum of PAHs	----	4	µg/kg	<4	<4	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	----	91.9	87.2	----
Toluene-D8	2037-26-5	0.1	%	----	----	85.4	76.5	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	----	106	103	----
EP090S: Organotin Surrogate								
Tripropyltin	----	0.1	%	67.8	73.4	----	----	----
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	69.5	71.8	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	112	81.3	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	100	81.9	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	100	116	----	----	----
Anthracene-d10	1719-06-8	0.1	%	121	120	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	119	107	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 2	----	----	----	----
				Client sampling date / time	04-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1502737-013	----	----	----	----
EG020T: Total Metals by ICP-MS									
Antimony	7440-36-0	0.001	mg/L		<0.001	----	----	----	----
Arsenic	7440-38-2	0.001	mg/L		<0.001	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	----	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	----	----	----	----
Manganese	7439-96-5	0.001	mg/L		<0.001	----	----	----	----
Nickel	7440-02-0	0.001	mg/L		<0.001	----	----	----	----
Silver	7440-22-4	0.001	mg/L		<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L		<0.005	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	----	----	----	----
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		<0.01	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	----	0.01	mg/L		<0.01	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		<0.01	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		<0.01	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L		<0.1	----	----	----	----
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser									
^ Total Nitrogen as N	----	0.1	mg/L		<0.1	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		<0.01	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	1	µg/L		<1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.5	µg/L		<0.5	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L		<0.5	----	----	----	----
beta-BHC	319-85-7	0.5	µg/L		<0.5	----	----	----	----
gamma-BHC	58-89-9	0.5	µg/L		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 2	----	----	----	----
				Client sampling date / time	04-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1502737-013	----	----	----	----
EP068A: Organochlorine Pesticides (OC) - Continued									
delta-BHC	319-86-8	0.5	µg/L		<0.5	----	----	----	----
Heptachlor	76-44-8	0.5	µg/L		<0.5	----	----	----	----
Aldrin	309-00-2	0.5	µg/L		<0.5	----	----	----	----
Heptachlor epoxide	1024-57-3	0.5	µg/L		<0.5	----	----	----	----
trans-Chlordane	5103-74-2	0.5	µg/L		<0.5	----	----	----	----
alpha-Endosulfan	959-98-8	0.5	µg/L		<0.5	----	----	----	----
cis-Chlordane	5103-71-9	0.5	µg/L		<0.5	----	----	----	----
Dieldrin	60-57-1	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDE	72-55-9	0.5	µg/L		<0.5	----	----	----	----
Endrin	72-20-8	0.5	µg/L		<0.5	----	----	----	----
beta-Endosulfan	33213-65-9	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDD	72-54-8	0.5	µg/L		<0.5	----	----	----	----
Endrin aldehyde	7421-93-4	0.5	µg/L		<0.5	----	----	----	----
Endosulfan sulfate	1031-07-8	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDT	50-29-3	2.0	µg/L		<2.0	----	----	----	----
Endrin ketone	53494-70-5	0.5	µg/L		<0.5	----	----	----	----
Methoxychlor	72-43-5	2.0	µg/L		<2.0	----	----	----	----
^ Total Chlordane (sum)	----	0.5	µg/L		<0.5	----	----	----	----
^ Sum of DDD + DDE + DDT	----	0.5	µg/L		<0.5	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L		<0.5	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.5	µg/L		<0.5	----	----	----	----
Demeton-S-methyl	919-86-8	0.5	µg/L		<0.5	----	----	----	----
Monocrotophos	6923-22-4	2.0	µg/L		<2.0	----	----	----	----
Dimethoate	60-51-5	0.5	µg/L		<0.5	----	----	----	----
Diazinon	333-41-5	0.5	µg/L		<0.5	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L		<0.5	----	----	----	----
Parathion-methyl	298-00-0	2.0	µg/L		<2.0	----	----	----	----
Malathion	121-75-5	0.5	µg/L		<0.5	----	----	----	----
Fenthion	55-38-9	0.5	µg/L		<0.5	----	----	----	----
Chlorpyrifos	2921-88-2	0.5	µg/L		<0.5	----	----	----	----
Parathion	56-38-2	2.0	µg/L		<2.0	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	µg/L		<0.5	----	----	----	----
Chlorfenvinphos	470-90-6	0.5	µg/L		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	RINSATE 2	----	----	----	----
			Client sampling date / time	04-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1502737-013	----	----	----	----
EP068B: Organophosphorus Pesticides (OP) - Continued								
Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	----	----	----	----
Fenamiphos	22224-92-6	0.5	µg/L	<0.5	----	----	----	----
Prothiofos	34643-46-4	0.5	µg/L	<0.5	----	----	----	----
Ethion	563-12-2	0.5	µg/L	<0.5	----	----	----	----
Carbophenothion	786-19-6	0.5	µg/L	<0.5	----	----	----	----
Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L	<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L	<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L	<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L	<1.0	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L	<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L	<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L	<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L	<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L	<50	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	RINSATE 2	----	----	----	----
			Client sampling date / time	04-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1502737-013	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L	<20	----	----	----	----
>C10 - C16 Fraction	>C10_C16	100	µg/L	<100	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L	<100	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L	<100	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L	<100	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L	<100	----	----	----	----
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	----	----	----	----
Toluene	108-88-3	2	µg/L	<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	----	----	----	----
^ **Total Xylenes**	1330-20-7	2	µg/L	<2	----	----	----	----
^ **Sum of BTEX**	----	1	µg/L	<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L	<5	----	----	----	----
EP090: Organotin Compounds								
Monobutyltin	78763-54-9	5	ngSn/L	**34**	----	----	----	----
Dibutyltin	1002-53-5	5	ngSn/L	<5	----	----	----	----
Tributyltin	56573-85-4	2	ngSn/L	<2	----	----	----	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**103**	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**80.5**	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**67.4**	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	**11.7**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	**21.4**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	**53.6**	----	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**25.4**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**66.9**	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 2	----	----	----	----
				Client sampling date / time	04-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1502737-013	----	----	----	----
EP075(SIM)T: PAH Surrogates - Continued									
4-Terphenyl-d14	1718-51-0	0.1	%		75.2	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		93.9	----	----	----	----
Toluene-D8	2037-26-5	0.1	%		96.2	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		93.6	----	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		97.6	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
EP080-SD: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	67	137
Toluene-D8	2037-26-5	74	134
4-Bromofluorobenzene	460-00-4	73	137
EP090S: Organotin Surrogate			
Tripropyltin	----	35	130
EP130S: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	14.4	102
EP131S: OC Pesticide Surrogate			
Dibromo-DDE	21655-73-2	10	119
EP131T: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	10	106
EP132T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	55	135
Anthracene-d10	1719-06-8	70	136
4-Terphenyl-d14	1718-51-0	57	127

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	28.5	129
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	30	120
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	26.8	129
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10.0	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27.4	113
4-Terphenyl-d14	1718-51-0	32	112
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128
EP090S: Organotin Surrogate			
Tripropyltin	----	8.2	108

QUALITY CONTROL REPORT

Work Order	: **ES1502737**	Page	: 1 of 39
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 06-FEB-2015
Sampler	: GK	Issue Date	: 27-FEB-2015
Order number	: 245553		
		No. of samples received	: 60
Quote number	: SY/1021/14 V2	No. of samples analysed	: 60

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Dianne Blane	Laboratory Coordinator (2IC)	Newcastle - Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
		Sydney Organics
Phalak Inthakesone	Laboratory Manager - Organics	Sydney Inorganics
Ryan Story	2IC Organic Instrument Chemist	Brisbane Organics
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils
Shobhna Chandra	Metals Coordinator	Sydney Inorganics
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA055: Moisture Content (QC Lot: 3817828)									
ES1502737-002	WB3 0.0-0.5a	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	22.0	22.4	1.7	0% - 20%
ES1502737-022	WB5 0.5-1.0A	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	22.7	21.8	4.1	0% - 20%
EA055: Moisture Content (QC Lot: 3817829)									
ES1502737-033	WB9 0.5-1.0A	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	23.5	20.9	11.5	0% - 20%
ES1502737-052	WB16 0.0-0.5A	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	22.2	22.2	0.0	0% - 20%
EA055: Moisture Content (QC Lot: 3817830)									
ES1502786-003	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	17.4	17.4	0.0	0% - 50%
ES1502786-018	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	19.4	17.2	12.0	0% - 50%
EA055: Moisture Content (QC Lot: 3822867)									
ES1502737-009	DUPLICATE 2A	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	24.3	23.9	1.4	0% - 20%
ES1503013-001	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	<1.0	<1.0	0.0	No Limit
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3823531)									
ES1502604-024	Anonymous	EG005-SD: Aluminium	7429-90-5	50	mg/kg	21800	22200	1.6	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	27500	27000	1.7	0% - 20%
ES1502737-009	DUPLICATE 2A	EG005-SD: Aluminium	7429-90-5	50	mg/kg	5120	5130	0.3	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	10600	10400	2.2	0% - 20%
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3823534)									
ES1502737-041	WB12 0.5-1.0A	EG005-SD: Aluminium	7429-90-5	50	mg/kg	4830	5150	6.3	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	9850	9950	1.0	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3823530)									
ES1502604-024	Anonymous	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	1.0	1.0	0.0	0% - 50%
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	13.0	12.6	3.5	0% - 20%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	27.6	26.5	3.9	0% - 20%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	29.1	28.3	2.9	0% - 20%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	9.5	8.7	8.5	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	14.7	14.3	2.7	0% - 50%
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	55.2	52.2	5.5	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	13.0	12.4	4.1	0% - 50%
		EG020-SD: Manganese	7439-96-5	10	mg/kg	471	453	3.9	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	65.9	63.1	4.4	0% - 20%
ES1502737-009	DUPLICATE 2A	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.4	0.3	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3823530) - continued									
ES1502737-009	DUPLICATE 2A	EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	6.6	6.6	0.0	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	10.4	10.1	3.1	0% - 50%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	3.8	3.8	0.0	No Limit
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	2.9	3.5	19.8	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	4.7	4.6	0.0	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	14.7	14.9	1.3	0% - 50%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	15.5	14.8	4.7	0% - 50%
		EG020-SD: Manganese	7439-96-5	10	mg/kg	559	582	4.1	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	29.1	28.6	1.9	0% - 50%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3823533)									
ES1502737-041	WB12 0.5-1.0A	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.3	0.3	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	5.3	5.4	2.2	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	10.6	11.5	7.9	0% - 50%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	2.7	2.8	0.0	No Limit
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	2.7	2.9	8.2	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	3.9	3.9	0.0	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	13.4	13.6	0.9	0% - 50%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	8.60	8.51	1.1	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	251	251	0.0	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	22.6	24.4	7.6	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3823529)									
ES1502604-024	Anonymous	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	0.04	0.04	0.0	No Limit
ES1502737-009	DUPLICATE 2A	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3823532)									
ES1502737-041	WB12 0.5-1.0A	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3821445)									
ES1502737-001	WB3 0.5-1.0a	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1502737-023	WB5 0.0-0.5A	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3821447)									
ES1502737-058	WB18 0.0-0.5A	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3821446)									
ES1502737-001	WB3 0.5-1.0a	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	0.4	0.4	0.0	No Limit
ES1502737-023	WB5 0.0-0.5A	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	0.6	0.6	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3821448)									

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3821448) - continued									
ES1502737-058	WB18 0.0-0.5A	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	0.2	0.2	0.0	No Limit
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3821302)									
ES1502604-001	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	90	100	0.0	No Limit
ES1502604-024	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	830	840	1.7	0% - 20%
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3821305)									
ES1502737-014	WB4 0.0-0.5A	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	40	30	0.0	No Limit
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3824345)									
ES1502737-041	WB12 0.5-1.0A	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	70	60	0.0	No Limit
ES1502902-002	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	700	770	9.8	0% - 20%
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3821303)									
ES1502604-001	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	154	180	15.8	0% - 20%
ES1502604-024	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	412	351	15.9	0% - 20%
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3821304)									
ES1502737-014	WB4 0.0-0.5A	EK067G: Total Phosphorus as P	----	2	mg/kg	183	154	17.7	0% - 20%
ES1503303-001	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	72	58	# 20.0	0% - 20%
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3824346)									
ES1502737-041	WB12 0.5-1.0A	EK067G: Total Phosphorus as P	----	2	mg/kg	180	164	9.2	0% - 20%
ES1502902-002	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	292	320	9.2	0% - 20%
EK255A SD: Ammonia in Sediment (QC Lot: 3817570)									
ES1502737-001	WB3 0.5-1.0a	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	3.6	3.5	3.9	0% - 50%
ES1502737-032	WB9 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	3.1	3.0	0.0	0% - 50%
EK255A SD: Ammonia in Sediment (QC Lot: 3822223)									
ES1502737-009	DUPLICATE 2A	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	1.8	1.8	0.0	No Limit
ES1502850-010	Anonymous	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	21.5	21.6	0.0	0% - 20%
EP003: Total Organic Carbon (TOC) in Soil (QC Lot: 3824882)									
ES1502737-001	WB3 0.5-1.0a	EP003: Total Organic Carbon	----	0.02	%	0.06	0.07	0.0	No Limit
ES1502737-027	WB8 0.0-0.5A	EP003: Total Organic Carbon	----	0.02	%	0.27	0.26	0.0	0% - 50%
EP003: Total Organic Carbon (TOC) in Soil (QC Lot: 3824883)									
ES1502737-059	WB18 0.5-1.0A	EP003: Total Organic Carbon	----	0.02	%	0.06	0.06	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3815541)									
ES1502737-001	WB3 0.5-1.0a	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	8	9	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	8	9	11.8	No Limit
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
ES1502737-032	WB9 0.0-0.5A	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	8	8	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	8	8	0.0	No Limit
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3815553)									
ES1502737-011	TRIP BLANK 1	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3821455)									
ES1502902-001	Anonymous	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	3	4	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	20	20	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	31	33	6.2	0% - 50%
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	8	9	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3815533)									
ES1502737-003	WB3 0.3V	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
ES1502737-034	WB9 0.3V	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3815541)									
ES1502737-001	WB3 0.5-1.0a	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	5	5	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	5	5	0.0	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
ES1502737-032	WB9 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	6	6	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	6	6	0.0	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3815553)									
ES1502737-011	TRIP BLANK 1	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3821455)									
ES1502902-001	Anonymous	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	5	5	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	13	14	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	30	34	12.5	0% - 50%
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	12	15	20.6	No Limit
EP080-SD: BTEXN (QC Lot: 3815533)									
ES1502737-003	WB3 0.3V	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
ES1502737-034	WB9 0.3V	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP080-SD: BTEXN (QC Lot: 3815533) - continued									
ES1502737-034	WB9 0.3V	EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3815534)									
ES1502737-001	WB3 0.5-1.0a	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
ES1502737-032	WB9 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3815534) - continued									
ES1502737-032	WB9 0.0-0.5A	EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3821466)									
ES1502902-001	Anonymous	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
EP131A: Organochlorine Pesticides (QC Lot: 3815535)									
ES1502737-001	WB3 0.5-1.0a	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP131A: Organochlorine Pesticides (QC Lot: 3815535) - continued									
ES1502737-001	WB3 0.5-1.0a	EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
ES1502737-032	WB9 0.0-0.5A	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
EP131A: Organochlorine Pesticides (QC Lot: 3821467)									
ES1502902-001	Anonymous	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP131A: Organochlorine Pesticides (QC Lot: 3821467) - continued									
ES1502902-001	Anonymous	EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 3815536)									
ES1502737-001	WB3 0.5-1.0a	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
ES1502737-032	WB9 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 3821468)									
ES1502902-001	Anonymous	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 3821468) - continued									
ES1502902-001	Anonymous	EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3815540)									
ES1502737-001	WB3 0.5-1.0a	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit
ES1502737-032	WB9 0.0-0.5A	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3815540) - continued									
ES1502737-032	WB9 0.0-0.5A	EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3821456)									
ES1502902-001	Anonymous	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	9	7	21.1	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	11	9	13.8	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	10	9	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	7	5	24.1	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	8	6	23.6	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	6	4	33.1	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	7	6	26.7	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	6	5	24.2	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	6	5	29.7	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	7	5	26.6	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	5	4	21.4	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	82	65	# 23.1	0% - 20%
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020T: Total Metals by ICP-MS (QC Lot: 3818649)									
EM1501135-001	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG020T: Total Metals by ICP-MS (QC Lot: 3818649) - continued									
EM1501135-001	Anonymous	EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	0.001	0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	0.001	<0.001	0.0	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Manganese	7439-96-5	0.001	mg/L	0.002	0.002	0.0	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.001	0.0	No Limit
ES1502594-019	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Manganese	7439-96-5	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
EG020T: Total Metals by ICP-MS (QC Lot: 3818650)									
EM1501135-001	Anonymous	EG020B-T: Silver	7440-22-4	0.001	mg/L	0.002	0.002	0.0	No Limit
ES1502831-003	Anonymous	EG020B-T: Silver	7440-22-4	0.001	mg/L	<0.001	<0.001	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3824591)									
ES1502737-013	RINSATE 2	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EK055G: Ammonia as N by Discrete Analyser (QC Lot: 3822348)									
ES1502431-001	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	0.09	0.10	0.0	No Limit
ES1503102-003	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3815903)									
ES1502949-001	Anonymous	EK057G: Nitrite as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1502971-001	Anonymous	EK057G: Nitrite as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3822347)									
ES1502431-001	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	2.00	1.97	1.3	0% - 20%
ES1503102-003	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	12.2	12.0	2.1	0% - 20%
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3822358)									
ES1502431-001	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	1.5	1.4	8.0	No Limit
ES1503102-003	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	1.4	1.7	21.2	No Limit
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3822359)									
ES1502431-001	Anonymous	EK067G: Total Phosphorus as P	----	0.01	mg/L	0.44	0.41	7.2	0% - 20%
ES1503102-003	Anonymous	EK067G: Total Phosphorus as P	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3822833)									
ES1503003-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
ES1503003-006	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3822833)									
ES1503003-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
ES1503003-006	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP080: BTEXN (QC Lot: 3822833)									
ES1503003-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
ES1503003-006	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3823531)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	----	----	----	----
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	90.5	70	130
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3823534)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	----	----	----	----
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	104	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3823530)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	----	----	----	----
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	115	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	106	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	120	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	113	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	113	84	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	109	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	127	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	118	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	93.1	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	----	----	----	----
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	126	87	131
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	118	83	137
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3823533)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	----	----	----	----
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	111	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	105	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	116	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	110	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	112	84	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	112	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	125	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	117	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	93.1	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	----	----	----	----
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	119	87	131

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3823533) - continued								
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	116	83	137
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3823529)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.110 mg/kg	75.5	72	116
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3823532)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.110 mg/kg	78.2	72	116
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3821445)								
EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	94.6	82	120
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3821447)								
EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	95.5	82	120
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3821446)								
EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	112	89	115
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3821448)								
EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	114	89	115
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3821302)								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	<20	1000 mg/kg	88.1	64	114
				----	500 mg/kg	93.3	70	122
				----	100 mg/kg	89.8	70	127
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3821305)								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	<20	1000 mg/kg	84.1	64	114
				----	500 mg/kg	91.1	70	122
				----	100 mg/kg	91.5	70	127
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3824345)								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	----	500 mg/kg	104	70	122
				<20	1000 mg/kg	95.9	64	114
				----	100 mg/kg	100	70	127
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3821303)								
EK067G: Total Phosphorus as P	----	2	mg/kg	<2	442 mg/kg	89.9	68	116
				----	44.2 mg/kg	104	64	124
				----	100 mg/kg	96.8	69	123
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3821304)								
EK067G: Total Phosphorus as P	----	2	mg/kg	----	100 mg/kg	95.0	69	123
				----	44.2 mg/kg	88.2	64	124
				<2	442 mg/kg	88.0	68	116
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3824346)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3824346) - continued								
EK067G: Total Phosphorus as P	----	2	mg/kg	----	44.2 mg/kg	99.5	64	124
				<2	442 mg/kg	98.4	68	116
				----	100 mg/kg	103	69	123
EK255A SD: Ammonia in Sediment (QCLot: 3817570)								
EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	<0.2	0.1 mg/kg	101	70	130
EK255A SD: Ammonia in Sediment (QCLot: 3822223)								
EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	<0.2	0.1 mg/kg	101	70	130
EP003: Total Organic Carbon (TOC) in Soil (QCLot: 3824882)								
EP003: Total Organic Carbon	----	0.02	%	<0.02	0.11 %	114	70	130
EP003: Total Organic Carbon (TOC) in Soil (QCLot: 3824883)								
EP003: Total Organic Carbon	----	0.02	%	<0.02	0.11 %	115	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3815541)								
EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	6.25 mg/kg	102	70	130
EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	8.75 mg/kg	98.1	74	138
EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	3.75 mg/kg	95.8	63	131
EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3815553)								
EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	6.25 mg/kg	101	70	130
EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	8.75 mg/kg	102	74	138
EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	5 mg/kg	73.6	63	131
EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3821455)								
EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	6.25 mg/kg	86.3	70	130
EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	8.75 mg/kg	99.4	74	138
EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	3.75 mg/kg	118	63	131
EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3815533)								
EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	6.2 mg/kg	88.4	61	133
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3815541)								
EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	5 mg/kg	99.8	78	118
EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	7.5 mg/kg	95.2	84	118
EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	5 mg/kg	108	73	119
EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3815553)								
EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	5 mg/kg	94.7	78	118
EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	7.5 mg/kg	102	84	118

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3815553) - continued								
EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	5 mg/kg	96.4	73	119
EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821455)								
EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	5 mg/kg	88.7	78	118
EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	7.5 mg/kg	93.1	84	118
EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	5 mg/kg	108	73	119
EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD: BTEXN (QCLot: 3815533)								
EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	0.2 mg/kg	99.0	66	122
EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	0.2 mg/kg	102	69	122
EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.2 mg/kg	96.1	66	126
EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	0.4 mg/kg	96.2	59	129
EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.2 mg/kg	100	66	126
EP090: Organotin Compounds (QCLot: 3821096)								
EP090: Monobutyltin	78763-54-9	1.0	µgSn/kg	<1	2.5 µgSn/kg	# 149	36	128
EP090: Dibutyltin	1002-53-5	1.0	µgSn/kg	<1	2.5 µgSn/kg	110	42	132
EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	2.5 µgSn/kg	65.9	52	139
EP090: Organotin Compounds (QCLot: 3822911)								
EP090: Monobutyltin	78763-54-9	1.0	µgSn/kg	<1	1.25 µgSn/kg	# 149	36	128
EP090: Dibutyltin	1002-53-5	1.0	µgSn/kg	<1	1.25 µgSn/kg	114	42	132
EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	1.25 µgSn/kg	84.6	52	139
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3815534)								
EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	50 µg/kg	73.6	45	139
EP130: Carbophenothion	786-19-6	10	µg/kg	<10	50 µg/kg	72.7	47	117
EP130: Chlorfenvinphos (E)	18708-86-6	10	µg/kg	<10.0	5 µg/kg	79.7	48	156
EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	50 µg/kg	78.3	62	136
EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	50 µg/kg	72.8	57	137
EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	50 µg/kg	73.0	57	121
EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	50 µg/kg	72.1	20.4	142
EP130: Diazinon	333-41-5	10	µg/kg	<10	50 µg/kg	107	57	121
EP130: Dichlorvos	62-73-7	10	µg/kg	<10	50 µg/kg	82.2	47	115
EP130: Dimethoate	60-51-5	10	µg/kg	<10	50 µg/kg	82.4	55	133
EP130: Ethion	563-12-2	10	µg/kg	<10	50 µg/kg	76.6	54	130
EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	50 µg/kg	72.7	57	131
EP130: Fenthion	55-38-9	10	µg/kg	<10	50 µg/kg	79.0	38	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3815534) - continued								
EP130: Malathion	121-75-5	10	µg/kg	<10	50 µg/kg	75.8	62	138
EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	50 µg/kg	100	33	137
EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	50 µg/kg	99.5	50	148
EP130: Parathion	56-38-2	10	µg/kg	<10	50 µg/kg	68.9	64	140
EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	50 µg/kg	79.6	56	136
EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	50 µg/kg	69.9	50	132
EP130: Prothiofos	34643-46-4	10	µg/kg	<10	50 µg/kg	73.1	55	135
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3821466)								
EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	50 µg/kg	93.6	45	139
EP130: Carbophenothion	786-19-6	10	µg/kg	<10	50 µg/kg	80.8	47	117
EP130: Chlorfenvinphos (E)	18708-86-6	10	µg/kg	<10.0	5 µg/kg	62.9	48	156
EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	50 µg/kg	75.7	62	136
EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	50 µg/kg	99.9	57	137
EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	50 µg/kg	80.3	57	121
EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	50 µg/kg	74.8	20.4	142
EP130: Diazinon	333-41-5	10	µg/kg	<10	50 µg/kg	93.1	57	121
EP130: Dichlorvos	62-73-7	10	µg/kg	<10	50 µg/kg	90.0	47	115
EP130: Dimethoate	60-51-5	10	µg/kg	<10	50 µg/kg	72.3	55	133
EP130: Ethion	563-12-2	10	µg/kg	<10	50 µg/kg	101	54	130
EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	50 µg/kg	91.8	57	131
EP130: Fenthion	55-38-9	10	µg/kg	<10	50 µg/kg	76.2	38	130
EP130: Malathion	121-75-5	10	µg/kg	<10	50 µg/kg	97.7	62	138
EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	50 µg/kg	93.7	33	137
EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	50 µg/kg	72.5	50	148
EP130: Parathion	56-38-2	10	µg/kg	<10	50 µg/kg	100	64	140
EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	50 µg/kg	70.1	56	136
EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	50 µg/kg	99.5	50	132
EP130: Prothiofos	34643-46-4	10	µg/kg	<10	50 µg/kg	106	55	135
EP131A: Organochlorine Pesticides (QCLot: 3815535)								
EP131A: Aldrin	309-00-2	0.5	µg/kg	<0.50	5 µg/kg	110	38	150
EP131A: alpha-BHC	319-84-6	0.5	µg/kg	<0.50	5 µg/kg	111	17.6	156
EP131A: beta-BHC	319-85-7	0.5	µg/kg	<0.50	5 µg/kg	105	30.5	152
EP131A: delta-BHC	319-86-8	0.5	µg/kg	<0.50	5 µg/kg	110	37	151
EP131A: 4.4`-DDD	72-54-8	0.5	µg/kg	<0.50	5 µg/kg	128	25.9	150
EP131A: 4.4`-DDE	72-55-9	0.5	µg/kg	<0.50	5 µg/kg	82.3	35	129
EP131A: 4.4`-DDT	50-29-3	0.5	µg/kg	<0.50	5 µg/kg	81.4	23.4	163

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP131A: Organochlorine Pesticides (QCLot: 3815535) - continued								
EP131A: Sum of DDD + DDE + DDT	----	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Dieldrin	60-57-1	0.5	µg/kg	<0.50	5 µg/kg	122	30.2	140
EP131A: alpha-Endosulfan	959-98-8	0.5	µg/kg	<0.50	5 µg/kg	96.2	38	140
EP131A: beta-Endosulfan	33213-65-9	0.5	µg/kg	<0.50	5 µg/kg	106	32	152
EP131A: Endosulfan sulfate	1031-07-8	0.5	µg/kg	<0.50	5 µg/kg	108	36	162
EP131A: Endosulfan (sum)	115-29-7	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Endrin	72-20-8	0.5	µg/kg	<0.50	5 µg/kg	104	25.8	166
EP131A: Endrin aldehyde	7421-93-4	0.5	µg/kg	<0.50	5 µg/kg	93.4	20.1	116
EP131A: Endrin ketone	53494-70-5	0.5	µg/kg	<0.50	5 µg/kg	75.5	13.4	151
EP131A: Heptachlor	76-44-8	0.5	µg/kg	<0.50	5 µg/kg	103	39	173
EP131A: Heptachlor epoxide	1024-57-3	0.5	µg/kg	<0.50	5 µg/kg	106	34	148
EP131A: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/kg	<0.50	5 µg/kg	121	26.1	152
EP131A: gamma-BHC	58-89-9	0.5	µg/kg	<0.50	5 µg/kg	93.4	31.2	159
EP131A: Methoxychlor	72-43-5	0.5	µg/kg	<0.50	5 µg/kg	104	36	160
EP131A: cis-Chlordane	5103-71-9	0.5	µg/kg	<0.50	5 µg/kg	96.5	36	142
EP131A: trans-Chlordane	5103-74-2	0.5	µg/kg	<0.50	5 µg/kg	89.1	29.5	138
EP131A: Total Chlordane (sum)	----	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Organochlorine Pesticides (QCLot: 3821467)								
EP131A: Aldrin	309-00-2	0.5	µg/kg	<0.50	5 µg/kg	108	38	150
EP131A: alpha-BHC	319-84-6	0.5	µg/kg	<0.50	5 µg/kg	65.8	17.6	156
EP131A: beta-BHC	319-85-7	0.5	µg/kg	<0.50	5 µg/kg	68.0	30.5	152
EP131A: delta-BHC	319-86-8	0.5	µg/kg	<0.50	5 µg/kg	72.7	37	151
EP131A: 4.4`-DDD	72-54-8	0.5	µg/kg	<0.50	5 µg/kg	92.6	25.9	150
EP131A: 4.4`-DDE	72-55-9	0.5	µg/kg	<0.50	5 µg/kg	46.1	35	129
EP131A: 4.4`-DDT	50-29-3	0.5	µg/kg	<0.50	5 µg/kg	85.4	23.4	163
EP131A: Sum of DDD + DDE + DDT	----	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Dieldrin	60-57-1	0.5	µg/kg	<0.50	5 µg/kg	75.1	30.2	140
EP131A: alpha-Endosulfan	959-98-8	0.5	µg/kg	<0.50	5 µg/kg	45.5	38	140
EP131A: beta-Endosulfan	33213-65-9	0.5	µg/kg	<0.50	5 µg/kg	51.8	32	152
EP131A: Endosulfan sulfate	1031-07-8	0.5	µg/kg	<0.50	5 µg/kg	52.3	36	162
EP131A: Endosulfan (sum)	115-29-7	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Endrin	72-20-8	0.5	µg/kg	<0.50	5 µg/kg	55.0	25.8	166
EP131A: Endrin aldehyde	7421-93-4	0.5	µg/kg	<0.50	5 µg/kg	63.1	20.1	116
EP131A: Endrin ketone	53494-70-5	0.5	µg/kg	<0.50	5 µg/kg	41.2	13.4	151
EP131A: Heptachlor	76-44-8	0.5	µg/kg	<0.50	5 µg/kg	62.6	39	173
EP131A: Heptachlor epoxide	1024-57-3	0.5	µg/kg	<0.50	5 µg/kg	41.6	34	148
EP131A: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/kg	<0.50	5 µg/kg	45.2	26.1	152

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP131A: Organochlorine Pesticides (QCLot: 3821467) - continued								
EP131A: gamma-BHC	58-89-9	0.5	µg/kg	<0.50	5 µg/kg	54.8	31.2	159
EP131A: Methoxychlor	72-43-5	0.5	µg/kg	<0.50	5 µg/kg	55.6	36	160
EP131A: cis-Chlordane	5103-71-9	0.5	µg/kg	<0.50	5 µg/kg	45.4	36	142
EP131A: trans-Chlordane	5103-74-2	0.5	µg/kg	<0.50	5 µg/kg	61.9	29.5	138
EP131A: Total Chlordane (sum)	----	0.5	µg/kg	<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3815536)								
EP131B: Total Polychlorinated biphenyls	----	5	µg/kg	<5.0	50 µg/kg	80.5	44	136
EP131B: Aroclor 1016	12674-11-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1221	11104-28-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1232	11141-16-5	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1242	53469-21-9	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1248	12672-29-6	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1254	11097-69-1	5	µg/kg	<5.0	50 µg/kg	80.5	44	136
EP131B: Aroclor 1260	11096-82-5	5	µg/kg	<5.0	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3821468)								
EP131B: Total Polychlorinated biphenyls	----	5	µg/kg	<5.0	50 µg/kg	89.1	44	136
EP131B: Aroclor 1016	12674-11-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1221	11104-28-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1232	11141-16-5	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1242	53469-21-9	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1248	12672-29-6	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1254	11097-69-1	5	µg/kg	<5.0	50 µg/kg	89.1	44	136
EP131B: Aroclor 1260	11096-82-5	5	µg/kg	<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3815540)								
EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	25 µg/kg	98.8	67	133
EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	25 µg/kg	94.9	63	135
EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	25 µg/kg	96.9	68	132
EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	25 µg/kg	98.5	67	133
EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	25 µg/kg	97.3	69	131
EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	25 µg/kg	98.9	66	138
EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	25 µg/kg	97.2	67	133
EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	25 µg/kg	96.1	64	130
EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	25 µg/kg	103	67	133
EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	25 µg/kg	101	65	133
EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	25 µg/kg	95.9	70	134
EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	25 µg/kg	98.9	63	133

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3815540) - continued								
EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	25 µg/kg	88.6	67	133
EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	25 µg/kg	95.0	64	130
EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	25 µg/kg	96.0	72	130
EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	25 µg/kg	97.8	70	132
EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	25 µg/kg	98.2	65	127
EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	25 µg/kg	99.3	67	135
EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	25 µg/kg	97.6	62	126
EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	25 µg/kg	114	66	134
EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3821456)								
EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	25 µg/kg	101	67	133
EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	25 µg/kg	87.0	63	135
EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	25 µg/kg	102	68	132
EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	25 µg/kg	98.8	67	133
EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	25 µg/kg	94.8	69	131
EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	25 µg/kg	99.0	66	138
EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	25 µg/kg	93.1	67	133
EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	25 µg/kg	94.8	64	130
EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	25 µg/kg	97.7	67	133
EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	25 µg/kg	98.5	65	133
EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	25 µg/kg	88.6	70	134
EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	25 µg/kg	96.2	63	133
EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	25 µg/kg	75.4	67	133
EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	25 µg/kg	98.0	64	130
EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	25 µg/kg	82.7	72	130
EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	25 µg/kg	89.5	70	132
EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	25 µg/kg	87.0	65	127
EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	25 µg/kg	93.9	67	135
EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	25 µg/kg	88.5	62	126
EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	25 µg/kg	88.1	66	134
EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 3818649)								
EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 3818649) - continued								
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	107	79	121
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	106	83	113
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	106	84	116
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	109	84	116
EG020A-T: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	106	85	115
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	109	84	116
EG020T: Total Metals by ICP-MS (QCLot: 3818650)								
EG020B-T: Silver	7440-22-4	0.001	mg/L	<0.001	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3824591)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	100	77	115
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3822348)								
EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	1.0 mg/L	96.3	86	112
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3815903)								
EK057G: Nitrite as N	----	0.01	mg/L	<0.01	0.5 mg/L	85.2	83	119
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3822347)								
EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	0.5 mg/L	97.2	87	119
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3822358)								
EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	<0.1	10 mg/L	89.0	66	114
				----	1.0 mg/L	89.7	66	126
				----	5 mg/L	96.2	66	119
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3822359)								
EK067G: Total Phosphorus as P	----	0.01	mg/L	----	0.442 mg/L	84.6	63	123
				----	1.0 mg/L	92.8	66	124
				<0.01	4.42 mg/L	88.6	67	117
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3819300)								
EP066: Total Polychlorinated biphenyls	----	1	µg/L	<1	10 µg/L	76.8	61.6	107
EP068A: Organochlorine Pesticides (OC) (QCLot: 3819299)								
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	5 µg/L	91.7	65	107
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	5 µg/L	92.8	51	119
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	5 µg/L	89.6	63	113
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	5 µg/L	90.6	62	112
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	5 µg/L	102	60	106
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	5 µg/L	79.1	58	108
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	5 µg/L	95.0	58	114
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	5 µg/L	104	59	111
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	5 µg/L	108	62	114

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 3819299) - continued								
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	5 µg/L	85.9	64	114
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	5 µg/L	101	62	114
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	5 µg/L	107	59	111
EP068: 4.4`-DDE	72-55-9	0.5	µg/L	<0.5	5 µg/L	99.5	63	111
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	5 µg/L	109	61	119
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	5 µg/L	99.3	71	119
EP068: 4.4`-DDD	72-54-8	0.5	µg/L	<0.5	5 µg/L	108	70	118
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	5 µg/L	89.8	62	112
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	5 µg/L	96.3	53	113
EP068: 4.4`-DDT	50-29-3	2.0	µg/L	<2.0	5 µg/L	88.4	52	120
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	5 µg/L	101	51	117
EP068: Methoxychlor	72-43-5	2.0	µg/L	<2.0	5 µg/L	69.7	53	127
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3819299)								
EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	5 µg/L	93.1	52	122
EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	5 µg/L	84.4	51	123
EP068: Monocrotophos	6923-22-4	0.5	µg/L	<2.0	5 µg/L	35.5	10	89.1
EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	5 µg/L	79.9	61	119
EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	5 µg/L	97.5	67	113
EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	5 µg/L	102	60	116
EP068: Parathion-methyl	298-00-0	2.0	µg/L	<2.0	5 µg/L	91.7	64	120
EP068: Malathion	121-75-5	0.5	µg/L	<0.5	5 µg/L	101	67	115
EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	5 µg/L	108	64	110
EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	5 µg/L	97.8	63	109
EP068: Parathion	56-38-2	2.0	µg/L	<2.0	5 µg/L	107	63	121
EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	5 µg/L	96.6	60	110
EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	5 µg/L	103	68	114
EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	5 µg/L	102	61	109
EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	5 µg/L	101	63	117
EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	5 µg/L	95.8	63	111
EP068: Ethion	563-12-2	0.5	µg/L	<0.5	5 µg/L	110	65	115
EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	5 µg/L	89.5	55	115
EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	5 µg/L	80.0	44	124
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3819302)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	<1.0	5 µg/L	83.2	58.6	119
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	<1.0	5 µg/L	93.4	63.6	114
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	<1.0	5 µg/L	85.3	62.2	113

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3819302) - continued								
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	<1.0	5 µg/L	95.8	63.9	115
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	<1.0	5 µg/L	98.5	62.6	116
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	<1.0	5 µg/L	101	64.3	116
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	<1.0	5 µg/L	93.0	63.6	118
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	<1.0	5 µg/L	96.5	63.1	118
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	<1.0	5 µg/L	98.2	64.1	117
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	<1.0	5 µg/L	93.4	62.5	116
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.2	µg/L	<1.0	5 µg/L	91.1	61.7	119
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	<1.0	5 µg/L	80.6	61.7	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	<0.5	5 µg/L	101	63.3	117
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.2	µg/L	<1.0	5 µg/L	89.0	59.9	118
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.2	µg/L	<1.0	5 µg/L	87.4	61.2	117
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.2	µg/L	<1.0	5 µg/L	88.6	59.1	118
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3819301)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	2000 µg/L	104	59	129
EP071: C15 - C28 Fraction	----	100	µg/L	<100	3000 µg/L	96.0	71	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	2000 µg/L	104	62	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3822833)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	100	75	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3819301)								
EP071: >C10 - C16 Fraction	>C10_C16	100	µg/L	<100	2500 µg/L	86.5	58.9	131
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	3500 µg/L	102	73.9	138
EP071: >C34 - C40 Fraction	----	50	µg/L	<100	1500 µg/L	99.9	67	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3822833)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	103	75	127
EP080: BTEXN (QCLot: 3822833)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	98.6	70	124
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	97.6	65	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	102	70	120
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	100	69	121
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	101	72	122
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	91.0	70	124
EP090: Organotin Compounds (QCLot: 3820968)								
EP090H: Dibutyltin	1002-53-5	2	ngSn/L	<5	50 ngSn/L	69.7	50	114

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP090: Organotin Compounds (QCLot: 3820968) - continued								
EP090H: Tributyltin	56573-85-4	1	ngSn/L	<2	50 ngSn/L	64.7	39	120

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3823530)							
ES1502604-027	Anonymous	EG020-SD: Arsenic	7440-38-2	50 mg/kg	107	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	102	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	113	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	106	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	103	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	104	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	107	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3823533)							
ES1502737-046	WB13 0.0-0.5A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	101	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	101	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	102	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	105	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	102	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	102	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	103	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3823529)							
ES1502604-024	Anonymous	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	123	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3823532)							
ES1502737-041	WB12 0.5-1.0A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	103	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3821445)							
ES1502737-001	WB3 0.5-1.0a	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	96.4	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3821447)							
ES1502737-058	WB18 0.0-0.5A	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	96.8	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3821446)							
ES1502737-001	WB3 0.5-1.0a	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	111	70	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3821448)							
ES1502737-058	WB18 0.0-0.5A	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	106	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3821302)							
ES1502604-001	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	81.8	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3821305)							
ES1502737-014	WB4 0.0-0.5A	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	81.6	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3824345)							
ES1502737-041	WB12 0.5-1.0A	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	88.6	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3821303)							
ES1502604-001	Anonymous	EK067G: Total Phosphorus as P	----	100 mg/kg	106	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3821304)							
ES1502737-014	WB4 0.0-0.5A	EK067G: Total Phosphorus as P	----	100 mg/kg	92.7	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3824346)							
ES1502737-041	WB12 0.5-1.0A	EK067G: Total Phosphorus as P	----	100 mg/kg	103	70	130
EK255A SD: Ammonia in Sediment (QCLot: 3817570)							
ES1502737-001	WB3 0.5-1.0a	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	# Not Determined	70	130
EK255A SD: Ammonia in Sediment (QCLot: 3822223)							
ES1502737-009	DUPLICATE 2A	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	87.4	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3815533)							
ES1502737-003	WB3 0.3V	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	112	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3815541)							
ES1502737-001	WB3 0.5-1.0a	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	78.5	70	130
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	105	70	130
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	85.4	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3815553)							
ES1502737-011	TRIP BLANK 1	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	103	70	130
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	97.7	70	130
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	85.1	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821455)							
ES1502902-001	Anonymous	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	124	70	130
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	95.8	70	130
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	101	70	130
EP080-SD: BTEXN (QCLot: 3815533)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080-SD: BTEXN (QCLot: 3815533) - continued							
ES1502737-003	WB3 0.3V	EP080-SD: Benzene	71-43-2	0.5 mg/kg	90.4	70	130
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	96.2	70	130
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	93.6	70	130
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	95.0	70	130
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	97.8	70	130
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3815534)							
ES1502737-001	WB3 0.5-1.0a	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	75.4	36	144
		EP130: Carbophenothion	786-19-6	50 µg/kg	80.7	38	120
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	58.6	49	157
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	80.9	53	145
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	75.8	60	140
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	74.3	56	126
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	82.4	9.7	148
		EP130: Diazinon	333-41-5	50 µg/kg	107	60	122
		EP130: Dichlorvos	62-73-7	50 µg/kg	71.0	33	123
		EP130: Dimethoate	60-51-5	50 µg/kg	88.0	36	142
		EP130: Ethion	563-12-2	50 µg/kg	75.6	48	136
		EP130: Fenamiphos	22224-92-6	50 µg/kg	70.3	42	136
		EP130: Fenthion	55-38-9	50 µg/kg	90.0	35	131
		EP130: Malathion	121-75-5	50 µg/kg	77.9	55	141
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	82.6	23.5	132
		EP130: Monocrotophos	6923-22-4	50 µg/kg	96.5	35	153
		EP130: Parathion	56-38-2	50 µg/kg	83.7	57	147
		EP130: Parathion-methyl	298-00-0	50 µg/kg	83.2	48	140
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	78.7	45	137
		EP130: Prothiofos	34643-46-4	50 µg/kg	75.9	51	137
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3821466)							
ES1502902-001	Anonymous	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	72.5	36	144
		EP130: Carbophenothion	786-19-6	50 µg/kg	78.1	38	120
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	66.7	49	157
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	77.4	53	145
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	71.7	60	140
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	70.6	56	126
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	65.4	9.7	148
		EP130: Diazinon	333-41-5	50 µg/kg	102	60	122
		EP130: Dichlorvos	62-73-7	50 µg/kg	80.7	33	123

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3821466) - continued							
ES1502902-001	Anonymous	EP130: Dimethoate	60-51-5	50 µg/kg	78.4	36	142
		EP130: Ethion	563-12-2	50 µg/kg	71.2	48	136
		EP130: Fenamiphos	22224-92-6	50 µg/kg	67.4	42	136
		EP130: Fenthion	55-38-9	50 µg/kg	78.6	35	131
		EP130: Malathion	121-75-5	50 µg/kg	72.4	55	141
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	78.6	23.5	132
		EP130: Monocrotophos	6923-22-4	50 µg/kg	81.5	35	153
		EP130: Parathion	56-38-2	50 µg/kg	71.0	57	147
		EP130: Parathion-methyl	298-00-0	50 µg/kg	71.6	48	140
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	69.7	45	137
		EP130: Prothiofos	34643-46-4	50 µg/kg	74.0	51	137
EP131A: Organochlorine Pesticides (QCLot: 3815535)							
ES1502737-001	WB3 0.5-1.0a	EP131A: Aldrin	309-00-2	5 µg/kg	59.9	23.4	153
		EP131A: alpha-BHC	319-84-6	5 µg/kg	74.9	17.6	156
		EP131A: beta-BHC	319-85-7	5 µg/kg	78.4	24.9	153
		EP131A: delta-BHC	319-86-8	5 µg/kg	100	25.2	147
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	133	25.9	150
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	75.5	31.2	125
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	77.2	23.4	163
		EP131A: Dieldrin	60-57-1	5 µg/kg	53.1	30.2	140
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	79.8	28.8	135
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	64.7	22.6	141
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	62.9	16.1	156
		EP131A: Endrin	72-20-8	5 µg/kg	98.6	17.7	162
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	55.2	20.1	116
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	49.1	13.4	151
		EP131A: Heptachlor	76-44-8	5 µg/kg	72.1	23.8	170
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	57.8	28.3	140
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	76.4	17.7	144
		EP131A: gamma-BHC	58-89-9	5 µg/kg	76.2	21.8	158
		EP131A: Methoxychlor	72-43-5	5 µg/kg	63.1	24.4	158
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	54.6	27.3	139
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	85.9	29.5	138
EP131A: Organochlorine Pesticides (QCLot: 3821467)							
ES1502902-001	Anonymous	EP131A: Aldrin	309-00-2	5 µg/kg	54.6	23.4	153
		EP131A: alpha-BHC	319-84-6	5 µg/kg	83.2	17.6	156
		EP131A: beta-BHC	319-85-7	5 µg/kg	81.5	24.9	153

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP131A: Organochlorine Pesticides (QCLot: 3821467) - continued							
ES1502902-001	Anonymous	EP131A: delta-BHC	319-86-8	5 µg/kg	70.7	25.2	147
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	55.9	25.9	150
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	124	31.2	125
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	81.0	23.4	163
		EP131A: Dieldrin	60-57-1	5 µg/kg	81.6	30.2	140
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	62.5	28.8	135
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	57.6	22.6	141
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	67.2	16.1	156
		EP131A: Endrin	72-20-8	5 µg/kg	105	17.7	162
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	58.9	20.1	116
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	53.3	13.4	151
		EP131A: Heptachlor	76-44-8	5 µg/kg	119	23.8	170
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	56.0	28.3	140
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	61.0	17.7	144
		EP131A: gamma-BHC	58-89-9	5 µg/kg	80.3	21.8	158
		EP131A: Methoxychlor	72-43-5	5 µg/kg	120	24.4	158
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	52.4	27.3	139
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	99.8	29.5	138
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3815536)							
ES1502737-001	WB3 0.5-1.0a	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	62.9	44	136
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	62.9	44	136
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3821468)							
ES1502902-001	Anonymous	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	87.7	44	136
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	87.7	44	136
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3815540)							
ES1502737-001	WB3 0.5-1.0a	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	94.9	70	130
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	89.5	70	130
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	101	70	130
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	107	70	130
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	98.9	70	130
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	97.1	70	130
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	92.9	70	130
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	98.1	70	130
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	108	70	130
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	106	70	130
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	91.8	70	130

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Matrix Spike (MS) Report: Recovery Limits (%) Low	Matrix Spike (MS) Report: Recovery Limits (%) High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3815540) - continued							
ES1502737-001	WB3 0.5-1.0a	EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	85.8	70	130
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	86.8	70	130
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	96.2	70	130
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	98.9	70	130
		EP132B-SD: Perylene	198-55-0	25 µg/kg	99.3	70	130
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	102	70	130
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	105	70	130
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	102	70	130
		EP132B-SD: Coronene	191-07-1	25 µg/kg	122	70	130
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3821456)							
ES1502902-001	Anonymous	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	90.3	70	130
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	73.0	70	130
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	83.4	70	130
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	86.8	70	130
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	74.2	70	130
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	76.9	70	130
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	95.3	70	130
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	73.2	70	130
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	72.0	70	130
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	85.2	70	130
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	70.3	70	130
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	72.2	70	130
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	74.9	70	130
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	72.1	70	130
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	73.7	70	130
		EP132B-SD: Perylene	198-55-0	25 µg/kg	73.7	70	130
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	76.4	70	130
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	77.3	70	130
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	74.4	70	130
		EP132B-SD: Coronene	191-07-1	25 µg/kg	92.8	70	130

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Matrix Spike (MS) Report: Recovery Limits (%) Low	Matrix Spike (MS) Report: Recovery Limits (%) High
EG020T: Total Metals by ICP-MS (QCLot: 3818649)							
EM1501135-002	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	118	70	130

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Matrix Spike (MS) Report: Recovery Limits (%) Low	Matrix Spike (MS) Report: Recovery Limits (%) High
EG020T: Total Metals by ICP-MS (QCLot: 3818649) - continued							
EM1501135-002	Anonymous	EG020A-T: Cadmium	7440-43-9	0.250 mg/L	104	70	130
		EG020A-T: Chromium	7440-47-3	1 mg/L	100	70	130
		EG020A-T: Lead	7439-92-1	1 mg/L	106	70	130
		EG020A-T: Manganese	7439-96-5	1 mg/L	107	70	130
		EG020A-T: Nickel	7440-02-0	1 mg/L	104	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3824591)							
ES1502819-001	Anonymous	EG035T: Mercury	7439-97-6	0.010 mg/L	95.6	70	130
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3822348)							
ES1502431-001	Anonymous	EK055G: Ammonia as N	7664-41-7	1 mg/L	92.5	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3815903)							
ES1502949-001	Anonymous	EK057G: Nitrite as N	----	0.5 mg/L	96.8	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3822347)							
ES1502431-001	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.5 mg/L	87.2	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3822358)							
ES1502431-003	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	10 mg/L	98.1	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3822359)							
ES1502431-003	Anonymous	EK067G: Total Phosphorus as P	----	2 mg/L	95.1	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3822833)							
ES1503003-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	112	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3822833)							
ES1503003-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	113	70	130
EP080: BTEXN (QCLot: 3822833)							
ES1503003-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	72.3	70	130
		EP080: Toluene	108-88-3	25 µg/L	85.9	70	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	92.4	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	92.0	70	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	91.9	70	130
		EP080: Naphthalene	91-20-3	25 µg/L	105	70	130

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

The quality control term Matrix Spike (MS) and Matrix Spike Duplicate (MSD) refers to intralaboratory split samples spiked with a representative set of target analytes. The purpose of these QC parameters are to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3815533)										
ES1502737-003	WB3 0.3V	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	112	----	70	130	----	----
EP080-SD: BTEXN (QCLot: 3815533)										
ES1502737-003	WB3 0.3V	EP080-SD: Benzene	71-43-2	0.5 mg/kg	90.4	----	70	130	----	----
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	96.2	----	70	130	----	----
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	93.6	----	70	130	----	----
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	95.0	----	70	130	----	----
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	97.8	----	70	130	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3815534)										
ES1502737-001	WB3 0.5-1.0a	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	75.4	----	36	144	----	----
		EP130: Carbophenothion	786-19-6	50 µg/kg	80.7	----	38	120	----	----
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	58.6	----	49	157	----	----
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	80.9	----	53	145	----	----
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	75.8	----	60	140	----	----
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	74.3	----	56	126	----	----
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	82.4	----	9.7	148	----	----
		EP130: Diazinon	333-41-5	50 µg/kg	107	----	60	122	----	----
		EP130: Dichlorvos	62-73-7	50 µg/kg	71.0	----	33	123	----	----
		EP130: Dimethoate	60-51-5	50 µg/kg	88.0	----	36	142	----	----
		EP130: Ethion	563-12-2	50 µg/kg	75.6	----	48	136	----	----
		EP130: Fenamiphos	22224-92-6	50 µg/kg	70.3	----	42	136	----	----
		EP130: Fenthion	55-38-9	50 µg/kg	90.0	----	35	131	----	----
		EP130: Malathion	121-75-5	50 µg/kg	77.9	----	55	141	----	----
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	82.6	----	23.5	132	----	----
		EP130: Monocrotophos	6923-22-4	50 µg/kg	96.5	----	35	153	----	----
		EP130: Parathion	56-38-2	50 µg/kg	83.7	----	57	147	----	----
		EP130: Parathion-methyl	298-00-0	50 µg/kg	83.2	----	48	140	----	----
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	78.7	----	45	137	----	----
		EP130: Prothiofos	34643-46-4	50 µg/kg	75.9	----	51	137	----	----
EP131A: Organochlorine Pesticides (QCLot: 3815535)										
ES1502737-001	WB3 0.5-1.0a	EP131A: Aldrin	309-00-2	5 µg/kg	59.9	----	23.4	153	----	----
		EP131A: alpha-BHC	319-84-6	5 µg/kg	74.9	----	17.6	156	----	----
		EP131A: beta-BHC	319-85-7	5 µg/kg	78.4	----	24.9	153	----	----
		EP131A: delta-BHC	319-86-8	5 µg/kg	100	----	25.2	147	----	----
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	133	----	25.9	150	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP131A: Organochlorine Pesticides (QCLot: 3815535) - continued										
ES1502737-001	WB3 0.5-1.0a	EP131A: 4.4`-DDE	72-55-9	5 µg/kg	75.5	----	31.2	125	----	----
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	77.2	----	23.4	163	----	----
		EP131A: Dieldrin	60-57-1	5 µg/kg	53.1	----	30.2	140	----	----
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	79.8	----	28.8	135	----	----
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	64.7	----	22.6	141	----	----
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	62.9	----	16.1	156	----	----
		EP131A: Endrin	72-20-8	5 µg/kg	98.6	----	17.7	162	----	----
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	55.2	----	20.1	116	----	----
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	49.1	----	13.4	151	----	----
		EP131A: Heptachlor	76-44-8	5 µg/kg	72.1	----	23.8	170	----	----
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	57.8	----	28.3	140	----	----
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	76.4	----	17.7	144	----	----
		EP131A: gamma-BHC	58-89-9	5 µg/kg	76.2	----	21.8	158	----	----
		EP131A: Methoxychlor	72-43-5	5 µg/kg	63.1	----	24.4	158	----	----
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	54.6	----	27.3	139	----	----
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	85.9	----	29.5	138	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3815536)										
ES1502737-001	WB3 0.5-1.0a	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	62.9	----	44	136	----	----
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	62.9	----	44	136	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3815540)										
ES1502737-001	WB3 0.5-1.0a	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	94.9	----	70	130	----	----
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	89.5	----	70	130	----	----
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	101	----	70	130	----	----
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	107	----	70	130	----	----
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	98.9	----	70	130	----	----
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	97.1	----	70	130	----	----
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	92.9	----	70	130	----	----
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	98.1	----	70	130	----	----
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	108	----	70	130	----	----
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	106	----	70	130	----	----
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	91.8	----	70	130	----	----
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	85.8	----	70	130	----	----
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	86.8	----	70	130	----	----
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	96.2	----	70	130	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3815540) - continued										
ES1502737-001	WB3 0.5-1.0a	EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	98.9	----	70	130	----	----
		EP132B-SD: Perylene	198-55-0	25 µg/kg	99.3	----	70	130	----	----
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	102	----	70	130	----	----
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	105	----	70	130	----	----
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	102	----	70	130	----	----
		EP132B-SD: Coronene	191-07-1	25 µg/kg	122	----	70	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3815541)										
ES1502737-001	WB3 0.5-1.0a	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	78.5	----	70	130	----	----
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	105	----	70	130	----	----
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	85.4	----	70	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3815553)										
ES1502737-011	TRIP BLANK 1	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	103	----	70	130	----	----
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	97.7	----	70	130	----	----
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	85.1	----	70	130	----	----
EK255A SD: Ammonia in Sediment (QCLot: 3817570)										
ES1502737-001	WB3 0.5-1.0a	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	# Not Determined	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3821302)										
ES1502604-001	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	81.8	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3821303)										
ES1502604-001	Anonymous	EK067G: Total Phosphorus as P	----	100 mg/kg	106	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3821304)										
ES1502737-014	WB4 0.0-0.5A	EK067G: Total Phosphorus as P	----	100 mg/kg	92.7	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3821305)										
ES1502737-014	WB4 0.0-0.5A	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	81.6	----	70	130	----	----
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3821445)										
ES1502737-001	WB3 0.5-1.0a	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	96.4	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3821446)										
ES1502737-001	WB3 0.5-1.0a	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	111	----	70	130	----	----
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3821447)										
ES1502737-058	WB18 0.0-0.5A	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	96.8	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3821448)										
ES1502737-058	WB18 0.0-0.5A	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	106	----	70	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821455)										

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821455) - continued										
ES1502902-001	Anonymous	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	124	----	70	130	----	----
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	95.8	----	70	130	----	----
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	101	----	70	130	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3821456)										
ES1502902-001	Anonymous	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	90.3	----	70	130	----	----
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	73.0	----	70	130	----	----
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	83.4	----	70	130	----	----
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	86.8	----	70	130	----	----
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	74.2	----	70	130	----	----
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	76.9	----	70	130	----	----
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	95.3	----	70	130	----	----
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	73.2	----	70	130	----	----
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	72.0	----	70	130	----	----
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	85.2	----	70	130	----	----
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	70.3	----	70	130	----	----
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	72.2	----	70	130	----	----
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	74.9	----	70	130	----	----
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	72.1	----	70	130	----	----
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	73.7	----	70	130	----	----
		EP132B-SD: Perylene	198-55-0	25 µg/kg	73.7	----	70	130	----	----
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	76.4	----	70	130	----	----
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	77.3	----	70	130	----	----
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	74.4	----	70	130	----	----
		EP132B-SD: Coronene	191-07-1	25 µg/kg	92.8	----	70	130	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3821466)										
ES1502902-001	Anonymous	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	72.5	----	36	144	----	----
		EP130: Carbophenothion	786-19-6	50 µg/kg	78.1	----	38	120	----	----
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	66.7	----	49	157	----	----
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	77.4	----	53	145	----	----
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	71.7	----	60	140	----	----
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	70.6	----	56	126	----	----
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	65.4	----	9.7	148	----	----
		EP130: Diazinon	333-41-5	50 µg/kg	102	----	60	122	----	----
		EP130: Dichlorvos	62-73-7	50 µg/kg	80.7	----	33	123	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3821466) - continued										
ES1502902-001	Anonymous	EP130: Dimethoate	60-51-5	50 µg/kg	78.4	----	36	142	----	----
		EP130: Ethion	563-12-2	50 µg/kg	71.2	----	48	136	----	----
		EP130: Fenamiphos	22224-92-6	50 µg/kg	67.4	----	42	136	----	----
		EP130: Fenthion	55-38-9	50 µg/kg	78.6	----	35	131	----	----
		EP130: Malathion	121-75-5	50 µg/kg	72.4	----	55	141	----	----
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	78.6	----	23.5	132	----	----
		EP130: Monocrotophos	6923-22-4	50 µg/kg	81.5	----	35	153	----	----
		EP130: Parathion	56-38-2	50 µg/kg	71.0	----	57	147	----	----
		EP130: Parathion-methyl	298-00-0	50 µg/kg	71.6	----	48	140	----	----
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	69.7	----	45	137	----	----
		EP130: Prothiofos	34643-46-4	50 µg/kg	74.0	----	51	137	----	----
EP131A: Organochlorine Pesticides (QCLot: 3821467)										
ES1502902-001	Anonymous	EP131A: Aldrin	309-00-2	5 µg/kg	54.6	----	23.4	153	----	----
		EP131A: alpha-BHC	319-84-6	5 µg/kg	83.2	----	17.6	156	----	----
		EP131A: beta-BHC	319-85-7	5 µg/kg	81.5	----	24.9	153	----	----
		EP131A: delta-BHC	319-86-8	5 µg/kg	70.7	----	25.2	147	----	----
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	55.9	----	25.9	150	----	----
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	124	----	31.2	125	----	----
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	81.0	----	23.4	163	----	----
		EP131A: Dieldrin	60-57-1	5 µg/kg	81.6	----	30.2	140	----	----
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	62.5	----	28.8	135	----	----
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	57.6	----	22.6	141	----	----
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	67.2	----	16.1	156	----	----
		EP131A: Endrin	72-20-8	5 µg/kg	105	----	17.7	162	----	----
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	58.9	----	20.1	116	----	----
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	53.3	----	13.4	151	----	----
		EP131A: Heptachlor	76-44-8	5 µg/kg	119	----	23.8	170	----	----
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	56.0	----	28.3	140	----	----
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	61.0	----	17.7	144	----	----
		EP131A: gamma-BHC	58-89-9	5 µg/kg	80.3	----	21.8	158	----	----
		EP131A: Methoxychlor	72-43-5	5 µg/kg	120	----	24.4	158	----	----
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	52.4	----	27.3	139	----	----
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	99.8	----	29.5	138	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3821468)										
ES1502902-001	Anonymous	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	87.7	----	44	136	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3821468) - continued										
ES1502902-001	Anonymous	EP131B: Aroclor 1254	11097-69-1	50 µg/kg	87.7	----	44	136	----	----
EK255A SD: Ammonia in Sediment (QCLot: 3822223)										
ES1502737-009	DUPLICATE 2A	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	87.4	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3823529)										
ES1502604-024	Anonymous	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	123	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3823530)										
ES1502604-027	Anonymous	EG020-SD: Arsenic	7440-38-2	50 mg/kg	107	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	102	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	113	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	106	----	70	130	----	----
		EG020-SD: Lead	7439-92-1	250 mg/kg	103	----	70	130	----	----
		EG020-SD: Nickel	7440-02-0	50 mg/kg	104	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	107	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3823532)										
ES1502737-041	WB12 0.5-1.0A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	103	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3823533)										
ES1502737-046	WB13 0.0-0.5A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	101	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	101	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	102	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	105	----	70	130	----	----
		EG020-SD: Lead	7439-92-1	250 mg/kg	102	----	70	130	----	----
		EG020-SD: Nickel	7440-02-0	50 mg/kg	102	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	103	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3824345)										
ES1502737-041	WB12 0.5-1.0A	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	88.6	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3824346)										
ES1502737-041	WB12 0.5-1.0A	EK067G: Total Phosphorus as P	----	100 mg/kg	103	----	70	130	----	----

Sub-Matrix: **WATER**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3815903)										
ES1502949-001	Anonymous	EK057G: Nitrite as N	----	0.5 mg/L	96.8	----	70	130	----	----
EG020T: Total Metals by ICP-MS (QCLot: 3818649)										
EM1501135-002	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	118	----	70	130	----	----

Sub-Matrix: **WATER**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EG020T: Total Metals by ICP-MS (QCLot: 3818649) - continued										
EM1501135-002	Anonymous	EG020A-T: Cadmium	7440-43-9	0.250 mg/L	104	----	70	130	----	----
		EG020A-T: Chromium	7440-47-3	1 mg/L	100	----	70	130	----	----
		EG020A-T: Lead	7439-92-1	1 mg/L	106	----	70	130	----	----
		EG020A-T: Manganese	7439-96-5	1 mg/L	107	----	70	130	----	----
		EG020A-T: Nickel	7440-02-0	1 mg/L	104	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3822347)										
ES1502431-001	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.5 mg/L	87.2	----	70	130	----	----
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3822348)										
ES1502431-001	Anonymous	EK055G: Ammonia as N	7664-41-7	1 mg/L	92.5	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3822358)										
ES1502431-003	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	10 mg/L	98.1	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3822359)										
ES1502431-003	Anonymous	EK067G: Total Phosphorus as P	----	2 mg/L	95.1	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3822833)										
ES1503003-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	112	----	70	130	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3822833)										
ES1503003-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	113	----	70	130	----	----
EP080: BTEXN (QCLot: 3822833)										
ES1503003-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	72.3	----	70	130	----	----
		EP080: Toluene	108-88-3	25 µg/L	85.9	----	70	130	----	----
		EP080: Ethylbenzene	100-41-4	25 µg/L	92.4	----	70	130	----	----
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	92.0	----	70	130	----	----
		EP080: ortho-Xylene	95-47-6	25 µg/L	91.9	----	70	130	----	----
		EP080: Naphthalene	91-20-3	25 µg/L	105	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3824591)										
ES1502819-001	Anonymous	EG035T: Mercury	7439-97-6	0.010 mg/L	95.6	----	70	130	----	----

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1502737**	Page	: 1 of 20
Client	: AURECON AUSTRALASIA PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 06-FEB-2015
Sampler	: GK	Issue Date	: 27-FEB-2015
Order number	: 245553		
		No. of samples received	: 60
Quote number	: SY/1021/14 V2	No. of samples analysed	: 60

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with recommended holding times (USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content							
Soil Glass Jar - Unpreserved (EA055-103)							
WB3 0.5-1.0a, WB3 0.0-0.5a, WB3 0.3V, WB3 0.7V, TRIPLICATE 2A, TRIPLICATE 2B, WB4 0.0-0.5A, WB4 0.5-1.0A, WB4 0.3V, WB4 0.7V, WB5 0.5-1.0A, WB5 0.0-0.5A, WB5 0.3V, WB5 0.7V, WB8 0.5-1.0A, WB8 0.0-0.5A, WB8 0.3V, WB8 0.7V, WB9 0.0-0.5A, WB9 0.5-1.0A, WB9 0.3V, WB9 0.7V, WB12 0.0-0.5A, WB12 0.5-1.0A, WB12 0.3V, WB12 0.7V, WB13 0.0-0.5A, WB13 0.5-1.0A, WB13 0.3V, WB13 0.7V, WB16 0.0-0.5A, WB16 0.5-1.0A, WB16 0.3V, WB16 0.7V, WB18 0.0-0.5A, WB18 0.5-1.0A, WB18 0.3V, WB18 0.7V	**04-FEB-2015**	**----**	----	----	**10-FEB-2015**	18-FEB-2015	✓
Soil Glass Jar - Unpreserved (EA055-103)							
DUPLICATE 2A	**04-FEB-2015**	**----**	----	----	**13-FEB-2015**	18-FEB-2015	✓
EA150: Particle Sizing							
Snap Lock Bag - Separate bag received (EA150H)							
WB3 0.0-0.5B, WB3 0.5-1.0B, WB4 0.5-1.0B, WB4 0.0-0.5B, WB5 0.5-1.0B, WB5 0.0-0.5B, WB8 0.5-1.0B, WB8 0.0-0.5B, WB9 0.5-1.0B, WB9 0.0-0.5B, WB12 0.0-0.5B, WB12 0.5-1.0B, WB13 0.0-0.5B, WB13 0.5-1.0B, WB16 0.0-0.5B, WB16 0.5-1.0B, WB18 0.0-0.5B, WB18 0.5-1.0B	**04-FEB-2015**	**---**	03-AUG-2015	----	**24-FEB-2015**	03-AUG-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA150: Soil Classification based on Particle Size								
Snap Lock Bag - Separate bag received (EA150H)								
WB3 0.0-0.5B,	WB3 0.5-1.0B,	**04-FEB-2015**	**---**	03-AUG-2015	----	**24-FEB-2015**	03-AUG-2015	✓
WB4 0.5-1.0B,	WB4 0.0-0.5B,							
WB5 0.5-1.0B,	WB5 0.0-0.5B,							
WB8 0.5-1.0B,	WB8 0.0-0.5B,							
WB9 0.5-1.0B,	WB9 0.0-0.5B,							
WB12 0.0-0.5B,	WB12 0.5-1.0B,							
WB13 0.0-0.5B,	WB13 0.5-1.0B,							
WB16 0.0-0.5B,	WB16 0.5-1.0B,							
WB18 0.0-0.5B,	WB18 0.5-1.0B							
EA152: Soil Particle Density								
Snap Lock Bag - Separate bag received (EA152)								
WB3 0.0-0.5B,	WB3 0.5-1.0B,	**04-FEB-2015**	**---**	03-AUG-2015	----	**24-FEB-2015**	03-AUG-2015	✓
WB4 0.5-1.0B,	WB4 0.0-0.5B,							
WB5 0.5-1.0B,	WB5 0.0-0.5B,							
WB8 0.5-1.0B,	WB8 0.0-0.5B,							
WB9 0.5-1.0B,	WB9 0.0-0.5B,							
WB12 0.0-0.5B,	WB12 0.5-1.0B,							
WB13 0.0-0.5B,	WB13 0.5-1.0B,							
WB16 0.0-0.5B,	WB16 0.5-1.0B,							
WB18 0.0-0.5B,	WB18 0.5-1.0B							
EG005-SD: Total Metals in Sediments by ICP-AES								
Soil Glass Jar - Unpreserved (EG005-SD)								
WB3 0.5-1.0a,	WB3 0.0-0.5a,	**04-FEB-2015**	**13-FEB-2015**	03-AUG-2015	✓	**14-FEB-2015**	03-AUG-2015	✓
TRIPLICATE 2A,	TRIPLICATE 2B,							
DUPLICATE 2A,	WB4 0.0-0.5A,							
WB4 0.5-1.0A,	WB5 0.5-1.0A,							
WB5 0.0-0.5A,	WB8 0.5-1.0A,							
WB8 0.0-0.5A,	WB9 0.0-0.5A,							
WB9 0.5-1.0A,	WB12 0.0-0.5A,							
WB12 0.5-1.0A,	WB13 0.0-0.5A,							
WB13 0.5-1.0A,	WB16 0.0-0.5A,							
WB16 0.5-1.0A,	WB18 0.0-0.5A,							
WB18 0.5-1.0A								

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020-SD: Total Metals in Sediments by ICPMS								
Soil Glass Jar - Unpreserved (EG020-SD)								
WB3 0.5-1.0a,	WB3 0.0-0.5a,	**04-FEB-2015**	**13-FEB-2015**	03-AUG-2015	✓	**14-FEB-2015**	03-AUG-2015	✓
TRIPLICATE 2A,	TRIPLICATE 2B,							
DUPLICATE 2A,	WB4 0.0-0.5A,							
WB4 0.5-1.0A,	WB5 0.5-1.0A,							
WB5 0.0-0.5A,	WB8 0.5-1.0A,							
WB8 0.0-0.5A,	WB9 0.0-0.5A,							
WB9 0.5-1.0A,	WB12 0.0-0.5A,							
WB12 0.5-1.0A,	WB13 0.0-0.5A,							
WB13 0.5-1.0A,	WB16 0.0-0.5A,							
WB16 0.5-1.0A,	WB18 0.0-0.5A,							
WB18 0.5-1.0A								
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T-LL)								
WB3 0.5-1.0a,	WB3 0.0-0.5a,	**04-FEB-2015**	**13-FEB-2015**	04-MAR-2015	✓	**16-FEB-2015**	04-MAR-2015	✓
TRIPLICATE 2A,	TRIPLICATE 2B,							
DUPLICATE 2A,	WB4 0.0-0.5A,							
WB4 0.5-1.0A,	WB5 0.5-1.0A,							
WB5 0.0-0.5A,	WB8 0.5-1.0A,							
WB8 0.0-0.5A,	WB9 0.0-0.5A,							
WB9 0.5-1.0A,	WB12 0.0-0.5A,							
WB12 0.5-1.0A,	WB13 0.0-0.5A,							
WB13 0.5-1.0A,	WB16 0.0-0.5A,							
WB16 0.5-1.0A,	WB18 0.0-0.5A,							
WB18 0.5-1.0A								
EK057G: Nitrite as N by Discrete Analyser								
Soil Glass Jar - Unpreserved (EK057G)								
WB3 0.5-1.0a,	WB3 0.0-0.5a,	**04-FEB-2015**	**13-FEB-2015**	03-AUG-2015	✓	**16-FEB-2015**	03-AUG-2015	✓
TRIPLICATE 2A,	TRIPLICATE 2B,							
DUPLICATE 2A,	WB4 0.0-0.5A,							
WB4 0.5-1.0A,	WB5 0.5-1.0A,							
WB5 0.0-0.5A,	WB8 0.5-1.0A,							
WB8 0.0-0.5A,	WB9 0.0-0.5A,							
WB9 0.5-1.0A,	WB12 0.0-0.5A,							
WB12 0.5-1.0A,	WB13 0.0-0.5A,							
WB13 0.5-1.0A,	WB16 0.0-0.5A,							
WB16 0.5-1.0A,	WB18 0.0-0.5A,							
WB18 0.5-1.0A								

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK059G)							
WB3 0.5-1.0a, WB3 0.0-0.5a, TRIPLICATE 2A, TRIPLICATE 2B, DUPLICATE 2A, WB4 0.0-0.5A, WB4 0.5-1.0A, WB5 0.5-1.0A, WB5 0.0-0.5A, WB8 0.5-1.0A, WB8 0.0-0.5A, WB9 0.0-0.5A, WB9 0.5-1.0A, WB12 0.0-0.5A, WB12 0.5-1.0A, WB13 0.0-0.5A, WB13 0.5-1.0A, WB16 0.0-0.5A, WB16 0.5-1.0A, WB18 0.0-0.5A, WB18 0.5-1.0A	**04-FEB-2015**	**13-FEB-2015**	03-AUG-2015	✓	**16-FEB-2015**	03-AUG-2015	✓
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser							
Soil Glass Jar - Unpreserved (EK061G)							
WB3 0.5-1.0a, WB3 0.0-0.5a, TRIPLICATE 2A, TRIPLICATE 2B, DUPLICATE 2A, WB4 0.0-0.5A, WB4 0.5-1.0A, WB5 0.5-1.0A, WB5 0.0-0.5A, WB8 0.5-1.0A, WB8 0.0-0.5A, WB9 0.0-0.5A, WB9 0.5-1.0A, WB12 0.0-0.5A	**04-FEB-2015**	**12-FEB-2015**	03-AUG-2015	✓	**12-FEB-2015**	03-AUG-2015	✓
Soil Glass Jar - Unpreserved (EK061G)							
WB12 0.5-1.0A, WB13 0.0-0.5A, WB13 0.5-1.0A, WB16 0.0-0.5A, WB16 0.5-1.0A, WB18 0.0-0.5A, WB18 0.5-1.0A	**04-FEB-2015**	**16-FEB-2015**	03-AUG-2015	✓	**18-FEB-2015**	03-AUG-2015	✓
EK067G: Total Phosphorus as P by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK067G)							
WB3 0.5-1.0a, WB3 0.0-0.5a, TRIPLICATE 2A, TRIPLICATE 2B, DUPLICATE 2A, WB4 0.0-0.5A, WB4 0.5-1.0A, WB5 0.5-1.0A, WB5 0.0-0.5A, WB8 0.5-1.0A, WB8 0.0-0.5A, WB9 0.0-0.5A, WB9 0.5-1.0A, WB12 0.0-0.5A	**04-FEB-2015**	**12-FEB-2015**	03-AUG-2015	✓	**12-FEB-2015**	03-AUG-2015	✓
Soil Glass Jar - Unpreserved (EK067G)							
WB12 0.5-1.0A, WB13 0.0-0.5A, WB13 0.5-1.0A, WB16 0.0-0.5A, WB16 0.5-1.0A, WB18 0.0-0.5A, WB18 0.5-1.0A	**04-FEB-2015**	**16-FEB-2015**	03-AUG-2015	✓	**18-FEB-2015**	03-AUG-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK255A SD Ammonia in Sediment							
Soil Glass Jar - Unpreserved (EK255A SD)							
WB3 0.5-1.0a, WB3 0.0-0.5a, TRIPLICATE 2A, TRIPLICATE 2B, WB4 0.0-0.5A, WB4 0.5-1.0A, WB5 0.5-1.0A, WB5 0.0-0.5A, WB8 0.5-1.0A, WB8 0.0-0.5A, WB9 0.0-0.5A, WB9 0.5-1.0A, WB12 0.0-0.5A, WB12 0.5-1.0A, WB13 0.0-0.5A, WB13 0.5-1.0A, WB16 0.0-0.5A, WB16 0.5-1.0A, WB18 0.0-0.5A, WB18 0.5-1.0A	**04-FEB-2015**	**----**	----	----	**10-FEB-2015**	03-AUG-2015	✓
Soil Glass Jar - Unpreserved (EK255A SD)							
DUPLICATE 2A	**04-FEB-2015**	**----**	----	----	**13-FEB-2015**	03-AUG-2015	✓
EP003: Total Organic Carbon (TOC) in Soil							
Pulp Bag (EP003)							
WB3 0.5-1.0a, WB3 0.0-0.5a, TRIPLICATE 2A, TRIPLICATE 2B, DUPLICATE 2A, WB4 0.0-0.5A, WB4 0.5-1.0A, WB5 0.5-1.0A, WB5 0.0-0.5A, WB8 0.5-1.0A, WB8 0.0-0.5A, WB9 0.0-0.5A, WB9 0.5-1.0A, WB12 0.0-0.5A, WB12 0.5-1.0A, WB13 0.0-0.5A, WB13 0.5-1.0A, WB16 0.0-0.5A, WB16 0.5-1.0A, WB18 0.0-0.5A, WB18 0.5-1.0A	**04-FEB-2015**	**16-FEB-2015**	04-MAR-2015	✓	**16-FEB-2015**	04-MAR-2015	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013							
Soil Glass Jar - Unpreserved (EP071-SD)							
WB3 0.5-1.0a, WB3 0.0-0.5a, TRIPLICATE 2A, TRIPLICATE 2B, TRIP BLANK 1, TRIP BLANK 2, WB4 0.0-0.5A, WB4 0.5-1.0A, WB5 0.5-1.0A, WB5 0.0-0.5A, WB8 0.5-1.0A, WB8 0.0-0.5A, WB9 0.0-0.5A, WB9 0.5-1.0A, WB12 0.0-0.5A, WB12 0.5-1.0A, WB13 0.0-0.5A, WB13 0.5-1.0A, WB16 0.0-0.5A, WB16 0.5-1.0A, WB18 0.0-0.5A, WB18 0.5-1.0A	**04-FEB-2015**	**10-FEB-2015**	18-FEB-2015	✓	**12-FEB-2015**	22-MAR-2015	✓
Soil Glass Jar - Unpreserved (EP071-SD)							
DUPLICATE 2A	**04-FEB-2015**	**13-FEB-2015**	18-FEB-2015	✓	**16-FEB-2015**	25-MAR-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080-SD: BTEXN							
Soil Glass Jar - Unpreserved (EP080-SD)							
WB3 0.3V, WB3 0.7V, TRIP BLANK 1, TRIP BLANK 2, WB4 0.3V, WB4 0.7V, WB5 0.3V, WB5 0.7V, WB8 0.3V, WB8 0.7V, WB9 0.3V, WB9 0.7V, WB12 0.3V, WB12 0.7V, WB13 0.3V, WB13 0.7V, WB16 0.3V, WB16 0.7V, WB18 0.3V, WB18 0.7V	**04-FEB-2015**	**09-FEB-2015**	18-FEB-2015	✓	**13-FEB-2015**	18-FEB-2015	✓
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080-SD)							
WB3 0.3V, WB3 0.7V, TRIP BLANK 1, TRIP BLANK 2, WB4 0.3V, WB4 0.7V, WB5 0.3V, WB5 0.7V, WB8 0.3V, WB8 0.7V, WB9 0.3V, WB9 0.7V, WB12 0.3V, WB12 0.7V, WB13 0.3V, WB13 0.7V, WB16 0.3V, WB16 0.7V, WB18 0.3V, WB18 0.7V	**04-FEB-2015**	**09-FEB-2015**	18-FEB-2015	✓	**13-FEB-2015**	18-FEB-2015	✓
EP090: Organotin Compounds							
Soil Glass Jar - Unpreserved (EP090)							
WB3 0.5-1.0a, WB3 0.0-0.5a, TRIPLICATE 2A, TRIPLICATE 2B, WB4 0.0-0.5A, WB4 0.5-1.0A, WB5 0.5-1.0A, WB5 0.0-0.5A, WB8 0.5-1.0A, WB8 0.0-0.5A, WB9 0.0-0.5A, WB9 0.5-1.0A, WB12 0.0-0.5A, WB12 0.5-1.0A, WB13 0.0-0.5A, WB13 0.5-1.0A, WB16 0.0-0.5A, WB16 0.5-1.0A, WB18 0.0-0.5A, WB18 0.5-1.0A	**04-FEB-2015**	**12-FEB-2015**	18-FEB-2015	✓	**13-FEB-2015**	24-MAR-2015	✓
Soil Glass Jar - Unpreserved (EP090)							
DUPLICATE 2A	**04-FEB-2015**	**13-FEB-2015**	18-FEB-2015	✓	**16-FEB-2015**	25-MAR-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP130A: Organophosphorus Pesticides (Ultra-trace)							
Soil Glass Jar - Unpreserved (EP130)							
WB3 0.5-1.0a, WB3 0.0-0.5a, TRIPLICATE 2A, TRIPLICATE 2B, WB4 0.0-0.5A, WB4 0.5-1.0A, WB5 0.5-1.0A, WB5 0.0-0.5A, WB8 0.5-1.0A, WB8 0.0-0.5A, WB9 0.0-0.5A, WB9 0.5-1.0A, WB12 0.0-0.5A, WB12 0.5-1.0A, WB13 0.0-0.5A, WB13 0.5-1.0A, WB16 0.0-0.5A, WB16 0.5-1.0A, WB18 0.0-0.5A, WB18 0.5-1.0A	**04-FEB-2015**	**10-FEB-2015**	18-FEB-2015	✓	**13-FEB-2015**	22-MAR-2015	✓
Soil Glass Jar - Unpreserved (EP130)							
DUPLICATE 2A	**04-FEB-2015**	**13-FEB-2015**	18-FEB-2015	✓	**16-FEB-2015**	25-MAR-2015	✓
EP131A: Organochlorine Pesticides							
Soil Glass Jar - Unpreserved (EP131A)							
WB3 0.5-1.0a, WB3 0.0-0.5a, TRIPLICATE 2A, TRIPLICATE 2B, WB4 0.0-0.5A, WB4 0.5-1.0A, WB5 0.5-1.0A, WB5 0.0-0.5A, WB8 0.5-1.0A, WB8 0.0-0.5A, WB9 0.0-0.5A, WB9 0.5-1.0A, WB12 0.0-0.5A, WB12 0.5-1.0A, WB13 0.0-0.5A, WB13 0.5-1.0A, WB16 0.0-0.5A, WB16 0.5-1.0A, WB18 0.0-0.5A, WB18 0.5-1.0A	**04-FEB-2015**	**10-FEB-2015**	18-FEB-2015	✓	**13-FEB-2015**	22-MAR-2015	✓
Soil Glass Jar - Unpreserved (EP131A)							
DUPLICATE 2A	**04-FEB-2015**	**13-FEB-2015**	18-FEB-2015	✓	**16-FEB-2015**	25-MAR-2015	✓
EP131B: Polychlorinated Biphenyls (as Aroclors)							
Soil Glass Jar - Unpreserved (EP131B)							
WB3 0.5-1.0a, WB3 0.0-0.5a, TRIPLICATE 2A, TRIPLICATE 2B, WB4 0.0-0.5A, WB4 0.5-1.0A, WB5 0.5-1.0A, WB5 0.0-0.5A, WB8 0.5-1.0A, WB8 0.0-0.5A, WB9 0.0-0.5A, WB9 0.5-1.0A, WB12 0.0-0.5A, WB12 0.5-1.0A, WB13 0.0-0.5A, WB13 0.5-1.0A, WB16 0.0-0.5A, WB16 0.5-1.0A, WB18 0.0-0.5A, WB18 0.5-1.0A	**04-FEB-2015**	**10-FEB-2015**	18-FEB-2015	✓	**13-FEB-2015**	22-MAR-2015	✓
Soil Glass Jar - Unpreserved (EP131B)							
DUPLICATE 2A	**04-FEB-2015**	**13-FEB-2015**	18-FEB-2015	✓	**16-FEB-2015**	25-MAR-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP132B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP132B-SD)							
WB3 0.5-1.0a, WB3 0.0-0.5a, TRIPLICATE 2A, TRIPLICATE 2B, WB4 0.0-0.5A, WB4 0.5-1.0A, WB5 0.5-1.0A, WB5 0.0-0.5A, WB8 0.5-1.0A, WB8 0.0-0.5A, WB9 0.0-0.5A, WB9 0.5-1.0A, WB12 0.0-0.5A, WB12 0.5-1.0A, WB13 0.0-0.5A, WB13 0.5-1.0A, WB16 0.0-0.5A, WB16 0.5-1.0A, WB18 0.0-0.5A, WB18 0.5-1.0A	**04-FEB-2015**	**10-FEB-2015**	18-FEB-2015	✓	**13-FEB-2015**	22-MAR-2015	✓
Soil Glass Jar - Unpreserved (EP132B-SD)							
DUPLICATE 2A	**04-FEB-2015**	**13-FEB-2015**	18-FEB-2015	✓	**16-FEB-2015**	25-MAR-2015	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG020A-T)							
RINSATE 2	**04-FEB-2015**	**11-FEB-2015**	03-AUG-2015	✓	**13-FEB-2015**	03-AUG-2015	✓
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG020B-T)							
RINSATE 2	**04-FEB-2015**	**11-FEB-2015**	03-AUG-2015	✓	**13-FEB-2015**	03-AUG-2015	✓
EG035T: Total Recoverable Mercury by FIMS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG035T)							
RINSATE 2	**04-FEB-2015**	**----**	----	----	**16-FEB-2015**	04-MAR-2015	✓
EK055G: Ammonia as N by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK055G)							
RINSATE 2	**04-FEB-2015**	**---**	04-MAR-2015	----	**13-FEB-2015**	04-MAR-2015	✓
EK057G: Nitrite as N by Discrete Analyser							
Clear Plastic Bottle - Natural (EK057G)							
RINSATE 2	**04-FEB-2015**	**---**	06-FEB-2015	----	**08-FEB-2015**	06-FEB-2015	×
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK059G)							
RINSATE 2	**04-FEB-2015**	**---**	04-MAR-2015	----	**13-FEB-2015**	04-MAR-2015	✓
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK061G)							
RINSATE 2	**04-FEB-2015**	**13-FEB-2015**	04-MAR-2015	✓	**13-FEB-2015**	04-MAR-2015	✓
EK067G: Total Phosphorus as P by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK067G)							
RINSATE 2	**04-FEB-2015**	**13-FEB-2015**	04-MAR-2015	✓	**13-FEB-2015**	04-MAR-2015	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP066: Polychlorinated Biphenyls (PCB)							
Amber Glass Bottle - Unpreserved (EP066)							
RINSATE 2	**04-FEB-2015**	**11-FEB-2015**	11-FEB-2015	✓	**12-FEB-2015**	23-MAR-2015	✓
EP068A: Organochlorine Pesticides (OC)							
Amber Glass Bottle - Unpreserved (EP068)							
RINSATE 2	**04-FEB-2015**	**11-FEB-2015**	11-FEB-2015	✓	**12-FEB-2015**	23-MAR-2015	✓
EP068B: Organophosphorus Pesticides (OP)							
Amber Glass Bottle - Unpreserved (EP068)							
RINSATE 2	**04-FEB-2015**	**11-FEB-2015**	11-FEB-2015	✓	**12-FEB-2015**	23-MAR-2015	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
RINSATE 2	**04-FEB-2015**	**11-FEB-2015**	11-FEB-2015	✓	**12-FEB-2015**	23-MAR-2015	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
RINSATE 2	**04-FEB-2015**	**11-FEB-2015**	11-FEB-2015	✓	**12-FEB-2015**	23-MAR-2015	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
RINSATE 2	**04-FEB-2015**	**14-FEB-2015**	18-FEB-2015	✓	**14-FEB-2015**	18-FEB-2015	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber VOC Vial - Sulfuric Acid (EP080)							
RINSATE 2	**04-FEB-2015**	**14-FEB-2015**	18-FEB-2015	✓	**14-FEB-2015**	18-FEB-2015	✓
EP090: Organotin Compounds							
Amber Glass Bottle - Unpreserved (EP090H)							
RINSATE 2	**04-FEB-2015**	**12-FEB-2015**	11-FEB-2015	×	**12-FEB-2015**	24-MAR-2015	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Ammonia in Sediments	EK255A SD	4	40	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Moisture Content	EA055-103	8	78	**10.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	3	22	**13.6**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	3	21	**14.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	3	23	**13.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	3	23	**13.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	3	23	**13.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	3	23	**13.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	5	48	**10.4**	**9.5**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	3	27	**11.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	3	27	**11.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	3	27	**11.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	3	21	**14.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	6	48	**12.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	4	30	**13.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Ammonia in Sediments	EK255A SD	2	40	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	2	22	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	2	21	**9.5**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	2	23	**8.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	2	23	**8.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	2	21	**9.5**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	2	23	**8.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	2	23	**8.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	9	48	**18.8**	**14.3**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	27	**7.4**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	27	**7.4**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	27	**7.4**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	2	21	**9.5**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	9	48	**18.8**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	3	30	**10.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Method Blanks (MB) - Continued							
Ammonia in Sediments	EK255A SD	2	40	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	2	22	9.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	2	21	9.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	2	23	8.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	2	23	8.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	2	21	9.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	2	23	8.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	2	23	8.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	3	48	6.3	4.8	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	27	7.4	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	27	7.4	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	27	7.4	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	2	21	9.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	3	48	6.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	3	30	10.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia in Sediments	EK255A SD	2	40	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	2	22	9.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	2	21	9.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	2	23	8.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	2	23	8.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	2	23	8.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	2	23	8.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	3	48	6.3	4.8	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	27	7.4	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	27	7.4	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	3	48	6.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	3	30	10.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Ammonia as N by Discrete analyser	EK055G	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP) - Continued							
Total Mercury by FIMS	EG035T	1	10	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	2	18	**11.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	2	14	**14.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	2	19	**10.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Ammonia as N by Discrete analyser	EK055G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Compounds (Soluble)	EP090H	1	2	**50.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	7	**14.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	4	**25.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	3	20	**15.0**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	10	**10.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	14	**7.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	3	20	**15.0**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	8	**12.5**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Ammonia as N by Discrete analyser	EK055G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Compounds (Soluble)	EP090H	1	2	**50.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	7	**14.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	4	**25.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	10	**10.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	14	**7.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	8	**12.5**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia as N by Discrete analyser	EK055G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Matrix Spikes (MS) - Continued							
Total Mercury by FIMS	EG035T	1	10	**10.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055-103	SOIL	In-house. A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Particle Size Analysis by Hydrometer	EA150H	SOIL	Particle Size Analysis by Hydrometer according to AS1289.3.6.3 - 2003
Soil Particle Density	* EA152	SOIL	Soil Particle Density by AS 1289.3.5.1-2006 : Methods of testing soils for engineering purposes - Soil classification tests - Determination of the soil particle density of a soil - Standard method A modification of the AS 1289.3.5.1 method may apply when testing dispersed soils also tested by AS1289.3.6.3. This modification uses the dispersion solution from AS1289.3.6.3 in place of water for density determinations
Total Fe and Al in Sediments by ICPAES	EG005-SD	SOIL	In house: Referenced to APHA 21st ed., 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3). LORs per NODG
Total Metals in Sediments by ICPMS	EG020-SD	SOIL	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector. Analyte list and LORs per NODG.
Total Mercury by FIMS (Low Level)	EG035T-LL	SOIL	In house: Referenced to AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Nitrite as N - Soluble by Discrete Analyser	EK057G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3- B. Nitrite in a water extract is determined by direct colourimetry by Discrete Analyser.
Nitrate as N - Soluble by Discrete Analyser	EK058G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3--F. Nitrate in the 1:5 soil:water extract is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results.
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3- F. Combined oxidised Nitrogen (NO2+NO3) in a water extract is determined by Chemical Reduction, and direct colourimetry by Discrete Analyser.
TKN as N By Discrete Analyser	EK061G	SOIL	In house: Referenced to APHA 21st ed., 4500-Norg-D Soil samples are digested using Kjeldahl digestion followed by determination by Discrete Analyser.
Total Nitrogen as N (TKN + NOx) By Discrete Analyser	EK062G	SOIL	In house: Referenced to APHA 21st ed., 4500 Norg/NO3- Total Nitrogen is determined as the sum of TKN and Oxidised Nitrrogen, each determined seperately as N.
Total Phosporus By Discrete Analyser	EK067G	SOIL	In house: Referenced to APHA 21st ed., 4500 P-B&F This procedure involves sulfuric acid digestion and quantification using Discrete Analyser.
Ammonia in Sediments	EK255A SD	SOIL	Rayment and Higginson (1992) Method 7C1 and 7C2. This method measures exchangeable ammonium which is defined by the amount of ammonium released by shaking sediment with an un-buffered 2M potassium chloride solution.

Analytical Methods	Method	Matrix	Method Descriptions
Total Organic Carbon	EP003	SOIL	In-house C-IR17. Dried and pulverised sample is reacted with acid to remove inorganic Carbonates, then combusted in a LECO furnace in the presence of strong oxidants / catalysts. The evolved (Organic) Carbon (as CO2) is automaticaly measured by infra-red detector.
TPH - Semivolatile Fraction	EP071-SD	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 504)
TRH Volatiles/BTEX in Sediments	EP080-SD	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve.
Organotin Analysis	EP090	SOIL	(USEPA SW 846 - 8270D) Prepared sample extracts are analysed by GC/MS coupled with high volume injection, and quanitified against an established calibration curve.
Organophosphorus Pesticides (Ultra-trace)	EP130	SOIL	USEPA Method 3640 (GPC cleanup), 8141 (GC/FPD - Capillary Column) This technique is compliant with NEPM (2013) Schedule B(3) (Method 505)
Organochlorine Pesticides (Ultra-trace)	EP131A	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (2013) Schedule B(3) (Method 504)
PCB's (Ultra-trace)	EP131B	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (2013) Schedule B(3) (Method 504)
PAHs in Sediments by GCMS(SIM)	EP132B-SD	SOIL	USEPA 8270 GCMS Capillary column, SIM mode using large volume programmed temperature vaporisation injection.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Metals by ICP-MS - Suite B	EG020B-T	WATER	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Mercury by FIMS	EG035T	WATER	In house: Referenced to AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Ammonia as N by Discrete analyser	EK055G	WATER	In house: Referenced to APHA 21st ed., 4500-NH3 G Ammonia is determined by direct colorimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Nitrite as N by Discrete Analyser	EK057G	WATER	In house: Referenced to APHA 21st ed., 4500-NO2- B. Nitrite is determined by direct colourimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Nitrate as N by Discrete Analyser	EK058G	WATER	In house: Referenced to APHA 21st ed., 4500-NO3- F. Nitrate is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results. This method is compliant with NEPM (2013) Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	WATER	In house: Referenced to APHA 21st ed., 4500-NO3- F. Combined oxidised Nitrogen (NO2+NO3) is determined by Chemical Reduction and direct colourimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	WATER	In house: Referenced to APHA 21st ed., 4500-Norg D (In house). An aliquot of sample is digested using a high temperature Kjeldahl digestion to convert nitrogenous compounds to ammonia. Ammonia is determined colorimetrically by discrete analyser. This method is compliant with NEPM (2013) Schedule B(3)
Total Nitrogen as N (TKN + Nox) By Discrete Analyser	EK062G	WATER	In house: Referenced to APHA 21st ed., 4500-Norg / 4500-NO3-. This method is compliant with NEPM (2013) Schedule B(3)
Total Phosphorus as P By Discrete Analyser	EK067G	WATER	In house: Referenced to APHA 21st ed., 4500-P H, Jirka et al (1976), Zhang et al (2006). This procedure involves sulphuric acid digestion of a sample aliquot to break phosphorus down to orthophosphate. The orthophosphate reacts with ammonium molybdate and antimony potassium tartrate to form a complex which is then reduced and its concentration measured at 880nm using discrete analyser. This method is compliant with NEPM (2013) Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Pesticides by GCMS	EP068	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
Organotin Compounds (Soluble)	EP090H	WATER	(USEPA SW 846 - 8270D, ALS QWI-ORG/EP090) Sample extracts (ALS QWI-ORG/035) are analysed by GC/MS coupled with high volume injection (10-50µL). Quantitation is achieved using internal standard and average response factor quantitation techniques against an established five-point curve. Butyltin results are reported in either "as tin" units eg. ng Sn/L or "ng TBT+/L". The analytical standards are prepared in "as tin" units. Sample results are converted to TBT+ results as required.

Preparation Methods	Method	Matrix	Method Descriptions
TKN/TP Digestion	EK061/EK067	SOIL	APHA 21st ed., 4500 Norg- D; APHA 21st ed., 4500 P - H. Macro Kjeldahl digestion.
1:5 solid / water leach for soluble analytes	EN34	SOIL	10 g of soil is mixed with 50 mL of distilled water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids/ Sample Cleanup	ORG17A-UTP	SOIL	In-house, Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. Samples are extracted, concentrated (by KD) and exchanged into an appropriate solvent for GPC and florisil cleanup as required.

Preparation Methods	Method	Matrix	Method Descriptions
Tumbler Extraction of Solids for LVI (Non-concentrating)	ORG17D	SOIL	In house: 10g of sample, Na2SO4 and surrogate are extracted with 50mL 1:1 DCM/Acetone by end over end tumbling. An aliquot is concentrated by nitrogen blowdown to a reduced volume for analysis if required.
Organotin Sample Preparation	ORG35	SOIL	In house. 20g sample is spiked with surrogate and leached in a methanol:acetic acid:UHP water mix and vacuum filtered. Reagents and solvents are added to the sample and the mixture tumbled. The butyltin compounds are simultaneously derivatised and extracted. The extract is further extracted with petroleum ether. The resultant extracts are combined and concentrated for analysis.
TKN/TP Digestion	EK061/EK067	WATER	APHA 21st ed., 4500 Norg - D; APHA 21st ed., 4500 P - H. This method is compliant with NEPM (2013) Schedule B(3)
Digestion for Total Recoverable Metals	EN25	WATER	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (2013) Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (2013) Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Organotin Sample Preparation	ORG34H	WATER	(IN HOUSE, ALS QWI-ORG/35) A specified volume (determined by the detection limit requirement) of sample is spiked with surrogate, acidified and vacuum filtered. Reagents and solvent are added to the sample and the mixture tumbled for 20 minutes. The butyltin compounds is derivitisated, extracted and the subtitution reaction is completed. The extracts is transferred to a separatory funnel and further extracted two times using petroleum ether. The resultant extracts are combined and concentrated to the desired volume for analysis.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW 846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EK067G: Total Phosphorus as P by Discrete Analyser	ES1503303-001	Anonymous	**Total Phosphorus as P**	----	20.0 %	0-20%	**RPD exceeds LOR based limits**
EP132B: Polynuclear Aromatic Hydrocarbons	ES1502902-001	Anonymous	**Sum of PAHs**	----	23.1 %	0-20%	**RPD exceeds LOR based limits**
Laboratory Control Spike (LCS) Recoveries							
EP090: Organotin Compounds	4602229-002	----	**Monobutyltin**	78763-54-9	149 %	36-128%	**Recovery greater than upper control limit**
EP090: Organotin Compounds	4604712-002	----	**Monobutyltin**	78763-54-9	149 %	36-128%	**Recovery greater than upper control limit**
Matrix Spike (MS) Recoveries							
EK255A SD: Ammonia in Sediment	ES1502737-001	WB3 0.5-1.0a	**Ammonia as N**	7664-41-7	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

- **For all matrices, no Method Blank value outliers occur.**

Regular Sample Surrogates

Sub-Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP090S: Organotin Surrogate	ES1502737-009	DUPLICATE 2A	**Tripropyltin**	----	158 %	35-130 %	**Recovery greater than upper data quality objective**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

Matrix: **WATER**

Method	*Extraction / Preparation*			*Analysis*		
Container / Client Sample ID(s)	*Date extracted*	*Due for extraction*	***Days overdue***	*Date analysed*	*Due for analysis*	***Days overdue***
EK057G: Nitrite as N by Discrete Analyser						
Clear Plastic Bottle - Natural						
RINSATE 2	----	----	----	08-FEB-2015	06-FEB-2015	**2**
EP090: Organotin Compounds						
Amber Glass Bottle - Unpreserved						
RINSATE 2	12-FEB-2015	11-FEB-2015	**1**	----	----	----

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☒ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: (1) 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: (1) 2 3 4 5 6 7	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 5 February 2015	DATE/TIME: 5 February 2015
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY:	RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 8/2/15 @16:00	DATE/TIME: 11:25 10/2/15

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).							Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	PC5 0.0-0.5A	5/02/2015	S	Glass Jars (250 ml & 150 ml)	2	1							ALL 150ml's sent to BRISBANE FOR TBT/TOC
2	PC5 0.5-1.0A	5/02/2015	S	Glass Jars (250 ml & 150 ml)	2	1							
3	PC5 0.0-0.5B	5/02/2015	S	Bag (White label)	1		1						
4	PC5 0.5-1.0B	5/02/2015	S	Bag (White label)	1		1						
5	PC5 0.3V	5/02/2015	S	Glass Jar (250 ml)	1			1					
6	PC5 0.7V	5/02/2015	S	Glass Jar (250 ml)	1			1					
7	Trip Blank 3	5/02/2015	S	Pre-filled glass jar	1	1							
				TOTAL	9	3	2	2					

Environmental Division Sydney

Work Order

ES1502902

Telephone : +61-2-8784 8555

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Pla...
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1502902**	Page	: 1 of 10
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553		
C-O-C number	: ----	Date Samples Received	: 10-FEB-2015
Sampler	: GK	Issue Date	: 24-FEB-2015
Site	: ----		
		No. of samples received	: 7
Quote number	: SY/1021/14 V2	No. of samples analysed	: 7

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **EP090: Sample 'PC5 0.5-1.0A' shows poor matrix spike recovery for Monobutyltin due to matrix interference.**

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Dianne Blane	Laboratory Coordinator (2IC)	Newcastle - Inorganics
Kim McCabe	Senior Inorganic Chemist	Brisbane Acid Sulphate Soils
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
		Sydney Organics
Ryan Story	2IC Organic Instrument Chemist	Brisbane Organics
Shobhna Chandra	Metals Coordinator	Sydney Inorganics

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	PC5 0.0-0.5A	PC5 0.5-1.0A	PC5 0.0-0.5B	PC5 0.5-1.0B	PC5 0.3V
				Client sampling date / time	05-FEB-2015 15:00	05-FEB-2015 15:00	05-FEB-2015 15:00	05-FEB-2015 15:00	05-FEB-2015 15:00
					ES1502902-001	ES1502902-002	ES1502902-003	ES1502902-004	ES1502902-005
EA150: Particle Sizing									
+75µm	----	1	%		----	----	**37**	**25**	----
+150µm	----	1	%		----	----	**2**	<1	----
+300µm	----	1	%		----	----	<1	<1	----
+425µm	----	1	%		----	----	<1	<1	----
+600µm	----	1	%		----	----	<1	<1	----
+1180µm	----	1	%		----	----	<1	<1	----
+2.36mm	----	1	%		----	----	<1	<1	----
+4.75mm	----	1	%		----	----	<1	<1	----
+9.5mm	----	1	%		----	----	<1	<1	----
+19.0mm	----	1	%		----	----	<1	<1	----
+37.5mm	----	1	%		----	----	<1	<1	----
+75.0mm	----	1	%		----	----	<1	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**44.8**	**42.3**	----	----	**45.4**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	**19**	**21**	----
Silt (2-60 µm)	----	1	%		----	----	**22**	**23**	----
Sand (0.06-2.00 mm)	----	1	%		----	----	**59**	**56**	----
Gravel (>2mm)	----	1	%		----	----	<1	<1	----
Cobbles (>6cm)	----	1	%		----	----	<1	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	**2.68**	**2.66**	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**10600**	**11300**	----	----	----
Iron	7439-89-6	50	mg/kg		**16400**	**16700**	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		**11.5**	**10.1**	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	----	----	----
Chromium	7440-47-3	1.0	mg/kg		**19.1**	**18.6**	----	----	----
Copper	7440-50-8	1.0	mg/kg		**12.9**	**13.7**	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		**7.5**	**7.8**	----	----	----
Lead	7439-92-1	1.0	mg/kg		**6.6**	**6.8**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	PC5 0.0-0.5A	PC5 0.5-1.0A	PC5 0.0-0.5B	PC5 0.5-1.0B	PC5 0.3V
				Client sampling date / time	05-FEB-2015 15:00	05-FEB-2015 15:00	05-FEB-2015 15:00	05-FEB-2015 15:00	05-FEB-2015 15:00
					ES1502902-001	ES1502902-002	ES1502902-003	ES1502902-004	ES1502902-005
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		392	324	----	----	----
Nickel	7440-02-0	1.0	mg/kg		9.2	9.4	----	----	----
Selenium	7782-49-2	0.1	mg/kg		0.7	0.6	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.1	<0.1	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		36.7	37.6	----	----	----
Zinc	7440-66-6	1.0	mg/kg		34.5	35.2	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		0.03	0.03	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		600	700	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		600	700	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		276	292	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		26.5	50.8	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		0.70	0.72	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		3	<3	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		20	7	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		8	<5	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		31	7	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		5	<3	----	----	----
C15 - C28 Fraction	----	3	mg/kg		13	4	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	PC5 0.0-0.5A	PC5 0.5-1.0A	PC5 0.0-0.5B	PC5 0.5-1.0B	PC5 0.3V
				Client sampling date / time	05-FEB-2015 15:00	05-FEB-2015 15:00	05-FEB-2015 15:00	05-FEB-2015 15:00	05-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1502902-001	ES1502902-002	ES1502902-003	ES1502902-004	ES1502902-005
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		**12**	<5	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		**30**	**4**	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	----	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	<1	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	<1	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	<0.5	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	<10	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	<10	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	<10.0	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	<10	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	<10	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	<10	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	<10	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	<10	----	----	----
Ethion	563-12-2	10	µg/kg		<10	<10	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	<10	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	<10	----	----	----
Malathion	121-75-5	10	µg/kg		<10	<10	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	<10	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	<10	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	PC5 0.0-0.5A	PC5 0.5-1.0A	PC5 0.0-0.5B	PC5 0.5-1.0B	PC5 0.3V
				Client sampling date / time	05-FEB-2015 15:00	05-FEB-2015 15:00	05-FEB-2015 15:00	05-FEB-2015 15:00	05-FEB-2015 15:00
					ES1502902-001	ES1502902-002	ES1502902-003	ES1502902-004	ES1502902-005
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	<10	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	<10	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	<10	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	<10	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	<0.50	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	<0.50	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	<0.50	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	<0.50	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	<0.50	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	<0.25	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	<0.50	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	<0.25	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	<0.25	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	<0.25	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	<0.50	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	<5.0	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	PC5 0.0-0.5A	PC5 0.5-1.0A	PC5 0.0-0.5B	PC5 0.5-1.0B	PC5 0.3V
				Client sampling date / time	05-FEB-2015 15:00	05-FEB-2015 15:00	05-FEB-2015 15:00	05-FEB-2015 15:00	05-FEB-2015 15:00
					ES1502902-001	ES1502902-002	ES1502902-003	ES1502902-004	ES1502902-005
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	<5.0	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	<5	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	<5	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	<4	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	<4	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	<4	----	----	----
Phenanthrene	85-01-8	4	µg/kg		**9**	**11**	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	<4	----	----	----
Fluoranthene	206-44-0	4	µg/kg		**11**	**16**	----	----	----
Pyrene	129-00-0	4	µg/kg		**10**	**16**	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		**7**	**10**	----	----	----
Chrysene	218-01-9	4	µg/kg		**8**	**12**	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		**6**	**12**	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	**8**	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		**7**	**11**	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		**6**	**11**	----	----	----
Perylene	198-55-0	4	µg/kg		**6**	**12**	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		**7**	**10**	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	<4	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		**5**	**9**	----	----	----
Coronene	191-07-1	5	µg/kg		<5	<5	----	----	----
^ **Sum of PAHs**	----	4	µg/kg		**82**	**138**	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	----	**75.0**
Toluene-D8	2037-26-5	0.1	%		----	----	----	----	**74.4**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	----	**72.8**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**118**	**109**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	PC5 0.0-0.5A	PC5 0.5-1.0A	PC5 0.0-0.5B	PC5 0.5-1.0B	PC5 0.3V
			Client sampling date / time	05-FEB-2015 15:00	05-FEB-2015 15:00	05-FEB-2015 15:00	05-FEB-2015 15:00	05-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1502902-001	ES1502902-002	ES1502902-003	ES1502902-004	ES1502902-005
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	69.4	72.7	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	82.6	53.8	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	77.4	63.0	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	107	101	----	----	----
Anthracene-d10	1719-06-8	0.1	%	121	111	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	115	121	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	PC5 0.7V	Trip Blank 3	----	----	----
			Client sampling date / time	05-FEB-2015 15:00	05-FEB-2015 15:00	----	----	----
Compound	CAS Number	LOR	Unit	ES1502902-006	ES1502902-007	----	----	----
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	**35.5**	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013								
>C10 - C16 Fraction	>C10_C16	3	mg/kg	----	<3	----	----	----
>C16 - C34 Fraction	----	3	mg/kg	----	<3	----	----	----
>C34 - C40 Fraction	----	5	mg/kg	----	<5	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg	----	<3	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	3	mg/kg	<3	<3	----	----	----
C10 - C14 Fraction	----	3	mg/kg	----	<3	----	----	----
C15 - C28 Fraction	----	3	mg/kg	----	<3	----	----	----
C29 - C36 Fraction	----	5	mg/kg	----	<5	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg	----	<3	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons								
C6 - C10 Fraction	C6_C10	3	mg/kg	<3	<3	----	----	----
EP080-SD: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	----	----	----
Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	----	----	----
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**82.6**	**104**	----	----	----
Toluene-D8	2037-26-5	0.1	%	**85.6**	**118**	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	**78.1**	**109**	----	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	Recovery Limits (%) High
EP080-SD: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	67	137
Toluene-D8	2037-26-5	74	134
4-Bromofluorobenzene	460-00-4	73	137
EP090S: Organotin Surrogate			
Tripropyltin	----	35	130
EP130S: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	14.4	102
EP131S: OC Pesticide Surrogate			
Dibromo-DDE	21655-73-2	10	119
EP131T: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	10	106
EP132T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	55	135
Anthracene-d10	1719-06-8	70	136
4-Terphenyl-d14	1718-51-0	57	127

QUALITY CONTROL REPORT

Work Order	: **ES1502902**	Page	: 1 of 17
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 10-FEB-2015
Sampler	: GK	Issue Date	: 24-FEB-2015
Order number	: 245553		
		No. of samples received	: 7
Quote number	: SY/1021/14 V2	No. of samples analysed	: 7

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Dianne Blane	Laboratory Coordinator (2IC)	Newcastle - Inorganics
Kim McCabe	Senior Inorganic Chemist	Brisbane Acid Sulphate Soils
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
		Sydney Organics
Ryan Story	2IC Organic Instrument Chemist	Brisbane Organics
Shobhna Chandra	Metals Coordinator	Sydney Inorganics

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA055: Moisture Content (QC Lot: 3824114)									
ES1502902-001	PC5 0.0-0.5A	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	44.8	45.5	1.6	0% - 20%
ES1502980-002	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	11.4	15.8	32.6	0% - 50%
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3826977)									
ES1502850-054	Anonymous	EG005-SD: Aluminium	7429-90-5	50	mg/kg	17400	19000	8.7	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	31300	32400	3.5	0% - 20%
ES1503000-020	Anonymous	EG005-SD: Aluminium	7429-90-5	50	mg/kg	18900	18100	4.3	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	32100	33000	2.8	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3826976)									
ES1502850-054	Anonymous	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.8	0.8	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	12.1	12.6	3.5	0% - 20%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	26.6	28.0	4.9	0% - 20%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	29.8	30.8	3.5	0% - 20%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	8.7	9.4	8.1	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	14.8	15.4	3.9	0% - 50%
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	56.0	57.4	2.5	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	12.8	12.8	0.1	0% - 50%
		EG020-SD: Manganese	7439-96-5	10	mg/kg	446	399	11.1	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	58.6	61.9	5.5	0% - 20%
ES1503000-020	Anonymous	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	1.1	1.1	0.0	0% - 50%
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	0.1	0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	13.7	16.6	19.4	0% - 20%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	22.1	22.7	2.5	0% - 20%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	44.9	42.1	6.4	0% - 20%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	9.4	9.4	0.0	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	14.0	14.5	3.4	0% - 50%
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	41.8	42.2	0.9	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	8.24	12.0	37.4	0% - 50%
		EG020-SD: Manganese	7439-96-5	10	mg/kg	210	225	7.2	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	91.4	89.5	2.1	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3826975)									
ES1502850-054	Anonymous	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	0.04	0.05	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3826975) - continued									
ES1503000-020	Anonymous	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	0.04	0.04	0.0	No Limit
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3822715)									
ES1502902-001	PC5 0.0-0.5A	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3822716)									
ES1502902-001	PC5 0.0-0.5A	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3824345)									
ES1502737-041	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	70	60	0.0	No Limit
ES1502902-002	PC5 0.5-1.0A	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	700	770	9.8	0% - 20%
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3824346)									
ES1502737-041	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	180	164	9.2	0% - 20%
ES1502902-002	PC5 0.5-1.0A	EK067G: Total Phosphorus as P	----	2	mg/kg	292	320	9.2	0% - 20%
EK255A SD: Ammonia in Sediment (QC Lot: 3817571)									
ES1502902-001	PC5 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	26.5	25.7	3.0	0% - 20%
EP003: Total Organic Carbon (TOC) in Soil (QC Lot: 3819266)									
EM1501216-008	Anonymous	EP003: Total Organic Carbon	----	0.02	%	0.10	0.10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3821455)									
ES1502902-001	PC5 0.0-0.5A	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	3	4	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	20	20	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	31	33	6.2	0% - 50%
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	8	9	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3821327)									
ES1502902-005	PC5 0.3V	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3821455)									
ES1502902-001	PC5 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	5	5	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	13	14	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	30	34	12.5	0% - 50%
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	12	15	20.6	No Limit
EP080-SD: BTEXN (QC Lot: 3821327)									
ES1502902-005	PC5 0.3V	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP090: Organotin Compounds (QC Lot: 3819191)									
ES1502902-001	PC5 0.0-0.5A	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3821466)									
ES1502902-001	PC5 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
EP131A: Organochlorine Pesticides (QC Lot: 3821467)									
ES1502902-001	PC5 0.0-0.5A	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP131A: Organochlorine Pesticides (QC Lot: 3821467) - continued									
ES1502902-001	PC5 0.0-0.5A	EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 3821468)									
ES1502902-001	PC5 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3821456)									
ES1502902-001	PC5 0.0-0.5A	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	9	7	21.1	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	11	9	13.8	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	10	9	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	7	5	24.1	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	8	6	23.6	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	6	4	33.1	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	7	6	26.7	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	6	5	24.2	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	6	5	29.7	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	7	5	26.6	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	5	4	21.4	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	82	65	# 23.1	0% - 20%
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3826977)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	----	----	----	----
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	130	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3826976)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	----	----	----	----
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	120	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	116	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	126	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	120	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	115	84	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	113	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	127	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	129	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	119	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	2.10 mg/kg	111	64	148
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	122	87	131
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	128	83	137
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3826975)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.110 mg/kg	108	72	116
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3822715)								
EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	95.4	82	120
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3822716)								
EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	104	89	115
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3824345)								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	<20	1000 mg/kg	95.9	64	114
				----	500 mg/kg	104	70	122
				----	100 mg/kg	100	70	127
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3824346)								
EK067G: Total Phosphorus as P	----	2	mg/kg	----	100 mg/kg	103	69	123
				----	44.2 mg/kg	99.5	64	124
				<2	442 mg/kg	98.4	68	116
EK255A SD: Ammonia in Sediment (QCLot: 3817571)								
EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	<0.2	0.1 mg/kg	99.3	70	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP003: Total Organic Carbon (TOC) in Soil (QCLot: 3819266)								
EP003: Total Organic Carbon	----	0.02	%	<0.02	0.11 %	107	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3821455)								
EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	6.25 mg/kg	86.3	70	130
EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	8.75 mg/kg	99.4	74	138
EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	3.75 mg/kg	118	63	131
EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821327)								
EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	6.2 mg/kg	88.7	61	133
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821455)								
EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	5 mg/kg	88.7	78	118
EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	7.5 mg/kg	93.1	84	118
EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	5 mg/kg	108	73	119
EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD: BTEXN (QCLot: 3821327)								
EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	0.2 mg/kg	89.3	66	122
EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	0.2 mg/kg	97.1	69	122
EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.2 mg/kg	99.6	66	126
EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	0.4 mg/kg	99.2	59	129
EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.2 mg/kg	99.7	66	126
EP090: Organotin Compounds (QCLot: 3819191)								
EP090: Monobutyltin	78763-54-9	1.0	µgSn/kg	<1	1.25 µgSn/kg	118	36	128
EP090: Dibutyltin	1002-53-5	1.0	µgSn/kg	<1	1.25 µgSn/kg	103	42	132
EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	1.25 µgSn/kg	105	52	139
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3821466)								
EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	50 µg/kg	93.6	45	139
EP130: Carbophenothion	786-19-6	10	µg/kg	<10	50 µg/kg	80.8	47	117
EP130: Chlorfenvinphos (E)	18708-86-6	10	µg/kg	<10.0	5 µg/kg	62.9	48	156
EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	50 µg/kg	75.7	62	136
EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	50 µg/kg	99.9	57	137
EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	50 µg/kg	80.3	57	121
EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	50 µg/kg	74.8	20.4	142
EP130: Diazinon	333-41-5	10	µg/kg	<10	50 µg/kg	93.1	57	121
EP130: Dichlorvos	62-73-7	10	µg/kg	<10	50 µg/kg	90.0	47	115
EP130: Dimethoate	60-51-5	10	µg/kg	<10	50 µg/kg	72.3	55	133
EP130: Ethion	563-12-2	10	µg/kg	<10	50 µg/kg	101	54	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3821466) - continued								
EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	50 µg/kg	91.8	57	131
EP130: Fenthion	55-38-9	10	µg/kg	<10	50 µg/kg	76.2	38	130
EP130: Malathion	121-75-5	10	µg/kg	<10	50 µg/kg	97.7	62	138
EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	50 µg/kg	93.7	33	137
EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	50 µg/kg	72.5	50	148
EP130: Parathion	56-38-2	10	µg/kg	<10	50 µg/kg	100	64	140
EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	50 µg/kg	70.1	56	136
EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	50 µg/kg	99.5	50	132
EP130: Prothiofos	34643-46-4	10	µg/kg	<10	50 µg/kg	106	55	135
EP131A: Organochlorine Pesticides (QCLot: 3821467)								
EP131A: Aldrin	309-00-2	0.5	µg/kg	<0.50	5 µg/kg	108	38	150
EP131A: alpha-BHC	319-84-6	0.5	µg/kg	<0.50	5 µg/kg	65.8	17.6	156
EP131A: beta-BHC	319-85-7	0.5	µg/kg	<0.50	5 µg/kg	68.0	30.5	152
EP131A: delta-BHC	319-86-8	0.5	µg/kg	<0.50	5 µg/kg	72.7	37	151
EP131A: 4.4`-DDD	72-54-8	0.5	µg/kg	<0.50	5 µg/kg	92.6	25.9	150
EP131A: 4.4`-DDE	72-55-9	0.5	µg/kg	<0.50	5 µg/kg	46.1	35	129
EP131A: 4.4`-DDT	50-29-3	0.5	µg/kg	<0.50	5 µg/kg	85.4	23.4	163
EP131A: Sum of DDD + DDE + DDT	----	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Dieldrin	60-57-1	0.5	µg/kg	<0.50	5 µg/kg	75.1	30.2	140
EP131A: alpha-Endosulfan	959-98-8	0.5	µg/kg	<0.50	5 µg/kg	45.5	38	140
EP131A: beta-Endosulfan	33213-65-9	0.5	µg/kg	<0.50	5 µg/kg	51.8	32	152
EP131A: Endosulfan sulfate	1031-07-8	0.5	µg/kg	<0.50	5 µg/kg	52.3	36	162
EP131A: Endosulfan (sum)	115-29-7	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Endrin	72-20-8	0.5	µg/kg	<0.50	5 µg/kg	55.0	25.8	166
EP131A: Endrin aldehyde	7421-93-4	0.5	µg/kg	<0.50	5 µg/kg	63.1	20.1	116
EP131A: Endrin ketone	53494-70-5	0.5	µg/kg	<0.50	5 µg/kg	41.2	13.4	151
EP131A: Heptachlor	76-44-8	0.5	µg/kg	<0.50	5 µg/kg	62.6	39	173
EP131A: Heptachlor epoxide	1024-57-3	0.5	µg/kg	<0.50	5 µg/kg	41.6	34	148
EP131A: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/kg	<0.50	5 µg/kg	45.2	26.1	152
EP131A: gamma-BHC	58-89-9	0.5	µg/kg	<0.50	5 µg/kg	54.8	31.2	159
EP131A: Methoxychlor	72-43-5	0.5	µg/kg	<0.50	5 µg/kg	55.6	36	160
EP131A: cis-Chlordane	5103-71-9	0.5	µg/kg	<0.50	5 µg/kg	45.4	36	142
EP131A: trans-Chlordane	5103-74-2	0.5	µg/kg	<0.50	5 µg/kg	61.9	29.5	138
EP131A: Total Chlordane (sum)	----	0.5	µg/kg	<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3821468)								
EP131B: Total Polychlorinated biphenyls	----	5	µg/kg	<5.0	50 µg/kg	89.1	44	136

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3821468) - continued								
EP131B: Aroclor 1016	12674-11-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1221	11104-28-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1232	11141-16-5	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1242	53469-21-9	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1248	12672-29-6	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1254	11097-69-1	5	µg/kg	<5.0	50 µg/kg	89.1	44	136
EP131B: Aroclor 1260	11096-82-5	5	µg/kg	<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3821456)								
EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	25 µg/kg	101	67	133
EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	25 µg/kg	87.0	63	135
EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	25 µg/kg	102	68	132
EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	25 µg/kg	98.8	67	133
EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	25 µg/kg	94.8	69	131
EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	25 µg/kg	99.0	66	138
EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	25 µg/kg	93.1	67	133
EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	25 µg/kg	94.8	64	130
EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	25 µg/kg	97.7	67	133
EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	25 µg/kg	98.5	65	133
EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	25 µg/kg	88.6	70	134
EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	25 µg/kg	96.2	63	133
EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	25 µg/kg	75.4	67	133
EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	25 µg/kg	98.0	64	130
EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	25 µg/kg	82.7	72	130
EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	25 µg/kg	89.5	70	132
EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	25 µg/kg	87.0	65	127
EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	25 µg/kg	93.9	67	135
EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	25 µg/kg	88.5	62	126
EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	25 µg/kg	88.1	66	134
EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Matrix Spike (MS) Report		
Spike	SpikeRecovery(%)	Recovery Limits (%)

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3826976)							
ES1502902-001	PC5 0.0-0.5A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	116	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	113	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	122	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	115	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	106	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	116	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	113	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3826975)							
ES1502850-054	Anonymous	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	104	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3822715)							
ES1502902-001	PC5 0.0-0.5A	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	96.5	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3822716)							
ES1502902-001	PC5 0.0-0.5A	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	105	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3824345)							
ES1502737-041	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	88.6	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3824346)							
ES1502737-041	Anonymous	EK067G: Total Phosphorus as P	----	100 mg/kg	103	70	130
EK255A SD: Ammonia in Sediment (QCLot: 3817571)							
ES1502902-001	PC5 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	# Not Determined	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821327)							
ES1502902-005	PC5 0.3V	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	103	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821455)							
ES1502902-001	PC5 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	124	70	130
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	95.8	70	130
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	101	70	130
EP080-SD: BTEXN (QCLot: 3821327)							
ES1502902-005	PC5 0.3V	EP080-SD: Benzene	71-43-2	0.5 mg/kg	73.8	70	130
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	81.0	70	130
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	81.1	70	130
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	81.1	70	130
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	81.1	70	130
EP090: Organotin Compounds (QCLot: 3819191)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP090: Organotin Compounds (QCLot: 3819191) - continued							
ES1502902-002	PC5 0.5-1.0A	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	# 23.5	35	130
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	63.3	20	130
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	108	20	130
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3821466)							
ES1502902-001	PC5 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	72.5	36	144
		EP130: Carbophenothion	786-19-6	50 µg/kg	78.1	38	120
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	66.7	49	157
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	77.4	53	145
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	71.7	60	140
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	70.6	56	126
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	65.4	9.7	148
		EP130: Diazinon	333-41-5	50 µg/kg	102	60	122
		EP130: Dichlorvos	62-73-7	50 µg/kg	80.7	33	123
		EP130: Dimethoate	60-51-5	50 µg/kg	78.4	36	142
		EP130: Ethion	563-12-2	50 µg/kg	71.2	48	136
		EP130: Fenamiphos	22224-92-6	50 µg/kg	67.4	42	136
		EP130: Fenthion	55-38-9	50 µg/kg	78.6	35	131
		EP130: Malathion	121-75-5	50 µg/kg	72.4	55	141
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	78.6	23.5	132
		EP130: Monocrotophos	6923-22-4	50 µg/kg	81.5	35	153
		EP130: Parathion	56-38-2	50 µg/kg	71.0	57	147
		EP130: Parathion-methyl	298-00-0	50 µg/kg	71.6	48	140
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	69.7	45	137
		EP130: Prothiofos	34643-46-4	50 µg/kg	74.0	51	137
EP131A: Organochlorine Pesticides (QCLot: 3821467)							
ES1502902-001	PC5 0.0-0.5A	EP131A: Aldrin	309-00-2	5 µg/kg	54.6	23.4	153
		EP131A: alpha-BHC	319-84-6	5 µg/kg	83.2	17.6	156
		EP131A: beta-BHC	319-85-7	5 µg/kg	81.5	24.9	153
		EP131A: delta-BHC	319-86-8	5 µg/kg	70.7	25.2	147
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	55.9	25.9	150
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	124	31.2	125
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	81.0	23.4	163
		EP131A: Dieldrin	60-57-1	5 µg/kg	81.6	30.2	140
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	62.5	28.8	135
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	57.6	22.6	141
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	67.2	16.1	156
		EP131A: Endrin	72-20-8	5 µg/kg	105	17.7	162

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP131A: Organochlorine Pesticides (QCLot: 3821467) - continued							
ES1502902-001	PC5 0.0-0.5A	EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	58.9	20.1	116
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	53.3	13.4	151
		EP131A: Heptachlor	76-44-8	5 µg/kg	119	23.8	170
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	56.0	28.3	140
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	61.0	17.7	144
		EP131A: gamma-BHC	58-89-9	5 µg/kg	80.3	21.8	158
		EP131A: Methoxychlor	72-43-5	5 µg/kg	120	24.4	158
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	52.4	27.3	139
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	99.8	29.5	138
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3821468)							
ES1502902-001	PC5 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	87.7	44	136
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	87.7	44	136
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3821456)							
ES1502902-001	PC5 0.0-0.5A	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	90.3	70	130
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	73.0	70	130
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	83.4	70	130
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	86.8	70	130
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	74.2	70	130
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	76.9	70	130
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	95.3	70	130
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	73.2	70	130
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	72.0	70	130
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	85.2	70	130
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	70.3	70	130
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	72.2	70	130
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	74.9	70	130
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	72.1	70	130
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	73.7	70	130
		EP132B-SD: Perylene	198-55-0	25 µg/kg	73.7	70	130
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	76.4	70	130
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	77.3	70	130
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	74.4	70	130
		EP132B-SD: Coronene	191-07-1	25 µg/kg	92.8	70	130

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

The quality control term Matrix Spike (MS) and Matrix Spike Duplicate (MSD) refers to intralaboratory split samples spiked with a representative set of target analytes. The purpose of these QC parameters are to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EK255A SD: Ammonia in Sediment (QCLot: 3817571)										
ES1502902-001	PC5 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	# Not Determined	----	70	130	----	----
EP090: Organotin Compounds (QCLot: 3819191)										
ES1502902-002	PC5 0.5-1.0A	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	# 23.5	----	35	130	----	----
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	63.3	----	20	130	----	----
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	108	----	20	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821327)										
ES1502902-005	PC5 0.3V	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	103	----	70	130	----	----
EP080-SD: BTEXN (QCLot: 3821327)										
ES1502902-005	PC5 0.3V	EP080-SD: Benzene	71-43-2	0.5 mg/kg	73.8	----	70	130	----	----
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	81.0	----	70	130	----	----
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	81.1	----	70	130	----	----
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	81.1	----	70	130	----	----
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	81.1	----	70	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821455)										
ES1502902-001	PC5 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	124	----	70	130	----	----
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	95.8	----	70	130	----	----
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	101	----	70	130	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3821456)										
ES1502902-001	PC5 0.0-0.5A	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	90.3	----	70	130	----	----
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	73.0	----	70	130	----	----
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	83.4	----	70	130	----	----
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	86.8	----	70	130	----	----
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	74.2	----	70	130	----	----
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	76.9	----	70	130	----	----
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	95.3	----	70	130	----	----
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	73.2	----	70	130	----	----
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	72.0	----	70	130	----	----
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	85.2	----	70	130	----	----
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	70.3	----	70	130	----	----
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	72.2	----	70	130	----	----
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	74.9	----	70	130	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3821456) - continued										
ES1502902-001	PC5 0.0-0.5A	EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	72.1	----	70	130	----	----
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	73.7	----	70	130	----	----
		EP132B-SD: Perylene	198-55-0	25 µg/kg	73.7	----	70	130	----	----
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	76.4	----	70	130	----	----
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	77.3	----	70	130	----	----
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	74.4	----	70	130	----	----
		EP132B-SD: Coronene	191-07-1	25 µg/kg	92.8	----	70	130	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3821466)										
ES1502902-001	PC5 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	72.5	----	36	144	----	----
		EP130: Carbophenothion	786-19-6	50 µg/kg	78.1	----	38	120	----	----
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	66.7	----	49	157	----	----
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	77.4	----	53	145	----	----
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	71.7	----	60	140	----	----
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	70.6	----	56	126	----	----
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	65.4	----	9.7	148	----	----
		EP130: Diazinon	333-41-5	50 µg/kg	102	----	60	122	----	----
		EP130: Dichlorvos	62-73-7	50 µg/kg	80.7	----	33	123	----	----
		EP130: Dimethoate	60-51-5	50 µg/kg	78.4	----	36	142	----	----
		EP130: Ethion	563-12-2	50 µg/kg	71.2	----	48	136	----	----
		EP130: Fenamiphos	22224-92-6	50 µg/kg	67.4	----	42	136	----	----
		EP130: Fenthion	55-38-9	50 µg/kg	78.6	----	35	131	----	----
		EP130: Malathion	121-75-5	50 µg/kg	72.4	----	55	141	----	----
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	78.6	----	23.5	132	----	----
		EP130: Monocrotophos	6923-22-4	50 µg/kg	81.5	----	35	153	----	----
		EP130: Parathion	56-38-2	50 µg/kg	71.0	----	57	147	----	----
		EP130: Parathion-methyl	298-00-0	50 µg/kg	71.6	----	48	140	----	----
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	69.7	----	45	137	----	----
		EP130: Prothiofos	34643-46-4	50 µg/kg	74.0	----	51	137	----	----
EP131A: Organochlorine Pesticides (QCLot: 3821467)										
ES1502902-001	PC5 0.0-0.5A	EP131A: Aldrin	309-00-2	5 µg/kg	54.6	----	23.4	153	----	----
		EP131A: alpha-BHC	319-84-6	5 µg/kg	83.2	----	17.6	156	----	----
		EP131A: beta-BHC	319-85-7	5 µg/kg	81.5	----	24.9	153	----	----
		EP131A: delta-BHC	319-86-8	5 µg/kg	70.7	----	25.2	147	----	----
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	55.9	----	25.9	150	----	----
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	124	----	31.2	125	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP131A: Organochlorine Pesticides (QCLot: 3821467) - continued										
ES1502902-001	PC5 0.0-0.5A	EP131A: 4.4`-DDT	50-29-3	5 µg/kg	81.0	----	23.4	163	----	----
		EP131A: Dieldrin	60-57-1	5 µg/kg	81.6	----	30.2	140	----	----
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	62.5	----	28.8	135	----	----
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	57.6	----	22.6	141	----	----
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	67.2	----	16.1	156	----	----
		EP131A: Endrin	72-20-8	5 µg/kg	105	----	17.7	162	----	----
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	58.9	----	20.1	116	----	----
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	53.3	----	13.4	151	----	----
		EP131A: Heptachlor	76-44-8	5 µg/kg	119	----	23.8	170	----	----
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	56.0	----	28.3	140	----	----
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	61.0	----	17.7	144	----	----
		EP131A: gamma-BHC	58-89-9	5 µg/kg	80.3	----	21.8	158	----	----
		EP131A: Methoxychlor	72-43-5	5 µg/kg	120	----	24.4	158	----	----
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	52.4	----	27.3	139	----	----
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	99.8	----	29.5	138	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3821468)										
ES1502902-001	PC5 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	87.7	----	44	136	----	----
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	87.7	----	44	136	----	----
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3822715)										
ES1502902-001	PC5 0.0-0.5A	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	96.5	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3822716)										
ES1502902-001	PC5 0.0-0.5A	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	105	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3824345)										
ES1502737-041	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	88.6	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3824346)										
ES1502737-041	Anonymous	EK067G: Total Phosphorus as P	----	100 mg/kg	103	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3826975)										
ES1502850-054	Anonymous	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	104	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3826976)										
ES1502902-001	PC5 0.0-0.5A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	116	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	113	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	122	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	115	----	70	130	----	----
		EG020-SD: Lead	7439-92-1	250 mg/kg	106	----	70	130	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3826976) - continued										
ES1502902-001	PC5 0.0-0.5A	EG020-SD: Nickel	7440-02-0	50 mg/kg	116	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	113	----	70	130	----	----

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1502902**	Page	: 1 of 8
Client	: AURECON AUSTRALASIA PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 10-FEB-2015
Sampler	: GK	Issue Date	: 24-FEB-2015
Order number	: 245553		
		No. of samples received	: 7
Quote number	: SY/1021/14 V2	No. of samples analysed	: 7

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with recommended holding times (USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content							
Soil Glass Jar - Unpreserved (EA055-103)							
PC5 0.0-0.5A, PC5 0.5-1.0A, PC5 0.3V, PC5 0.7V	**05-FEB-2015**	**----**	----	----	**15-FEB-2015**	19-FEB-2015	✓
EA150: Particle Sizing							
Snap Lock Bag (EA150H)							
PC5 0.0-0.5B, PC5 0.5-1.0B	**05-FEB-2015**	**---**	04-AUG-2015	----	**19-FEB-2015**	04-AUG-2015	✓
EA150: Soil Classification based on Particle Size							
Snap Lock Bag (EA150H)							
PC5 0.0-0.5B, PC5 0.5-1.0B	**05-FEB-2015**	**---**	04-AUG-2015	----	**19-FEB-2015**	04-AUG-2015	✓
EA152: Soil Particle Density							
Snap Lock Bag (EA152)							
PC5 0.0-0.5B, PC5 0.5-1.0B	**05-FEB-2015**	**---**	04-AUG-2015	----	**19-FEB-2015**	04-AUG-2015	✓
EG005-SD: Total Metals in Sediments by ICP-AES							
Soil Glass Jar - Unpreserved (EG005-SD)							
PC5 0.0-0.5A, PC5 0.5-1.0A	**05-FEB-2015**	**17-FEB-2015**	04-AUG-2015	✓	**24-FEB-2015**	04-AUG-2015	✓
EG020-SD: Total Metals in Sediments by ICPMS							
Soil Glass Jar - Unpreserved (EG020-SD)							
PC5 0.0-0.5A, PC5 0.5-1.0A	**05-FEB-2015**	**17-FEB-2015**	04-AUG-2015	✓	**24-FEB-2015**	04-AUG-2015	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T-LL)							
PC5 0.0-0.5A, PC5 0.5-1.0A	**05-FEB-2015**	**17-FEB-2015**	05-MAR-2015	✓	**18-FEB-2015**	05-MAR-2015	✓
EK057G: Nitrite as N by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK057G)							
PC5 0.0-0.5A, PC5 0.5-1.0A	**05-FEB-2015**	**16-FEB-2015**	04-AUG-2015	✓	**16-FEB-2015**	04-AUG-2015	✓
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK059G)							
PC5 0.0-0.5A, PC5 0.5-1.0A	**05-FEB-2015**	**16-FEB-2015**	04-AUG-2015	✓	**16-FEB-2015**	04-AUG-2015	✓
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser							
Soil Glass Jar - Unpreserved (EK061G)							
PC5 0.0-0.5A, PC5 0.5-1.0A	**05-FEB-2015**	**16-FEB-2015**	04-AUG-2015	✓	**18-FEB-2015**	04-AUG-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK067G: Total Phosphorus as P by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK067G)							
PC5 0.0-0.5A, PC5 0.5-1.0A	**05-FEB-2015**	**16-FEB-2015**	04-AUG-2015	✓	**18-FEB-2015**	04-AUG-2015	✓
EK255A SD Ammonia in Sediment							
Soil Glass Jar - Unpreserved (EK255A SD)							
PC5 0.0-0.5A, PC5 0.5-1.0A	**05-FEB-2015**	**----**	----	----	**10-FEB-2015**	04-AUG-2015	✓
EP003: Total Organic Carbon (TOC) in Soil							
Pulp Bag (EP003)							
PC5 0.0-0.5A, PC5 0.5-1.0A	**05-FEB-2015**	**11-FEB-2015**	05-MAR-2015	✓	**11-FEB-2015**	05-MAR-2015	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013							
Soil Glass Jar - Unpreserved (EP071-SD)							
PC5 0.0-0.5A, PC5 0.5-1.0A, Trip Blank 3	**05-FEB-2015**	**13-FEB-2015**	19-FEB-2015	✓	**16-FEB-2015**	25-MAR-2015	✓
EP080-SD: BTEXN							
Soil Glass Jar - Unpreserved (EP080-SD)							
PC5 0.3V, PC5 0.7V, Trip Blank 3	**05-FEB-2015**	**13-FEB-2015**	19-FEB-2015	✓	**15-FEB-2015**	19-FEB-2015	✓
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080-SD)							
PC5 0.3V, PC5 0.7V, Trip Blank 3	**05-FEB-2015**	**13-FEB-2015**	19-FEB-2015	✓	**15-FEB-2015**	19-FEB-2015	✓
EP090: Organotin Compounds							
Soil Glass Jar - Unpreserved (EP090)							
PC5 0.0-0.5A, PC5 0.5-1.0A	**05-FEB-2015**	**11-FEB-2015**	19-FEB-2015	✓	**12-FEB-2015**	23-MAR-2015	✓
EP130A: Organophosphorus Pesticides (Ultra-trace)							
Soil Glass Jar - Unpreserved (EP130)							
PC5 0.0-0.5A, PC5 0.5-1.0A	**05-FEB-2015**	**13-FEB-2015**	19-FEB-2015	✓	**16-FEB-2015**	25-MAR-2015	✓
EP131A: Organochlorine Pesticides							
Soil Glass Jar - Unpreserved (EP131A)							
PC5 0.0-0.5A, PC5 0.5-1.0A	**05-FEB-2015**	**13-FEB-2015**	19-FEB-2015	✓	**16-FEB-2015**	25-MAR-2015	✓
EP131B: Polychlorinated Biphenyls (as Aroclors)							
Soil Glass Jar - Unpreserved (EP131B)							
PC5 0.0-0.5A, PC5 0.5-1.0A	**05-FEB-2015**	**13-FEB-2015**	19-FEB-2015	✓	**16-FEB-2015**	25-MAR-2015	✓
EP132B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP132B-SD)							
PC5 0.0-0.5A, PC5 0.5-1.0A	**05-FEB-2015**	**13-FEB-2015**	19-FEB-2015	✓	**16-FEB-2015**	25-MAR-2015	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Ammonia in Sediments	EK255A SD	1	2	**50.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Moisture Content	EA055-103	2	17	**11.8**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	1	5	**20.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	1	5	**20.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	3	**33.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	3	**33.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	1	2	**50.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	3	**33.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	3	**33.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	2	20	**10.0**	**9.5**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	1	6	**16.7**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	2	19	**10.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	1	8	**12.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	1	10	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Ammonia in Sediments	EK255A SD	1	2	**50.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	1	5	**20.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	1	5	**20.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	3	**33.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	3	**33.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	1	2	**50.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	3	**33.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	3	**33.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	3	20	**15.0**	**14.3**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	1	6	**16.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	3	19	**15.8**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	1	8	**12.5**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	1	10	**10.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Method Blanks (MB)							
Ammonia in Sediments	EK255A SD	1	2	**50.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	1	5	**20.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	1	5	**20.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	3	**33.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	3	**33.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	1	2	**50.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	3	**33.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	3	**33.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	1	20	**5.0**	**4.8**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	1	6	**16.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	1	8	**12.5**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	1	10	**10.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia in Sediments	EK255A SD	1	2	**50.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	1	5	**20.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	1	5	**20.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	3	**33.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	3	**33.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	1	2	**50.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	3	**33.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	3	**33.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	1	20	**5.0**	**4.8**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	1	8	**12.5**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	1	10	**10.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055-103	SOIL	In-house. A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Particle Size Analysis by Hydrometer	EA150H	SOIL	Particle Size Analysis by Hydrometer according to AS1289.3.6.3 - 2003
Soil Particle Density	* EA152	SOIL	Soil Particle Density by AS 1289.3.5.1-2006 : Methods of testing soils for engineering purposes - Soil classification tests - Determination of the soil particle density of a soil - Standard method A modification of the AS 1289.3.5.1 method may apply when testing dispersed soils also tested by AS1289.3.6.3. This modification uses the dispersion solution from AS1289.3.6.3 in place of water for density determinations
Total Fe and Al in Sediments by ICPAES	EG005-SD	SOIL	In house: Referenced to APHA 21st ed., 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3). LORs per NODG
Total Metals in Sediments by ICPMS	EG020-SD	SOIL	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector. Analyte list and LORs per NODG.
Total Mercury by FIMS (Low Level)	EG035T-LL	SOIL	In house: Referenced to AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Nitrite as N - Soluble by Discrete Analyser	EK057G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3- B. Nitrite in a water extract is determined by direct colourimetry by Discrete Analyser.
Nitrate as N - Soluble by Discrete Analyser	EK058G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3--F. Nitrate in the 1:5 soil:water extract is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results.
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3- F. Combined oxidised Nitrogen (NO2+NO3) in a water extract is determined by Chemical Reduction, and direct colourimetry by Discrete Analyser.
TKN as N By Discrete Analyser	EK061G	SOIL	In house: Referenced to APHA 21st ed., 4500-Norg-D Soil samples are digested using Kjeldahl digestion followed by determination by Discrete Analyser.
Total Nitrogen as N (TKN + NOx) By Discrete Analyser	EK062G	SOIL	In house: Referenced to APHA 21st ed., 4500 Norg/NO3- Total Nitrogen is determined as the sum of TKN and Oxidised Nitrrogen, each determined seperately as N.
Total Phosporus By Discrete Analyser	EK067G	SOIL	In house: Referenced to APHA 21st ed., 4500 P-B&F This procedure involves sulfuric acid digestion and quantification using Discrete Analyser.
Ammonia in Sediments	EK255A SD	SOIL	Rayment and Higginson (1992) Method 7C1 and 7C2. This method measures exchangeable ammonium which is defined by the amount of ammonium released by shaking sediment with an un-buffered 2M potassium chloride solution.

Analytical Methods	Method	Matrix	Method Descriptions
Total Organic Carbon	EP003	SOIL	In-house C-IR17. Dried and pulverised sample is reacted with acid to remove inorganic Carbonates, then combusted in a LECO furnace in the presence of strong oxidants / catalysts. The evolved (Organic) Carbon (as CO2) is automaticaly measured by infra-red detector.
TPH - Semivolatile Fraction	EP071-SD	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 504)
TRH Volatiles/BTEX in Sediments	EP080-SD	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve.
Organotin Analysis	EP090	SOIL	(USEPA SW 846 - 8270D) Prepared sample extracts are analysed by GC/MS coupled with high volume injection, and quanitified against an established calibration curve.
Organophosphorus Pesticides (Ultra-trace)	EP130	SOIL	USEPA Method 3640 (GPC cleanup), 8141 (GC/FPD - Capillary Column) This technique is compliant with NEPM (2013) Schedule B(3) (Method 505)
Organochlorine Pesticides (Ultra-trace)	EP131A	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (2013) Schedule B(3) (Method 504)
PCB's (Ultra-trace)	EP131B	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (2013) Schedule B(3) (Method 504)
PAHs in Sediments by GCMS(SIM)	EP132B-SD	SOIL	USEPA 8270 GCMS Capillary column, SIM mode using large volume programmed temperature vaporisation injection.

Preparation Methods	Method	Matrix	Method Descriptions
TKN/TP Digestion	EK061/EK067	SOIL	APHA 21st ed., 4500 Norg- D; APHA 21st ed., 4500 P - H. Macro Kjeldahl digestion.
1:5 solid / water leach for soluble analytes	EN34	SOIL	10 g of soil is mixed with 50 mL of distilled water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids/ Sample Cleanup	ORG17A-UTP	SOIL	In-house, Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. Samples are extracted, concentrated (by KD) and exchanged into an appropriate solvent for GPC and florisil cleanup as required.
Tumbler Extraction of Solids for LVI (Non-concentrating)	ORG17D	SOIL	In house: 10g of sample, Na2SO4 and surrogate are extracted with 50mL 1:1 DCM/Acetone by end over end tumbling. An aliquot is concentrated by nitrogen blowdown to a reduced volume for analysis if required.
Organotin Sample Preparation	ORG35	SOIL	In house. 20g sample is spiked with surrogate and leached in a methanol:acetic acid:UHP water mix and vacuum filtered. Reagents and solvents are added to the sample and the mixture tumbled. The butyltin compounds are simultaneously derivatised and extracted. The extract is further extracted with petroleum ether. The resultant extracts are combined and concentrated for analysis.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW 846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EP132B: Polynuclear Aromatic Hydrocarbons	ES1502902-001	PC5 0.0-0.5A	**Sum of PAHs**	----	23.1 %	0-20%	**RPD exceeds LOR based limits**
Matrix Spike (MS) Recoveries							
EK255A SD: Ammonia in Sediment	ES1502902-001	PC5 0.0-0.5A	**Ammonia as N**	7664-41-7	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP090: Organotin Compounds	ES1502902-002	PC5 0.5-1.0A	**Monobutyltin**	78763-54-9	23.5 %	35-130%	**Recovery less than lower data quality objective**

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Laboratory Control outliers occur.**

Regular Sample Surrogates

Sub-Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP080-SD: TPH(V)/BTEX Surrogates	ES1502902-005	PC5 0.3V	**4-Bromofluorobenzene**	460-00-4	72.8 %	73-137 %	**Recovery less than lower data quality objective**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- **No Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

CHAIN OF CUSTODY

ALS Environmental

ALS Laboratory: please tick →

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OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: (1) 2 3 4 5 6 7	Random Sample Temperature on Receipt	°C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006 OF: 1 2 3 4 5 6 (7)	Other comment:	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 8 February 2015	DATE/TIME: 8 February 2015
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: kschafer	RECEIVED BY: Simon
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 9-2-15 1600	DATE/TIME: 10/2/15 900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	PC6 0.5-1.0A	8/02/2015	S	Glass Jar (250 ml)	2	1								
2	PC6 0.0-0.5A	8/02/2015	S	Glass Jar (250 ml)	2	1								
3	PC6 0.0-0.5B	8/02/2015	S	Bag (White label)	1		1							
4	PC6 0.5-1.0B	8/02/2015	S	Bag (White label)	1		1							
5	PC6 0.3V	8/02/2015	S	Glass Jar (250 ml)	1			1						
6	PC6 0.7V	8/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	8	2	2	2						

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulf
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Environmental Division Sydney

Work Order

ES1503000

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A; Free ice / frozen ice bricks present upon receipt? Yes No N/A; Random Sample Temperature on Receipt °C; Other comments:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 (7)	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*		
DATE/TIME: 8 February 2015	DATE/TIME: 8 February 2015	DATE/TIME:	DATE/TIME: 10/2/15 900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
7	PC7 0.0-0.5A	8/02/2015	S	Glass Jar (250 ml)	2	1								
8	PC7 0.5-1.0A	8/02/2015	S	Glass Jar (250 ml)	2	1								
9	PC7 0.0-0.5B	8/02/2015	S	Bag (White label)	1		1							
10	PC7 0.5-1.0B	8/02/2015	S	Bag (White label)	1		1							
11	PC7 0.3V	8/02/2015	S	Glass Jar (250 ml)	1			1						
12	PC7 0.7V	8/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	8	2	2	2						

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Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comment:
SAMPLER: Georgina Kerr SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO) EDD FORMAT (or default):	DATE/TIME: 8 February 2015	DATE/TIME: 8 February 2015
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com	RELINQUISHED BY:	RECEIVED BY: Steven
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com	DATE/TIME:	DATE/TIME: 10/2/15 900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

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13	BE7 0.0-0.5 A	8/02/2015	S	Glass Jar (250 ml)	2	1									
14	BE7 0.5-1.0 A	8/02/2015	S	Glass Jar (250 ml)	2	1									
15	BE7 0.0-0.5 B	8/02/2015	S	Bag (White label)	1		1								
16	BE7 0.5-1.0 B	8/02/2015	S	Bag (White label)	1		1								
17	BE7 0.3V	8/02/2015	S	Glass Jar (250 ml)	1			1							
18	BE7 0.7V	8/02/2015	S	Glass Jar (250 ml)	1			1							
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PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt	Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comment:	

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY: / RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME: / DATE/TIME: 10/2/15 900
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		8 February 2015	8 February 2015	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
19	BE10 0.0-0.5 A	8/02/2015	S	Glass Jar (250 ml)	2	1								
20	BE10 0.5-1.0 A	8/02/2015	S	Glass Jar (250 ml)	2	1								
21	BE10 0.0-0.5 B	8/02/2015	S	Bag (White label)	1		1							
22	BE10 0.5-1.0 B	8/02/2015	S	Bag (White label)	1		1							
23	BE10 0.3V	8/02/2015	S	Glass Jar (250 ml)	1			1						
24	BE10 0.7V	8/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	8	2	2	2						

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PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: samples.townsville@alsglobal.com
WOLLONGONG Unit 1, 16 Steel Road Unanderra NSW 2526
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Free ice / frozen ice bricks present upon receipt? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6	Other comments:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 6 February 2015	DATE/TIME: 6 February 2015
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY:	RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME: 6/2/15 900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
25	PC11 0.0-0.5A	8/02/2015	S	Glass Jar (250 ml)	2	1								
26	PC11 0.0-0.5B	8/02/2015	S	Bag (White label)	1		1							
27	PC11 0.3V	8/02/2015	S	Glass Jar (250 ml)	1			1						
28	PC11 0.7V	8/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	5	1	1	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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BRISBANE 32 Shand Street Stafford QLD 4053
Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
CLADSTONE 46 Callemondah Drive Clinton QLD 4680
Ph: 07 7471 6600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Garbutt QLD 4814
Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Free ice / frozen ice bricks present upon receipt? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 11	Random Sample Temperature on Receipt: °C
ORDER NUMBER: 245553			Other comment:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr DATE/TIME: 8 February 2015	RECEIVED BY: Kelly Schafer DATE/TIME: 8 February 2015
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	RELINQUISHED BY: DATE/TIME:	RECEIVED BY: DATE/TIME: 10/2/15 9:00
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
29	BE14 0.0-0.5 A	8/02/2015	S	Glass Jar (250 ml)	2	1								
30	BE14 0.5-1.0 A	8/02/2015	S	Glass Jar (250 ml)	2	1								
31	BE14 0.0-0.5 B	8/02/2015	S	Bag (White label)	1		1							
32	BE14 0.5-1.0 B	8/02/2015	S	Bag (White label)	1		1							
33	BE14 0.3V	8/02/2015	S	Glass Jar (250 ml)	1			1						
34	BE14 0.7V	8/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CAIRNS 16 Callenondah Drive Cairns QLD 4860 Ph: 07 7471 5600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 0735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7555 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY: (Circle) Custody Seal Intact? Yes No N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Free ice / frozen ice bricks present upon receipt? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Random Sample Temperature on Receipt: °C
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Other comments:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 18	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 8 February 2015	DATE/TIME: 8 February 2015
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY:	RECEIVED BY:
		DATE/TIME:	DATE/TIME: 10/2/15 900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
35	BE15 0.0-0.5 A	8/02/2015	S	Glass Jar (250 ml)	2	1								
36	BE15 0.5-1.0 A	8/02/2015	S	Glass Jar (250 ml)	2	1								
37	BE15 0.0-0.5 B	8/02/2015	S	Bag (White label)	1		1							
38	BE15 0.5-1.0 B	8/02/2015	S	Bag (White label)	1		1							
39	BE15 0.3V	8/02/2015	S	Glass Jar (250 ml)	1			1						
40	BE14 0.7V	8/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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MACKAY 78 Harbour Road Mackay QLD 4740
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Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 6735 E: mudgee mail@alsglobal.com

NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 0433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 024423 2063 E: nowra@alsglobal.com
PERTH: 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com

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Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Garbutt QLD 4814
Ph: 07 4796 0600 E: townsville environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (8)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (12)	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		8 February 2015	8 February 2015

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME:	DATE/TIME: 10/2/15 900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
41	BE19 0.0-0.5 A	8/02/2015	S	Glass Jar (250 ml)	2	1								
42	BE19 0.0-0.5 B	8/02/2015	S	Bag (White label)	1		1							
43	BE19 0.3V	8/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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PERTH 10 Hod Way Malaga WA 6090 Ph. 08 9209 7655 E. samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph. 02 8784 8555 E. samples.sydney@alsglobal.com
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph. 02 4225 3125 E. portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (9)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (11)	Other comments:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*	DATE/TIME:
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		8 February 2015	8 February 2015	

RECEIVED BY:
DATE/TIME: 10/2/15 9:00

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
44	BE20 0.0-0.5A	8/02/2015	S	Glass Jar (250 ml)	2	1								
45	BE20 0.5-1.0A	8/02/2015	S	Glass Jar (250 ml)	2	1								
46	BE20 0.5-1.0B	8/02/2015	S	Bag (White label)	1		1							
47	BE20 0.0-0.5 B	8/02/2015	S	Bag (White label)	1		1							
48	BE20 0.3V	8/02/2015	S	Glass Jar (250 ml)	1			1						
49	BE20 0.7V	8/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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QMACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
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QTOOGEE 27 Sydney Road Toogee NSW 2680 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
QNEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
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QPERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
QSYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
QTOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
QWOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 248553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (15)	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006 OF: 1 2 3 4 5 6 (16)	Other comment:	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		8 February 2015	8 February 2015

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME:	DATE/TIME: 10/2/15 9:00

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
50	BE21 0.0-0.5A	8/02/2015	S	Glass Jar (250 ml)	2	1								
51	BE21 0.5-1.0A	8/02/2015	S	Glass Jar (250 ml)	2	1								
52	BE21 0.0-0.5B	8/02/2015	S	Bag (White label)	1		1							
53	BE21 0.5-1.0B	8/02/2015	S	Bag (White label)	1		1							
54	BE21 0.3V	8/02/2015	S	Glass Jar (250 ml)	1			1						
55	BE21 0.7V	8/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Environmental

ALS Laboratory: please tick →

☐ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
☐BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
☐GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
☐MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
☐MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
☐MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
☐NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 0433 E: samples.newcastle@alsglobal.com
☐NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
☐PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
☐SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
☐TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS: ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (11)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (12)	Other comments:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		8 February 2015	8 February 2015		10/2/15 900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
56	Triplicate 3A	8/02/2015	S	Glass Jar (250 ml)	2	1								
57	Triplicate 3B	8/02/2015	S	Glass Jar (250 ml)	2	1								
58	Trip Blank 4	8/02/2015	S	Pre-filled glass jar	1	1								
59	Rinsate 3	8/02/2015	w	Bottle	8	1								
				TOTAL	13	4								

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1503000**	Page	: 1 of 79
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553		
C-O-C number	: ----	Date Samples Received	: 10-FEB-2015
Sampler	: GK	Issue Date	: 27-FEB-2015
Site	: ----		
		No. of samples received	: 59
Quote number	: SY/1021/14 V2	No. of samples analysed	: 59

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.**
- **EA150H: Soil Particle Density as required for Hydrometer analysis according to AS 1289.3.6.3 2003 was unable to be performed on samples #031, #032, #037, #047 and #052 as insufficient sample was supplied by the client. Typical SPD values used for calculations and consequently NATA endorsement does not apply to hydrometer results.**
- **EP090: Sample 'PC6 0.0-0.5A' shows poor matrix spike recovery for Monobutyltin due to matrix interference.**

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Dilani Fernando	Senior Inorganic Chemist	Melbourne Inorganics
Eric Chau	Metals Team Leader	Melbourne Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
		Sydney Organics
Peter Keyte	Newcastle Manager	Newcastle - Inorganics
Ryan Story	2IC Organic Instrument Chemist	Brisbane Organics
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils
Shobhna Chandra	Metals Coordinator	Sydney Inorganics

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	PC6 0.5-1.0A	PC6 0.0-0.5A	PC6 0.0-0.5B	PC6 0.5-1.0B	PC6 0.3V
				Client sampling date / time	08-FEB-2015 15:00	08-FEB-2015 15:00	[10-FEB-2015]	[10-FEB-2015]	08-FEB-2015 15:00
					ES1503000-001	ES1503000-002	ES1503000-003	ES1503000-004	ES1503000-005
EA150: Particle Sizing									
+75µm	----	1	%		----	----	**23**	**16**	----
+150µm	----	1	%		----	----	**2**	**2**	----
+300µm	----	1	%		----	----	**1**	**1**	----
+425µm	----	1	%		----	----	**1**	**1**	----
+600µm	----	1	%		----	----	<1	<1	----
+1180µm	----	1	%		----	----	<1	<1	----
+2.36mm	----	1	%		----	----	<1	<1	----
+4.75mm	----	1	%		----	----	<1	<1	----
+9.5mm	----	1	%		----	----	<1	<1	----
+19.0mm	----	1	%		----	----	<1	<1	----
+37.5mm	----	1	%		----	----	<1	<1	----
+75.0mm	----	1	%		----	----	<1	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**36.1**	**34.7**	----	----	**33.2**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	**25**	**31**	----
Silt (2-60 µm)	----	1	%		----	----	**31**	**39**	----
Sand (0.06-2.00 mm)	----	1	%		----	----	**44**	**30**	----
Gravel (>2mm)	----	1	%		----	----	<1	<1	----
Cobbles (>6cm)	----	1	%		----	----	<1	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	**2.67**	**2.59**	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**14500**	**13000**	----	----	----
Iron	7439-89-6	50	mg/kg		**27600**	**21800**	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		**12.3**	**11.1**	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	----	----	----
Chromium	7440-47-3	1.0	mg/kg		**26.7**	**22.3**	----	----	----
Copper	7440-50-8	1.0	mg/kg		**17.0**	**12.9**	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		**9.4**	**8.5**	----	----	----
Lead	7439-92-1	1.0	mg/kg		**8.5**	**7.0**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	PC6 0.5-1.0A	PC6 0.0-0.5A	PC6 0.0-0.5B	PC6 0.5-1.0B	PC6 0.3V
				Client sampling date / time	08-FEB-2015 15:00	08-FEB-2015 15:00	[10-FEB-2015]	[10-FEB-2015]	08-FEB-2015 15:00
					ES1503000-001	ES1503000-002	ES1503000-003	ES1503000-004	ES1503000-005
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		270	290	----	----	----
Nickel	7440-02-0	1.0	mg/kg		12.2	10.5	----	----	----
Selenium	7782-49-2	0.1	mg/kg		0.7	0.7	----	----	----
Silver	7440-22-4	0.1	mg/kg		0.3	0.2	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		48.3	38.1	----	----	----
Zinc	7440-66-6	1.0	mg/kg		36.7	32.4	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		0.03	0.03	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		0.2	<0.1	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		0.2	<0.1	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		310	320	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		310	320	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		221	191	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		4.1	2.3	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		1.03	0.55	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	<3	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		19	17	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		11	6	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		30	23	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		<3	<3	----	----	----
C15 - C28 Fraction	----	3	mg/kg		8	10	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	PC6 0.5-1.0A	PC6 0.0-0.5A	PC6 0.0-0.5B	PC6 0.5-1.0B	PC6 0.3V
			Client sampling date / time	08-FEB-2015 15:00	08-FEB-2015 15:00	[10-FEB-2015]	[10-FEB-2015]	08-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503000-001	ES1503000-002	ES1503000-003	ES1503000-004	ES1503000-005
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued								
C29 - C36 Fraction	----	5	mg/kg	17	12	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg	25	22	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons								
C6 - C10 Fraction	C6_C10	3	mg/kg	----	----	----	----	<3
EP080-SD: BTEXN								
Benzene	71-43-2	0.2	mg/kg	----	----	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg	----	----	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg	----	----	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	----	----	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg	----	----	----	----	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	----	----	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg	----	----	----	----	<0.2
EP090: Organotin Compounds								
Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)								
Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	----	----	----
Carbophenothion	786-19-6	10	µg/kg	<10	<10	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	----	----	----
Diazinon	333-41-5	10	µg/kg	<10	<10	----	----	----
Dichlorvos	62-73-7	10	µg/kg	<10	<10	----	----	----
Dimethoate	60-51-5	10	µg/kg	<10	<10	----	----	----
Ethion	563-12-2	10	µg/kg	<10	<10	----	----	----
Fenamiphos	22224-92-6	10	µg/kg	<10	<10	----	----	----
Fenthion	55-38-9	10	µg/kg	<10	<10	----	----	----
Malathion	121-75-5	10	µg/kg	<10	<10	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	----	----	----
Monocrotophos	6923-22-4	10	µg/kg	<10	<10	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	PC6 0.5-1.0A	PC6 0.0-0.5A	PC6 0.0-0.5B	PC6 0.5-1.0B	PC6 0.3V
				Client sampling date / time	08-FEB-2015 15:00	08-FEB-2015 15:00	[10-FEB-2015]	[10-FEB-2015]	08-FEB-2015 15:00
					ES1503000-001	ES1503000-002	ES1503000-003	ES1503000-004	ES1503000-005
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	<10	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	<10	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	<10	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	<10	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	<0.50	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	<0.50	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	<0.50	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	<0.50	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	<0.50	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	<0.25	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	<0.50	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	<0.25	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	<0.25	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	<0.25	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	<0.50	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	<5.0	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	PC6 0.5-1.0A	PC6 0.0-0.5A	PC6 0.0-0.5B	PC6 0.5-1.0B	PC6 0.3V
				Client sampling date / time	08-FEB-2015 15:00	08-FEB-2015 15:00	[10-FEB-2015]	[10-FEB-2015]	08-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503000-001	ES1503000-002	ES1503000-003	ES1503000-004	ES1503000-005
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	<5.0	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	<5	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	<5	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	<4	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	<4	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	<4	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	5	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	<4	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	9	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	8	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	4	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	5	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	5	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	<4	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	<4	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	<4	----	----	----
Perylene	198-55-0	4	µg/kg		5	4	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	<4	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	<4	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	<4	----	----	----
Coronene	191-07-1	5	µg/kg		<5	<5	----	----	----
^ Sum of PAHs	----	4	µg/kg		5	40	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	----	78.8
Toluene-D8	2037-26-5	0.1	%		----	----	----	----	85.6
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	----	90.4
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		106	111	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	PC6 0.5-1.0A	PC6 0.0-0.5A	PC6 0.0-0.5B	PC6 0.5-1.0B	PC6 0.3V
			Client sampling date / time	08-FEB-2015 15:00	08-FEB-2015 15:00	[10-FEB-2015]	[10-FEB-2015]	08-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503000-001	ES1503000-002	ES1503000-003	ES1503000-004	ES1503000-005
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	78.9	71.8	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	60.0	53.2	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	50.0	56.2	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	103	123	----	----	----
Anthracene-d10	1719-06-8	0.1	%	115	124	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	115	124	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	PC6 0.7V	PC7 0.0-0.5A	PC7 0.5-1.0A	PC7 0.0-0.5B	PC7 0.5-1.0B
				Client sampling date / time	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00	[10-FEB-2015]	[10-FEB-2015]
					ES1503000-006	ES1503000-007	ES1503000-008	ES1503000-009	ES1503000-010
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	**35**	**17**
+150µm	----	1	%		----	----	----	**3**	**2**
+300µm	----	1	%		----	----	----	**2**	**1**
+425µm	----	1	%		----	----	----	**2**	**1**
+600µm	----	1	%		----	----	----	**1**	<1
+1180µm	----	1	%		----	----	----	**1**	<1
+2.36mm	----	1	%		----	----	----	<1	<1
+4.75mm	----	1	%		----	----	----	<1	<1
+9.5mm	----	1	%		----	----	----	<1	<1
+19.0mm	----	1	%		----	----	----	<1	<1
+37.5mm	----	1	%		----	----	----	<1	<1
+75.0mm	----	1	%		----	----	----	<1	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**34.4**	**27.7**	**39.1**	----	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	**26**	**28**
Silt (2-60 µm)	----	1	%		----	----	----	**27**	**41**
Sand (0.06-2.00 mm)	----	1	%		----	----	----	**46**	**31**
Gravel (>2mm)	----	1	%		----	----	----	**1**	<1
Cobbles (>6cm)	----	1	%		----	----	----	<1	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	**2.65**	**2.57**
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	**6290**	**16100**	----	----
Iron	7439-89-6	50	mg/kg		----	**14500**	**29300**	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	<0.50	<0.50	----	----
Arsenic	7440-38-2	1.00	mg/kg		----	**9.82**	**13.5**	----	----
Cadmium	7440-43-9	0.1	mg/kg		----	<0.1	<0.1	----	----
Chromium	7440-47-3	1.0	mg/kg		----	**15.2**	**28.9**	----	----
Copper	7440-50-8	1.0	mg/kg		----	**5.3**	**18.5**	----	----
Cobalt	7440-48-4	0.5	mg/kg		----	**6.6**	**10.7**	----	----
Lead	7439-92-1	1.0	mg/kg		----	**4.0**	**9.0**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	PC6 0.7V	PC7 0.0-0.5A	PC7 0.5-1.0A	PC7 0.0-0.5B	PC7 0.5-1.0B
				Client sampling date / time	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00	[10-FEB-2015]	[10-FEB-2015]
Compound	CAS Number	LOR	Unit		ES1503000-006	ES1503000-007	ES1503000-008	ES1503000-009	ES1503000-010
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	288	266	----	----
Nickel	7440-02-0	1.0	mg/kg		----	6.2	13.8	----	----
Selenium	7782-49-2	0.1	mg/kg		----	0.4	0.8	----	----
Silver	7440-22-4	0.1	mg/kg		----	0.1	0.1	----	----
Vanadium	7440-62-2	2.0	mg/kg		----	24.5	52.2	----	----
Zinc	7440-66-6	1.0	mg/kg		----	19.2	41.6	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	0.01	0.03	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	0.1	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	0.1	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	150	380	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	150	380	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	202	225	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	2.3	5.8	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	0.45	0.66	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	<3	<3	----	----
>C16 - C34 Fraction	----	3	mg/kg		----	14	16	----	----
>C34 - C40 Fraction	----	5	mg/kg		----	<5	8	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	14	24	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	----	----	----	----
C10 - C14 Fraction	----	3	mg/kg		----	<3	<3	----	----
C15 - C28 Fraction	----	3	mg/kg		----	7	7	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	PC6 0.7V	PC7 0.0-0.5A	PC7 0.5-1.0A	PC7 0.0-0.5B	PC7 0.5-1.0B
			Client sampling date / time	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00	[10-FEB-2015]	[10-FEB-2015]
Compound	CAS Number	LOR	Unit	ES1503000-006	ES1503000-007	ES1503000-008	ES1503000-009	ES1503000-010
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued								
C29 - C36 Fraction	----	5	mg/kg	----	7	13	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg	----	14	20	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons								
C6 - C10 Fraction	C6_C10	3	mg/kg	<3	----	----	----	----
EP080-SD: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	----	----	----	----
Toluene	108-88-3	0.2	mg/kg	<0.2	----	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	----	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	----	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg	<0.2	----	----	----	----
EP090: Organotin Compounds								
Monobutyltin	78763-54-9	1	µgSn/kg	----	<1	<1	----	----
Dibutyltin	1002-53-5	1	µgSn/kg	----	<1	<1	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg	----	<0.5	<0.5	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)								
Bromophos-ethyl	4824-78-6	10	µg/kg	----	<10	<10	----	----
Carbophenothion	786-19-6	10	µg/kg	----	<10	<10	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	----	<10.0	<10.0	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	----	<10	<10	----	----
Chlorpyrifos	2921-88-2	10	µg/kg	----	<10	<10	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg	----	<10	<10	----	----
Demeton-S-methyl	919-86-8	10	µg/kg	----	<10	<10	----	----
Diazinon	333-41-5	10	µg/kg	----	<10	<10	----	----
Dichlorvos	62-73-7	10	µg/kg	----	<10	<10	----	----
Dimethoate	60-51-5	10	µg/kg	----	<10	<10	----	----
Ethion	563-12-2	10	µg/kg	----	<10	<10	----	----
Fenamiphos	22224-92-6	10	µg/kg	----	<10	<10	----	----
Fenthion	55-38-9	10	µg/kg	----	<10	<10	----	----
Malathion	121-75-5	10	µg/kg	----	<10	<10	----	----
Azinphos Methyl	86-50-0	10	µg/kg	----	<10	<10	----	----
Monocrotophos	6923-22-4	10	µg/kg	----	<10	<10	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	PC6 0.7V	PC7 0.0-0.5A	PC7 0.5-1.0A	PC7 0.0-0.5B	PC7 0.5-1.0B
				Client sampling date / time	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00	[10-FEB-2015]	[10-FEB-2015]
Compound	CAS Number	LOR	Unit		ES1503000-006	ES1503000-007	ES1503000-008	ES1503000-009	ES1503000-010
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	<10	<10	----	----
Parathion-methyl	298-00-0	10	µg/kg		----	<10	<10	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	<10	<10	----	----
Prothiofos	34643-46-4	10	µg/kg		----	<10	<10	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg		----	<0.50	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	<0.50	<0.50	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	<0.50	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	<0.50	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	<0.50	<0.50	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	<0.50	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	<0.50	<0.50	----	----
gamma-BHC	58-89-9	0.25	µg/kg		----	<0.25	<0.25	----	----
Methoxychlor	72-43-5	0.50	µg/kg		----	<0.50	<0.50	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	<0.25	<0.25	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	<0.25	<0.25	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		----	<0.25	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	<0.50	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	<5.0	<5.0	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	PC6 0.7V	PC7 0.0-0.5A	PC7 0.5-1.0A	PC7 0.0-0.5B	PC7 0.5-1.0B
				Client sampling date / time	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00	[10-FEB-2015]	[10-FEB-2015]
					ES1503000-006	ES1503000-007	ES1503000-008	ES1503000-009	ES1503000-010
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	<5.0	<5.0	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	<5	<5	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	<5	<5	----	----
Acenaphthylene	208-96-8	4	µg/kg		----	<4	<4	----	----
Acenaphthene	83-32-9	4	µg/kg		----	<4	<4	----	----
Fluorene	86-73-7	4	µg/kg		----	<4	<4	----	----
Phenanthrene	85-01-8	4	µg/kg		----	<4	<4	----	----
Anthracene	120-12-7	4	µg/kg		----	<4	<4	----	----
Fluoranthene	206-44-0	4	µg/kg		----	<4	<4	----	----
Pyrene	129-00-0	4	µg/kg		----	<4	<4	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	<4	<4	----	----
Chrysene	218-01-9	4	µg/kg		----	<4	<4	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	<4	<4	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	<4	<4	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	<4	<4	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	<4	<4	----	----
Perylene	198-55-0	4	µg/kg		----	<4	**6**	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	<4	<4	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	<4	<4	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	<4	<4	----	----
Coronene	191-07-1	5	µg/kg		----	<5	<5	----	----
^ **Sum of PAHs**	----	4	µg/kg		----	<4	**6**	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**80.1**	----	----	----	----
Toluene-D8	2037-26-5	0.1	%		**88.5**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**93.9**	----	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	**51.3**	**92.0**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	PC6 0.7V	PC7 0.0-0.5A	PC7 0.5-1.0A	PC7 0.0-0.5B	PC7 0.5-1.0B
			Client sampling date / time	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00	[10-FEB-2015]	[10-FEB-2015]
Compound	CAS Number	LOR	Unit	ES1503000-006	ES1503000-007	ES1503000-008	ES1503000-009	ES1503000-010
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	69.3	74.9	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	62.4	54.0	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	76.9	67.2	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	100	92.6	----	----
Anthracene-d10	1719-06-8	0.1	%	----	114	109	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	114	108	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	PC7 0.3V	PC7 0.7V	BE7 0.0-0.5A	BE7 0.5-1.0A	BE7 0.0-0.5B
				Client sampling date / time	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00	[10-FEB-2015]
					ES1503000-011	ES1503000-012	ES1503000-013	ES1503000-014	ES1503000-015
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	----	**33**
+150µm	----	1	%		----	----	----	----	**9**
+300µm	----	1	%		----	----	----	----	**6**
+425µm	----	1	%		----	----	----	----	**5**
+600µm	----	1	%		----	----	----	----	**5**
+1180µm	----	1	%		----	----	----	----	**4**
+2.36mm	----	1	%		----	----	----	----	**3**
+4.75mm	----	1	%		----	----	----	----	**2**
+9.5mm	----	1	%		----	----	----	----	<1
+19.0mm	----	1	%		----	----	----	----	<1
+37.5mm	----	1	%		----	----	----	----	<1
+75.0mm	----	1	%		----	----	----	----	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**31.3**	**34.6**	**32.8**	**39.6**	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	----	**28**
Silt (2-60 µm)	----	1	%		----	----	----	----	**29**
Sand (0.06-2.00 mm)	----	1	%		----	----	----	----	**39**
Gravel (>2mm)	----	1	%		----	----	----	----	**4**
Cobbles (>6cm)	----	1	%		----	----	----	----	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	----	**2.65**
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	**13600**	**15700**	----
Iron	7439-89-6	50	mg/kg		----	----	**31500**	**32200**	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	<0.50	<0.50	----
Arsenic	7440-38-2	1.00	mg/kg		----	----	**17.6**	**16.1**	----
Cadmium	7440-43-9	0.1	mg/kg		----	----	<0.1	<0.1	----
Chromium	7440-47-3	1.0	mg/kg		----	----	**24.8**	**26.6**	----
Copper	7440-50-8	1.0	mg/kg		----	----	**15.7**	**24.7**	----
Cobalt	7440-48-4	0.5	mg/kg		----	----	**13.9**	**12.4**	----
Lead	7439-92-1	1.0	mg/kg		----	----	**8.0**	**9.1**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	PC7 0.3V	PC7 0.7V	BE7 0.0-0.5A	BE7 0.5-1.0A	BE7 0.0-0.5B
				Client sampling date / time	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00	[10-FEB-2015]
Compound	CAS Number	LOR	Unit		ES1503000-011	ES1503000-012	ES1503000-013	ES1503000-014	ES1503000-015
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	**246**	**276**	----
Nickel	7440-02-0	1.0	mg/kg		----	----	**12.5**	**12.5**	----
Selenium	7782-49-2	0.1	mg/kg		----	----	**0.7**	**0.8**	----
Silver	7440-22-4	0.1	mg/kg		----	----	<0.1	<0.1	----
Vanadium	7440-62-2	2.0	mg/kg		----	----	**50.1**	**55.6**	----
Zinc	7440-66-6	1.0	mg/kg		----	----	**39.0**	**41.0**	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	**0.03**	**0.04**	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	<0.1	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	**0.2**	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	**0.2**	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	**330**	**340**	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	**330**	**340**	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	**174**	**160**	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	**2.6**	**3.4**	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	**0.58**	**1.16**	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	<3	<3	----
>C16 - C34 Fraction	----	3	mg/kg		----	----	**16**	**19**	----
>C34 - C40 Fraction	----	5	mg/kg		----	----	**6**	**9**	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	**22**	**28**	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	<3	----	----	----
C10 - C14 Fraction	----	3	mg/kg		----	----	<3	<3	----
C15 - C28 Fraction	----	3	mg/kg		----	----	**8**	**8**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	PC7 0.3V	PC7 0.7V	BE7 0.0-0.5A	BE7 0.5-1.0A	BE7 0.0-0.5B
				Client sampling date / time	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00	[10-FEB-2015]
					ES1503000-011	ES1503000-012	ES1503000-013	ES1503000-014	ES1503000-015
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	**10**	**16**	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	**18**	**24**	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	<3	----	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	----	----
Toluene	108-88-3	0.2	mg/kg		<0.2	<0.2	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	<0.2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	<0.2	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	<0.2	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	<1	<1	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	<1	<1	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	<0.5	<0.5	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	<10	<10	----
Carbophenothion	786-19-6	10	µg/kg		----	----	<10	<10	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	<10.0	<10.0	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	<10	<10	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	<10	<10	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	<10	<10	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	<10	<10	----
Diazinon	333-41-5	10	µg/kg		----	----	<10	<10	----
Dichlorvos	62-73-7	10	µg/kg		----	----	<10	<10	----
Dimethoate	60-51-5	10	µg/kg		----	----	<10	<10	----
Ethion	563-12-2	10	µg/kg		----	----	<10	<10	----
Fenamiphos	22224-92-6	10	µg/kg		----	----	<10	<10	----
Fenthion	55-38-9	10	µg/kg		----	----	<10	<10	----
Malathion	121-75-5	10	µg/kg		----	----	<10	<10	----
Azinphos Methyl	86-50-0	10	µg/kg		----	----	<10	<10	----
Monocrotophos	6923-22-4	10	µg/kg		----	----	<10	<10	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	PC7 0.3V	PC7 0.7V	BE7 0.0-0.5A	BE7 0.5-1.0A	BE7 0.0-0.5B
				Client sampling date / time	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00	[10-FEB-2015]
					ES1503000-011	ES1503000-012	ES1503000-013	ES1503000-014	ES1503000-015
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	<10	<10	----
Parathion-methyl	298-00-0	10	µg/kg		----	----	<10	<10	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	<10	<10	----
Prothiofos	34643-46-4	10	µg/kg		----	----	<10	<10	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	<0.50	<0.50	----
alpha-BHC	319-84-6	0.50	µg/kg		----	----	<0.50	<0.50	----
beta-BHC	319-85-7	0.50	µg/kg		----	----	<0.50	<0.50	----
delta-BHC	319-86-8	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	<0.50	<0.50	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	----	<0.50	<0.50	----
Dieldrin	60-57-1	0.50	µg/kg		----	----	<0.50	<0.50	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	<0.50	<0.50	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	<0.50	<0.50	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	<0.50	<0.50	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin	72-20-8	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	<0.50	<0.50	----
Heptachlor	76-44-8	0.50	µg/kg		----	----	<0.50	<0.50	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	<0.50	<0.50	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	<0.50	<0.50	----
gamma-BHC	58-89-9	0.25	µg/kg		----	----	<0.25	<0.25	----
Methoxychlor	72-43-5	0.50	µg/kg		----	----	<0.50	<0.50	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	<0.25	<0.25	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	<0.25	<0.25	----
^ Total Chlordane (sum)	----	0.25	µg/kg		----	----	<0.25	<0.25	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	<0.50	<0.50	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	<5.0	<5.0	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	PC7 0.3V	PC7 0.7V	BE7 0.0-0.5A	BE7 0.5-1.0A	BE7 0.0-0.5B
				Client sampling date / time	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00	[10-FEB-2015]
					ES1503000-011	ES1503000-012	ES1503000-013	ES1503000-014	ES1503000-015
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	<5.0	<5.0	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	<5	<5	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	<5	<5	----
Acenaphthylene	208-96-8	4	µg/kg		----	----	<4	<4	----
Acenaphthene	83-32-9	4	µg/kg		----	----	<4	<4	----
Fluorene	86-73-7	4	µg/kg		----	----	<4	<4	----
Phenanthrene	85-01-8	4	µg/kg		----	----	<4	<4	----
Anthracene	120-12-7	4	µg/kg		----	----	<4	<4	----
Fluoranthene	206-44-0	4	µg/kg		----	----	<4	<4	----
Pyrene	129-00-0	4	µg/kg		----	----	<4	<4	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	<4	<4	----
Chrysene	218-01-9	4	µg/kg		----	----	<4	<4	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	<4	<4	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	<4	<4	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	<4	<4	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	<4	<4	----
Perylene	198-55-0	4	µg/kg		----	----	<4	<4	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	<4	<4	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	<4	<4	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	<4	<4	----
Coronene	191-07-1	5	µg/kg		----	----	<5	<5	----
^ **Sum of PAHs**	----	4	µg/kg		----	----	<4	<4	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**75.8**	**85.8**	----	----	----
Toluene-D8	2037-26-5	0.1	%		**83.2**	**98.5**	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**123**	**93.9**	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	**105**	**86.6**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	PC7 0.3V	PC7 0.7V	BE7 0.0-0.5A	BE7 0.5-1.0A	BE7 0.0-0.5B
			Client sampling date / time	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00	[10-FEB-2015]
Compound	CAS Number	LOR	Unit	ES1503000-011	ES1503000-012	ES1503000-013	ES1503000-014	ES1503000-015
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	70.8	68.9	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	67.4	65.8	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	61.0	72.8	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	83.2	89.0	----
Anthracene-d10	1719-06-8	0.1	%	----	----	115	117	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	115	116	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE7 0.5-1.0B	BE7 0.3V	BE7 0.7V	BE10 0.0-0.5A	BE10 0.5-1.0A
				Client sampling date / time	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00
					ES1503000-016	ES1503000-017	ES1503000-018	ES1503000-019	ES1503000-020
EA150: Particle Sizing									
+75µm	----	1	%		**22**	----	----	----	----
+150µm	----	1	%		**10**	----	----	----	----
+300µm	----	1	%		**6**	----	----	----	----
+425µm	----	1	%		**6**	----	----	----	----
+600µm	----	1	%		**5**	----	----	----	----
+1180µm	----	1	%		**4**	----	----	----	----
+2.36mm	----	1	%		**2**	----	----	----	----
+4.75mm	----	1	%		**1**	----	----	----	----
+9.5mm	----	1	%		<1	----	----	----	----
+19.0mm	----	1	%		<1	----	----	----	----
+37.5mm	----	1	%		<1	----	----	----	----
+75.0mm	----	1	%		<1	----	----	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	**31.4**	**39.9**	**41.9**	**49.6**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		**33**	----	----	----	----
Silt (2-60 µm)	----	1	%		**32**	----	----	----	----
Sand (0.06-2.00 mm)	----	1	%		**33**	----	----	----	----
Gravel (>2mm)	----	1	%		**2**	----	----	----	----
Cobbles (>6cm)	----	1	%		<1	----	----	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		**2.64**	----	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	----	**16700**	**18900**
Iron	7439-89-6	50	mg/kg		----	----	----	**38400**	**32100**
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	----	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	----	----	**18.2**	**8.24**
Cadmium	7440-43-9	0.1	mg/kg		----	----	----	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	----	----	**28.2**	**22.1**
Copper	7440-50-8	1.0	mg/kg		----	----	----	**22.4**	**44.9**
Cobalt	7440-48-4	0.5	mg/kg		----	----	----	**20.6**	**13.7**
Lead	7439-92-1	1.0	mg/kg		----	----	----	**9.0**	**9.4**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE7 0.5-1.0B	BE7 0.3V	BE7 0.7V	BE10 0.0-0.5A	BE10 0.5-1.0A
				Client sampling date / time	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00
					ES1503000-016	ES1503000-017	ES1503000-018	ES1503000-019	ES1503000-020
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	----	368	210
Nickel	7440-02-0	1.0	mg/kg		----	----	----	15.2	14.0
Selenium	7782-49-2	0.1	mg/kg		----	----	----	0.8	1.1
Silver	7440-22-4	0.1	mg/kg		----	----	----	0.1	0.1
Vanadium	7440-62-2	2.0	mg/kg		----	----	----	53.8	91.4
Zinc	7440-66-6	1.0	mg/kg		----	----	----	52.9	41.8
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	----	0.04	0.04
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	----	<0.1	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	<0.1	0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	<0.1	0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	----	380	700
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	----	380	700
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	----	133	150
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	----	2.8	4.9
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	----	0.86	1.36
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	----	<3	3
>C16 - C34 Fraction	----	3	mg/kg		----	----	----	24	52
>C34 - C40 Fraction	----	5	mg/kg		----	----	----	15	11
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	----	39	66
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	<3	<3	----	----
C10 - C14 Fraction	----	3	mg/kg		----	----	----	<3	<3
C15 - C28 Fraction	----	3	mg/kg		----	----	----	10	40

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE7 0.5-1.0B	BE7 0.3V	BE7 0.7V	BE10 0.0-0.5A	BE10 0.5-1.0A
				Client sampling date / time	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503000-016	ES1503000-017	ES1503000-018	ES1503000-019	ES1503000-020
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	----	22	20
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	----	32	60
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	<3	<3	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	<0.2	<0.2	----	----
Toluene	108-88-3	0.2	mg/kg		----	<0.2	<0.2	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	<0.2	<0.2	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	<0.2	<0.2	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	<0.2	<0.2	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	<0.5	<0.5	----	----
^ Sum of BTEX	----	0.2	mg/kg		----	<0.2	<0.2	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	----	<1	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	----	<1	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	----	<0.5	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	----	<10	<10
Carbophenothion	786-19-6	10	µg/kg		----	----	----	<10	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	----	<10.0	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	----	<10	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	----	<10	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	----	<10	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	----	<10	<10
Diazinon	333-41-5	10	µg/kg		----	----	----	<10	<10
Dichlorvos	62-73-7	10	µg/kg		----	----	----	<10	<10
Dimethoate	60-51-5	10	µg/kg		----	----	----	<10	<10
Ethion	563-12-2	10	µg/kg		----	----	----	<10	<10
Fenamiphos	22224-92-6	10	µg/kg		----	----	----	<10	<10
Fenthion	55-38-9	10	µg/kg		----	----	----	<10	<10
Malathion	121-75-5	10	µg/kg		----	----	----	<10	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	----	----	<10	<10
Monocrotophos	6923-22-4	10	µg/kg		----	----	----	<10	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE7 0.5-1.0B	BE7 0.3V	BE7 0.7V	BE10 0.0-0.5A	BE10 0.5-1.0A
				Client sampling date / time	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00
					ES1503000-016	ES1503000-017	ES1503000-018	ES1503000-019	ES1503000-020
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	----	<10	<10
Parathion-methyl	298-00-0	10	µg/kg		----	----	----	<10	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	----	<10	<10
Prothiofos	34643-46-4	10	µg/kg		----	----	----	<10	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	----	<0.50	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	----	----	<0.50	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	----	----	<0.50	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	----	----	<0.50	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	----	<0.50	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	----	<0.50	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	----	<0.50	<0.50
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	----	----	<0.50	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	----	----	<0.50	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	----	<0.50	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	----	<0.50	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	----	<0.50	<0.50
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	----	----	<0.50	<0.50
Endrin	72-20-8	0.50	µg/kg		----	----	----	<0.50	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	----	<0.50	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	----	<0.50	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	----	----	<0.50	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	----	<0.50	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	----	<0.50	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	----	----	<0.25	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	----	----	<0.50	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	----	<0.25	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	----	<0.25	<0.25
^ Total Chlordane (sum)	----	0.25	µg/kg		----	----	----	<0.25	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	----	<0.50	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	----	<5.0	<5.0

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE7 0.5-1.0B	BE7 0.3V	BE7 0.7V	BE10 0.0-0.5A	BE10 0.5-1.0A
				Client sampling date / time	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00
					ES1503000-016	ES1503000-017	ES1503000-018	ES1503000-019	ES1503000-020
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	----	<5.0	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	----	<5	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	----	<5	<5
Acenaphthylene	208-96-8	4	µg/kg		----	----	----	<4	<4
Acenaphthene	83-32-9	4	µg/kg		----	----	----	<4	<4
Fluorene	86-73-7	4	µg/kg		----	----	----	<4	<4
Phenanthrene	85-01-8	4	µg/kg		----	----	----	<4	<4
Anthracene	120-12-7	4	µg/kg		----	----	----	<4	<4
Fluoranthene	206-44-0	4	µg/kg		----	----	----	<4	<4
Pyrene	129-00-0	4	µg/kg		----	----	----	<4	<4
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	----	<4	<4
Chrysene	218-01-9	4	µg/kg		----	----	----	<4	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	----	<4	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	----	<4	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	----	<4	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	----	<4	<4
Perylene	198-55-0	4	µg/kg		----	----	----	<4	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	----	<4	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	----	<4	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	----	<4	<4
Coronene	191-07-1	5	µg/kg		----	----	----	<5	<5
^ **Sum of PAHs**	----	4	µg/kg		----	----	----	<4	<4
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	**85.5**	**89.4**	----	----
Toluene-D8	2037-26-5	0.1	%		----	**97.4**	**97.2**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	**96.1**	**98.1**	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	----	**80.9**	**93.6**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BE7 0.5-1.0B	BE7 0.3V	BE7 0.7V	BE10 0.0-0.5A	BE10 0.5-1.0A
			Client sampling date / time	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503000-016	ES1503000-017	ES1503000-018	ES1503000-019	ES1503000-020
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	----	68.3	74.8
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	----	69.2	77.6
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	70.0	90.2
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	99.3	82.7
Anthracene-d10	1719-06-8	0.1	%	----	----	----	122	88.8
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	121	88.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE10 0.0-0.5B	BE10 0.5-1.0B	BE10 0.3V	BE10 0.7V	PC11 0.0-0.5A
				Client sampling date / time	[10-FEB-2015]	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503000-021	ES1503000-022	ES1503000-023	ES1503000-024	ES1503000-025
EA150: Particle Sizing									
+75µm	----	1	%		23	5	----	----	----
+150µm	----	1	%		12	2	----	----	----
+300µm	----	1	%		8	1	----	----	----
+425µm	----	1	%		7	1	----	----	----
+600µm	----	1	%		7	1	----	----	----
+1180µm	----	1	%		6	<1	----	----	----
+2.36mm	----	1	%		5	<1	----	----	----
+4.75mm	----	1	%		4	<1	----	----	----
+9.5mm	----	1	%		2	<1	----	----	----
+19.0mm	----	1	%		<1	<1	----	----	----
+37.5mm	----	1	%		<1	<1	----	----	----
+75.0mm	----	1	%		<1	<1	----	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	----	42.8	41.1	38.2
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		37	38	----	----	----
Silt (2-60 µm)	----	1	%		35	46	----	----	----
Sand (0.06-2.00 mm)	----	1	%		23	16	----	----	----
Gravel (>2mm)	----	1	%		5	<1	----	----	----
Cobbles (>6cm)	----	1	%		<1	<1	----	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		2.62	2.62	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	----	----	10900
Iron	7439-89-6	50	mg/kg		----	----	----	----	23200
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	----	----	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	----	----	----	15.0
Cadmium	7440-43-9	0.1	mg/kg		----	----	----	----	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	----	----	----	21.7
Copper	7440-50-8	1.0	mg/kg		----	----	----	----	12.7
Cobalt	7440-48-4	0.5	mg/kg		----	----	----	----	9.1
Lead	7439-92-1	1.0	mg/kg		----	----	----	----	7.1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE10 0.0-0.5B	BE10 0.5-1.0B	BE10 0.3V	BE10 0.7V	PC11 0.0-0.5A
				Client sampling date / time	[10-FEB-2015]	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503000-021	ES1503000-022	ES1503000-023	ES1503000-024	ES1503000-025
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	----	----	**363**
Nickel	7440-02-0	1.0	mg/kg		----	----	----	----	**10.6**
Selenium	7782-49-2	0.1	mg/kg		----	----	----	----	**0.7**
Silver	7440-22-4	0.1	mg/kg		----	----	----	----	**0.4**
Vanadium	7440-62-2	2.0	mg/kg		----	----	----	----	**39.0**
Zinc	7440-66-6	1.0	mg/kg		----	----	----	----	**31.7**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	----	----	**0.03**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	----	----	**460**
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	----	----	**460**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	----	----	**318**
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	----	----	**2.1**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	----	----	**0.70**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	----	----	<3
>C16 - C34 Fraction	----	3	mg/kg		----	----	----	----	**20**
>C34 - C40 Fraction	----	5	mg/kg		----	----	----	----	**7**
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	----	----	**27**
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	<3	<3	----
C10 - C14 Fraction	----	3	mg/kg		----	----	----	----	<3
C15 - C28 Fraction	----	3	mg/kg		----	----	----	----	**11**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE10 0.0-0.5B	BE10 0.5-1.0B	BE10 0.3V	BE10 0.7V	PC11 0.0-0.5A
				Client sampling date / time	[10-FEB-2015]	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503000-021	ES1503000-022	ES1503000-023	ES1503000-024	ES1503000-025
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	----	----	14
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	----	----	25
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	<3	<3	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	<0.2	<0.2	----
Toluene	108-88-3	0.2	mg/kg		----	----	<0.2	<0.2	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	<0.2	<0.2	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	<0.2	<0.2	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	<0.2	<0.2	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	<0.5	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg		----	----	<0.2	<0.2	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	----	----	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	----	----	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	----	----	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	----	----	<10
Carbophenothion	786-19-6	10	µg/kg		----	----	----	----	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	----	----	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	----	----	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	----	----	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	----	----	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	----	----	<10
Diazinon	333-41-5	10	µg/kg		----	----	----	----	<10
Dichlorvos	62-73-7	10	µg/kg		----	----	----	----	<10
Dimethoate	60-51-5	10	µg/kg		----	----	----	----	<10
Ethion	563-12-2	10	µg/kg		----	----	----	----	<10
Fenamiphos	22224-92-6	10	µg/kg		----	----	----	----	<10
Fenthion	55-38-9	10	µg/kg		----	----	----	----	<10
Malathion	121-75-5	10	µg/kg		----	----	----	----	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	----	----	----	<10
Monocrotophos	6923-22-4	10	µg/kg		----	----	----	----	<10

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE10 0.0-0.5B	BE10 0.5-1.0B	BE10 0.3V	BE10 0.7V	PC11 0.0-0.5A
				Client sampling date / time	[10-FEB-2015]	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00
					ES1503000-021	ES1503000-022	ES1503000-023	ES1503000-024	ES1503000-025
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	----	----	<10
Parathion-methyl	298-00-0	10	µg/kg		----	----	----	----	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	----	----	<10
Prothiofos	34643-46-4	10	µg/kg		----	----	----	----	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	----	----	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	----	----	----	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	----	----	----	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	----	----	<0.50
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	----	----	----	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	----	----	----	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	----	----	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	----	----	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	----	----	<0.50
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	----	----	----	<0.50
Endrin	72-20-8	0.50	µg/kg		----	----	----	----	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	----	----	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	----	----	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	----	----	----	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	----	----	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	----	----	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	----	----	----	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	----	----	----	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	----	----	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	----	----	<0.25
^ **Total Chlordane (sum)**	----	0.25	µg/kg		----	----	----	----	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	----	----	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	----	----	<5.0

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE10 0.0-0.5B	BE10 0.5-1.0B	BE10 0.3V	BE10 0.7V	PC11 0.0-0.5A
				Client sampling date / time	[10-FEB-2015]	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00
					ES1503000-021	ES1503000-022	ES1503000-023	ES1503000-024	ES1503000-025
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	----	----	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	----	----	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	----	----	<5
Acenaphthylene	208-96-8	4	µg/kg		----	----	----	----	**5**
Acenaphthene	83-32-9	4	µg/kg		----	----	----	----	<4
Fluorene	86-73-7	4	µg/kg		----	----	----	----	<4
Phenanthrene	85-01-8	4	µg/kg		----	----	----	----	**20**
Anthracene	120-12-7	4	µg/kg		----	----	----	----	<4
Fluoranthene	206-44-0	4	µg/kg		----	----	----	----	**33**
Pyrene	129-00-0	4	µg/kg		----	----	----	----	**30**
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	----	----	**15**
Chrysene	218-01-9	4	µg/kg		----	----	----	----	**16**
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	----	----	**13**
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	----	----	**10**
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	----	----	**10**
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	----	----	**12**
Perylene	198-55-0	4	µg/kg		----	----	----	----	**7**
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	----	----	**10**
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	----	----	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	----	----	**10**
Coronene	191-07-1	5	µg/kg		----	----	----	----	<5
^ **Sum of PAHs**	----	4	µg/kg		----	----	----	----	**191**
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	**98.9**	**85.9**	----
Toluene-D8	2037-26-5	0.1	%		----	----	**111**	**94.5**	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	**106**	**100**	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	----	----	**86.3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BE10 0.0-0.5B	BE10 0.5-1.0B	BE10 0.3V	BE10 0.7V	PC11 0.0-0.5A
			Client sampling date / time	[10-FEB-2015]	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503000-021	ES1503000-022	ES1503000-023	ES1503000-024	ES1503000-025
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	----	----	**70.3**
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	----	----	**69.3**
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	----	**63.6**
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	----	**94.6**
Anthracene-d10	1719-06-8	0.1	%	----	----	----	----	**126**
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	----	**125**

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	PC11 0.0-0.5B	PC11 0.3V	PC11 0.7V	BE14 0.0-0.5A	BE14 0.5-1.0A
				Client sampling date / time	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00
					ES1503000-026	ES1503000-027	ES1503000-028	ES1503000-029	ES1503000-030
EA150: Particle Sizing									
+75µm	----	1	%		**29**	----	----	----	----
+150µm	----	1	%		**4**	----	----	----	----
+300µm	----	1	%		**3**	----	----	----	----
+425µm	----	1	%		**2**	----	----	----	----
+600µm	----	1	%		**2**	----	----	----	----
+1180µm	----	1	%		**2**	----	----	----	----
+2.36mm	----	1	%		**1**	----	----	----	----
+4.75mm	----	1	%		<1	----	----	----	----
+9.5mm	----	1	%		<1	----	----	----	----
+19.0mm	----	1	%		<1	----	----	----	----
+37.5mm	----	1	%		<1	----	----	----	----
+75.0mm	----	1	%		<1	----	----	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	**34.0**	**30.7**	**51.2**	**50.1**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		**22**	----	----	----	----
Silt (2-60 µm)	----	1	%		**28**	----	----	----	----
Sand (0.06-2.00 mm)	----	1	%		**49**	----	----	----	----
Gravel (>2mm)	----	1	%		**1**	----	----	----	----
Cobbles (>6cm)	----	1	%		<1	----	----	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		**2.62**	----	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	----	**20300**	**16500**
Iron	7439-89-6	50	mg/kg		----	----	----	**32000**	**26100**
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	----	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	----	----	**9.97**	**7.32**
Cadmium	7440-43-9	0.1	mg/kg		----	----	----	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	----	----	**27.0**	**19.7**
Copper	7440-50-8	1.0	mg/kg		----	----	----	**39.7**	**43.0**
Cobalt	7440-48-4	0.5	mg/kg		----	----	----	**12.2**	**13.2**
Lead	7439-92-1	1.0	mg/kg		----	----	----	**10.2**	**9.6**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	PC11 0.0-0.5B	PC11 0.3V	PC11 0.7V	BE14 0.0-0.5A	BE14 0.5-1.0A
				Client sampling date / time	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00
					ES1503000-026	ES1503000-027	ES1503000-028	ES1503000-029	ES1503000-030
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	----	273	194
Nickel	7440-02-0	1.0	mg/kg		----	----	----	14.5	12.8
Selenium	7782-49-2	0.1	mg/kg		----	----	----	1.0	1.1
Silver	7440-22-4	0.1	mg/kg		----	----	----	0.3	0.2
Vanadium	7440-62-2	2.0	mg/kg		----	----	----	72.2	56.7
Zinc	7440-66-6	1.0	mg/kg		----	----	----	48.4	38.7
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	----	0.03	0.03
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	----	<0.1	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	<0.1	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	<0.1	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	----	480	750
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	----	480	750
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	----	152	131
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	----	3.7	5.1
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	----	1.33	1.18
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	----	<3	4
>C16 - C34 Fraction	----	3	mg/kg		----	----	----	30	41
>C34 - C40 Fraction	----	5	mg/kg		----	----	----	21	23
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	----	51	68
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	<3	<3	----	----
C10 - C14 Fraction	----	3	mg/kg		----	----	----	<3	<3
C15 - C28 Fraction	----	3	mg/kg		----	----	----	11	23

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	PC11 0.0-0.5B	PC11 0.3V	PC11 0.7V	BE14 0.0-0.5A	BE14 0.5-1.0A
			Client sampling date / time	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503000-026	ES1503000-027	ES1503000-028	ES1503000-029	ES1503000-030
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued								
C29 - C36 Fraction	----	5	mg/kg	----	----	----	**31**	**33**
^ C10 - C36 Fraction (sum)	----	3	mg/kg	----	----	----	**42**	**56**
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons								
C6 - C10 Fraction	C6_C10	3	mg/kg	----	<3	<3	----	----
EP080-SD: BTEXN								
Benzene	71-43-2	0.2	mg/kg	----	<0.2	<0.2	----	----
Toluene	108-88-3	0.2	mg/kg	----	<0.2	<0.2	----	----
Ethylbenzene	100-41-4	0.2	mg/kg	----	<0.2	<0.2	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	----	<0.2	<0.2	----	----
ortho-Xylene	95-47-6	0.2	mg/kg	----	<0.2	<0.2	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg	----	<0.5	<0.5	----	----
^ Sum of BTEX	----	0.2	mg/kg	----	<0.2	<0.2	----	----
EP090: Organotin Compounds								
Monobutyltin	78763-54-9	1	µgSn/kg	----	----	----	<1	<1
Dibutyltin	1002-53-5	1	µgSn/kg	----	----	----	<1	<1
Tributyltin	56573-85-4	0.5	µgSn/kg	----	----	----	<0.5	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)								
Bromophos-ethyl	4824-78-6	10	µg/kg	----	----	----	<10	<10
Carbophenothion	786-19-6	10	µg/kg	----	----	----	<10	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	----	----	----	<10.0	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	----	----	----	<10	<10
Chlorpyrifos	2921-88-2	10	µg/kg	----	----	----	<10	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg	----	----	----	<10	<10
Demeton-S-methyl	919-86-8	10	µg/kg	----	----	----	<10	<10
Diazinon	333-41-5	10	µg/kg	----	----	----	<10	<10
Dichlorvos	62-73-7	10	µg/kg	----	----	----	<10	<10
Dimethoate	60-51-5	10	µg/kg	----	----	----	<10	<10
Ethion	563-12-2	10	µg/kg	----	----	----	<10	<10
Fenamiphos	22224-92-6	10	µg/kg	----	----	----	<10	<10
Fenthion	55-38-9	10	µg/kg	----	----	----	<10	<10
Malathion	121-75-5	10	µg/kg	----	----	----	<10	<10
Azinphos Methyl	86-50-0	10	µg/kg	----	----	----	<10	<10
Monocrotophos	6923-22-4	10	µg/kg	----	----	----	<10	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	PC11 0.0-0.5B	PC11 0.3V	PC11 0.7V	BE14 0.0-0.5A	BE14 0.5-1.0A
				Client sampling date / time	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00
					ES1503000-026	ES1503000-027	ES1503000-028	ES1503000-029	ES1503000-030
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	----	<10	<10
Parathion-methyl	298-00-0	10	µg/kg		----	----	----	<10	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	----	<10	<10
Prothiofos	34643-46-4	10	µg/kg		----	----	----	<10	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	----	<0.50	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	----	----	<0.50	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	----	----	<0.50	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	----	----	<0.50	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	----	<0.50	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	----	<0.50	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	----	<0.50	<0.50
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	----	----	<0.50	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	----	----	<0.50	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	----	<0.50	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	----	<0.50	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	----	<0.50	<0.50
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	----	----	<0.50	<0.50
Endrin	72-20-8	0.50	µg/kg		----	----	----	<0.50	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	----	<0.50	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	----	<0.50	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	----	----	<0.50	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	----	<0.50	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	----	<0.50	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	----	----	<0.25	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	----	----	<0.50	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	----	<0.25	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	----	<0.25	<0.25
^ Total Chlordane (sum)	----	0.25	µg/kg		----	----	----	<0.25	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	----	<0.50	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	----	<5.0	<5.0

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	PC11 0.0-0.5B	PC11 0.3V	PC11 0.7V	BE14 0.0-0.5A	BE14 0.5-1.0A
				Client sampling date / time	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00
					ES1503000-026	ES1503000-027	ES1503000-028	ES1503000-029	ES1503000-030
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	----	<5.0	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	----	<5	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	----	<5	<5
Acenaphthylene	208-96-8	4	µg/kg		----	----	----	<4	<4
Acenaphthene	83-32-9	4	µg/kg		----	----	----	<4	<4
Fluorene	86-73-7	4	µg/kg		----	----	----	<4	<4
Phenanthrene	85-01-8	4	µg/kg		----	----	----	<4	<4
Anthracene	120-12-7	4	µg/kg		----	----	----	<4	<4
Fluoranthene	206-44-0	4	µg/kg		----	----	----	<4	<4
Pyrene	129-00-0	4	µg/kg		----	----	----	<4	<4
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	----	<4	<4
Chrysene	218-01-9	4	µg/kg		----	----	----	<4	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	----	<4	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	----	<4	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	----	<4	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	----	<4	<4
Perylene	198-55-0	4	µg/kg		----	----	----	<4	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	----	<4	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	----	<4	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	----	<4	<4
Coronene	191-07-1	5	µg/kg		----	----	----	<5	<5
^ **Sum of PAHs**	----	4	µg/kg		----	----	----	<4	<4
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	**96.8**	**85.5**	----	----
Toluene-D8	2037-26-5	0.1	%		----	**113**	**91.5**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	**99.8**	**101**	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	----	**61.6**	**75.4**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	PC11 0.0-0.5B	PC11 0.3V	PC11 0.7V	BE14 0.0-0.5A	BE14 0.5-1.0A
			Client sampling date / time	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503000-026	ES1503000-027	ES1503000-028	ES1503000-029	ES1503000-030
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	----	69.3	69.7
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	----	69.9	60.0
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	68.8	65.6
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	83.4	86.7
Anthracene-d10	1719-06-8	0.1	%	----	----	----	115	103
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	115	102

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE14 0.0-0.5B	BE14 0.5-1.0B	BE14 0.3V	BE14 0.7V	BE15 0.0-0.5A
				Client sampling date / time	[10-FEB-2015]	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503000-031	ES1503000-032	ES1503000-033	ES1503000-034	ES1503000-035
EA150: Particle Sizing									
+75µm	----	1	%		4	2	----	----	----
+150µm	----	1	%		3	1	----	----	----
+300µm	----	1	%		2	<1	----	----	----
+425µm	----	1	%		2	<1	----	----	----
+600µm	----	1	%		1	<1	----	----	----
+1180µm	----	1	%		<1	<1	----	----	----
+2.36mm	----	1	%		<1	<1	----	----	----
+4.75mm	----	1	%		<1	<1	----	----	----
+9.5mm	----	1	%		<1	<1	----	----	----
+19.0mm	----	1	%		<1	<1	----	----	----
+37.5mm	----	1	%		<1	<1	----	----	----
+75.0mm	----	1	%		<1	<1	----	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	----	52.0	48.0	49.1
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		72	70	----	----	----
Silt (2-60 µm)	----	1	%		18	21	----	----	----
Sand (0.06-2.00 mm)	----	1	%		10	9	----	----	----
Gravel (>2mm)	----	1	%		<1	<1	----	----	----
Cobbles (>6cm)	----	1	%		<1	<1	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	----	----	14900
Iron	7439-89-6	50	mg/kg		----	----	----	----	36400
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	----	----	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	----	----	----	19.1
Cadmium	7440-43-9	0.1	mg/kg		----	----	----	----	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	----	----	----	27.2
Copper	7440-50-8	1.0	mg/kg		----	----	----	----	21.6
Cobalt	7440-48-4	0.5	mg/kg		----	----	----	----	19.6
Lead	7439-92-1	1.0	mg/kg		----	----	----	----	8.7
Manganese	7439-96-5	10	mg/kg		----	----	----	----	441
Nickel	7440-02-0	1.0	mg/kg		----	----	----	----	14.9

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE14 0.0-0.5B	BE14 0.5-1.0B	BE14 0.3V	BE14 0.7V	BE15 0.0-0.5A
				Client sampling date / time	[10-FEB-2015]	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00
					ES1503000-031	ES1503000-032	ES1503000-033	ES1503000-034	ES1503000-035
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Selenium	7782-49-2	0.1	mg/kg		----	----	----	----	**0.9**
Silver	7440-22-4	0.1	mg/kg		----	----	----	----	**0.1**
Vanadium	7440-62-2	2.0	mg/kg		----	----	----	----	**52.6**
Zinc	7440-66-6	1.0	mg/kg		----	----	----	----	**57.9**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	----	----	**0.05**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	----	----	**710**
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	----	----	**710**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	----	----	**238**
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	----	----	**12.7**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	----	----	**0.88**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	----	----	<3
>C16 - C34 Fraction	----	3	mg/kg		----	----	----	----	**25**
>C34 - C40 Fraction	----	5	mg/kg		----	----	----	----	**13**
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	----	----	**38**
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	<3	<3	----
C10 - C14 Fraction	----	3	mg/kg		----	----	----	----	<3
C15 - C28 Fraction	----	3	mg/kg		----	----	----	----	**13**
C29 - C36 Fraction	----	5	mg/kg		----	----	----	----	**19**
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	----	----	**32**

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE14 0.0-0.5B	BE14 0.5-1.0B	BE14 0.3V	BE14 0.7V	BE15 0.0-0.5A
				Client sampling date / time	[10-FEB-2015]	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00
					ES1503000-031	ES1503000-032	ES1503000-033	ES1503000-034	ES1503000-035
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	<3	<3	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	<0.2	<0.2	----
Toluene	108-88-3	0.2	mg/kg		----	----	<0.2	<0.2	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	<0.2	<0.2	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	<0.2	<0.2	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	<0.2	<0.2	----
^ **Total Xylenes**	1330-20-7	0.5	mg/kg		----	----	<0.5	<0.5	----
^ **Sum of BTEX**	----	0.2	mg/kg		----	----	<0.2	<0.2	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	----	----	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	----	----	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	----	----	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	----	----	<10
Carbophenothion	786-19-6	10	µg/kg		----	----	----	----	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	----	----	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	----	----	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	----	----	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	----	----	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	----	----	<10
Diazinon	333-41-5	10	µg/kg		----	----	----	----	<10
Dichlorvos	62-73-7	10	µg/kg		----	----	----	----	<10
Dimethoate	60-51-5	10	µg/kg		----	----	----	----	<10
Ethion	563-12-2	10	µg/kg		----	----	----	----	<10
Fenamiphos	22224-92-6	10	µg/kg		----	----	----	----	<10
Fenthion	55-38-9	10	µg/kg		----	----	----	----	<10
Malathion	121-75-5	10	µg/kg		----	----	----	----	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	----	----	----	<10
Monocrotophos	6923-22-4	10	µg/kg		----	----	----	----	<10
Parathion	56-38-2	10	µg/kg		----	----	----	----	<10
Parathion-methyl	298-00-0	10	µg/kg		----	----	----	----	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	----	----	<10

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE14 0.0-0.5B	BE14 0.5-1.0B	BE14 0.3V	BE14 0.7V	BE15 0.0-0.5A
				Client sampling date / time	[10-FEB-2015]	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00
					ES1503000-031	ES1503000-032	ES1503000-033	ES1503000-034	ES1503000-035
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Prothiofos	34643-46-4	10	µg/kg		----	----	----	----	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	----	----	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	----	----	----	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	----	----	----	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	----	----	<0.50
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	----	----	----	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	----	----	----	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	----	----	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	----	----	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	----	----	<0.50
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	----	----	----	<0.50
Endrin	72-20-8	0.50	µg/kg		----	----	----	----	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	----	----	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	----	----	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	----	----	----	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	----	----	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	----	----	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	----	----	----	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	----	----	----	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	----	----	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	----	----	<0.25
^ **Total Chlordane (sum)**	----	0.25	µg/kg		----	----	----	----	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	----	----	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	----	----	<5.0

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE14 0.0-0.5B	BE14 0.5-1.0B	BE14 0.3V	BE14 0.7V	BE15 0.0-0.5A
				Client sampling date / time	[10-FEB-2015]	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00
					ES1503000-031	ES1503000-032	ES1503000-033	ES1503000-034	ES1503000-035
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	----	----	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	----	----	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	----	----	<5
Acenaphthylene	208-96-8	4	µg/kg		----	----	----	----	<4
Acenaphthene	83-32-9	4	µg/kg		----	----	----	----	<4
Fluorene	86-73-7	4	µg/kg		----	----	----	----	<4
Phenanthrene	85-01-8	4	µg/kg		----	----	----	----	**14**
Anthracene	120-12-7	4	µg/kg		----	----	----	----	<4
Fluoranthene	206-44-0	4	µg/kg		----	----	----	----	**17**
Pyrene	129-00-0	4	µg/kg		----	----	----	----	**15**
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	----	----	**6**
Chrysene	218-01-9	4	µg/kg		----	----	----	----	**9**
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	----	----	**7**
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	----	----	**5**
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	----	----	**5**
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	----	----	**6**
Perylene	198-55-0	4	µg/kg		----	----	----	----	**5**
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	----	----	**6**
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	----	----	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	----	----	**4**
Coronene	191-07-1	5	µg/kg		----	----	----	----	<5
^ **Sum of PAHs**	----	4	µg/kg		----	----	----	----	**99**
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	**103**	**92.3**	----
Toluene-D8	2037-26-5	0.1	%		----	----	**109**	**97.0**	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	**96.1**	**88.4**	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	----	----	**88.0**
EP130S: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%		----	----	----	----	**70.3**
EP131S: OC Pesticide Surrogate									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BE14 0.0-0.5B	BE14 0.5-1.0B	BE14 0.3V	BE14 0.7V	BE15 0.0-0.5A
			Client sampling date / time	[10-FEB-2015]	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503000-031	ES1503000-032	ES1503000-033	ES1503000-034	ES1503000-035
EP131S: OC Pesticide Surrogate - Continued								
Dibromo-DDE	21655-73-2	0.1	%	----	----	----	----	**72.8**
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	----	**66.6**
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	----	**80.2**
Anthracene-d10	1719-06-8	0.1	%	----	----	----	----	**106**
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	----	**106**

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE15 0.5-1.0A	BE15 0.0-0.5B	BE15 0.5-1.0B	BE15 0.3V	BE14 0.7V
				Client sampling date / time	08-FEB-2015 15:00	[10-FEB-2015]	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00
					ES1503000-036	ES1503000-037	ES1503000-038	ES1503000-039	ES1503000-040
EA150: Particle Sizing									
+75µm	----	1	%		----	**16**	**9**	----	----
+150µm	----	1	%		----	**8**	**5**	----	----
+300µm	----	1	%		----	**7**	**3**	----	----
+425µm	----	1	%		----	**7**	**3**	----	----
+600µm	----	1	%		----	**6**	**2**	----	----
+1180µm	----	1	%		----	**5**	**1**	----	----
+2.36mm	----	1	%		----	**4**	<1	----	----
+4.75mm	----	1	%		----	**3**	<1	----	----
+9.5mm	----	1	%		----	<1	<1	----	----
+19.0mm	----	1	%		----	<1	<1	----	----
+37.5mm	----	1	%		----	<1	<1	----	----
+75.0mm	----	1	%		----	<1	<1	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**54.8**	----	----	**43.4**	**46.9**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	**38**	**55**	----	----
Silt (2-60 µm)	----	1	%		----	**37**	**29**	----	----
Sand (0.06-2.00 mm)	----	1	%		----	**21**	**15**	----	----
Gravel (>2mm)	----	1	%		----	**4**	**1**	----	----
Cobbles (>6cm)	----	1	%		----	<1	<1	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	**2.65**	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**19400**	----	----	----	----
Iron	7439-89-6	50	mg/kg		**49400**	----	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	----	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		**25.3**	----	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	----	----	----	----
Chromium	7440-47-3	1.0	mg/kg		**29.2**	----	----	----	----
Copper	7440-50-8	1.0	mg/kg		**41.0**	----	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		**21.3**	----	----	----	----
Lead	7439-92-1	1.0	mg/kg		**11.5**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE15 0.5-1.0A	BE15 0.0-0.5B	BE15 0.5-1.0B	BE15 0.3V	BE14 0.7V
				Client sampling date / time	08-FEB-2015 15:00	[10-FEB-2015]	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00
					ES1503000-036	ES1503000-037	ES1503000-038	ES1503000-039	ES1503000-040
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		367	----	----	----	----
Nickel	7440-02-0	1.0	mg/kg		18.2	----	----	----	----
Selenium	7782-49-2	0.1	mg/kg		1.2	----	----	----	----
Silver	7440-22-4	0.1	mg/kg		0.2	----	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		73.7	----	----	----	----
Zinc	7440-66-6	1.0	mg/kg		50.4	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		0.06	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		800	----	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		800	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		166	----	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		11.4	----	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		3.78	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	----	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		63	----	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		47	----	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		110	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	<3	<3
C10 - C14 Fraction	----	3	mg/kg		<3	----	----	----	----
C15 - C28 Fraction	----	3	mg/kg		22	----	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE15 0.5-1.0A	BE15 0.0-0.5B	BE15 0.5-1.0B	BE15 0.3V	BE14 0.7V
				Client sampling date / time	08-FEB-2015 15:00	[10-FEB-2015]	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00
					ES1503000-036	ES1503000-037	ES1503000-038	ES1503000-039	ES1503000-040
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		**70**	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	3	mg/kg		**92**	----	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	<3	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	<0.2	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	<0.2	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	<0.2	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	<0.2	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	<0.2	<0.2
^ **Total Xylenes**	1330-20-7	0.5	mg/kg		----	----	----	<0.5	<0.5
^ **Sum of BTEX**	----	0.2	mg/kg		----	----	----	<0.2	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	----	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	----	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	----	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	----	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	----	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	----	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	----	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	----	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	----	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	----	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	----	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	----	----	----	----
Ethion	563-12-2	10	µg/kg		<10	----	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	----	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	----	----	----	----
Malathion	121-75-5	10	µg/kg		<10	----	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	----	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE15 0.5-1.0A	BE15 0.0-0.5B	BE15 0.5-1.0B	BE15 0.3V	BE14 0.7V
				Client sampling date / time	08-FEB-2015 15:00	[10-FEB-2015]	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00
					ES1503000-036	ES1503000-037	ES1503000-038	ES1503000-039	ES1503000-040
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	----	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	----	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	----	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	----	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	----	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	----	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	----	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	----	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	----	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	----	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	----	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	----	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	----	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	----	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	----	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	----	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	----	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	----	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	----	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	----	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	----	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	----	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	----	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	----	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	----	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE15 0.5-1.0A	BE15 0.0-0.5B	BE15 0.5-1.0B	BE15 0.3V	BE14 0.7V
				Client sampling date / time	08-FEB-2015 15:00	[10-FEB-2015]	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00
					ES1503000-036	ES1503000-037	ES1503000-038	ES1503000-039	ES1503000-040
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	----	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	----	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	----	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	----	----	----	----
Fluorene	86-73-7	4	µg/kg		<5	----	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<5	----	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	----	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	----	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	----	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	----	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	----	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	----	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	----	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	----	----	----	----
Perylene	198-55-0	4	µg/kg		<4	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	----	----	----	----
Coronene	191-07-1	5	µg/kg		<5	----	----	----	----
^ **Sum of PAHs**	----	4	µg/kg		<4	----	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	**97.1**	**96.7**
Toluene-D8	2037-26-5	0.1	%		----	----	----	**95.7**	**102**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	**94.5**	**96.7**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**82.3**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BE15 0.5-1.0A	BE15 0.0-0.5B	BE15 0.5-1.0B	BE15 0.3V	BE14 0.7V
			Client sampling date / time	08-FEB-2015 15:00	[10-FEB-2015]	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503000-036	ES1503000-037	ES1503000-038	ES1503000-039	ES1503000-040
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**85.8**	----	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**82.8**	----	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**99.8**	----	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**82.2**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**120**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	**108**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BE19 0.0-0.5A	BE19 0.0-0.5B	BE19 0.3V	BE20 0.0-0.5A	BE20 0.5-1.0A
			Client sampling date / time	08-FEB-2015 15:00	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503000-041	ES1503000-042	ES1503000-043	ES1503000-044	ES1503000-045
EA150: Particle Sizing								
+75µm	----	1	%	----	61	----	----	----
+150µm	----	1	%	----	58	----	----	----
+300µm	----	1	%	----	55	----	----	----
+425µm	----	1	%	----	53	----	----	----
+600µm	----	1	%	----	49	----	----	----
+1180µm	----	1	%	----	35	----	----	----
+2.36mm	----	1	%	----	20	----	----	----
+4.75mm	----	1	%	----	6	----	----	----
+9.5mm	----	1	%	----	<1	----	----	----
+19.0mm	----	1	%	----	<1	----	----	----
+37.5mm	----	1	%	----	<1	----	----	----
+75.0mm	----	1	%	----	<1	----	----	----
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	17.0	----	15.7	58.2	46.2
EA150: Soil Classification based on Particle Size								
Clay (<2 µm)	----	1	%	----	28	----	----	----
Silt (2-60 µm)	----	1	%	----	8	----	----	----
Sand (0.06-2.00 mm)	----	1	%	----	40	----	----	----
Gravel (>2mm)	----	1	%	----	24	----	----	----
Cobbles (>6cm)	----	1	%	----	<1	----	----	----
EA152: Soil Particle Density								
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3	----	2.68	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES								
Aluminium	7429-90-5	50	mg/kg	8510	----	----	17500	11500
Iron	7439-89-6	50	mg/kg	81000	----	----	39700	25800
EG020-SD: Total Metals in Sediments by ICPMS								
Antimony	7440-36-0	0.50	mg/kg	<0.50	----	----	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg	37.8	----	----	13.1	6.70
Cadmium	7440-43-9	0.1	mg/kg	<0.1	----	----	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg	37.2	----	----	32.0	18.7
Copper	7440-50-8	1.0	mg/kg	20.6	----	----	34.1	27.5
Cobalt	7440-48-4	0.5	mg/kg	2.1	----	----	14.1	8.3
Lead	7439-92-1	1.0	mg/kg	6.4	----	----	12.9	9.2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE19 0.0-0.5A	BE19 0.0-0.5B	BE19 0.3V	BE20 0.0-0.5A	BE20 0.5-1.0A
				Client sampling date / time	08-FEB-2015 15:00	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00
					ES1503000-041	ES1503000-042	ES1503000-043	ES1503000-044	ES1503000-045
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		49	----	----	440	189
Nickel	7440-02-0	1.0	mg/kg		1.8	----	----	17.6	7.8
Selenium	7782-49-2	0.1	mg/kg		0.7	----	----	1.5	0.7
Silver	7440-22-4	0.1	mg/kg		<0.1	----	----	0.1	<0.1
Vanadium	7440-62-2	2.0	mg/kg		172	----	----	80.3	59.7
Zinc	7440-66-6	1.0	mg/kg		7.7	----	----	58.1	28.0
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		0.05	----	----	0.06	0.03
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	<0.1	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	<0.1	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	<0.1	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		100	----	----	600	440
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		100	----	----	600	440
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		74	----	----	419	550
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		0.9	----	----	19.4	8.3
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		0.13	----	----	0.72	0.13
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	----	----	3	<3
>C16 - C34 Fraction	----	3	mg/kg		25	----	----	30	6
>C34 - C40 Fraction	----	5	mg/kg		9	----	----	9	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		34	----	----	42	6
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	<3	----	----
C10 - C14 Fraction	----	3	mg/kg		<3	----	----	<3	<3
C15 - C28 Fraction	----	3	mg/kg		12	----	----	12	3

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE19 0.0-0.5A	BE19 0.0-0.5B	BE19 0.3V	BE20 0.0-0.5A	BE20 0.5-1.0A
				Client sampling date / time	08-FEB-2015 15:00	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00
					ES1503000-041	ES1503000-042	ES1503000-043	ES1503000-044	ES1503000-045
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		**18**	----	----	**19**	<5
^ **C10 - C36 Fraction (sum)**	----	3	mg/kg		**30**	----	----	**31**	**3**
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	<3	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	<0.2	----	----
Toluene	108-88-3	0.2	mg/kg		----	----	<0.2	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	<0.2	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	<0.2	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	<0.2	----	----
^ **Total Xylenes**	1330-20-7	0.5	mg/kg		----	----	<0.5	----	----
^ **Sum of BTEX**	----	0.2	mg/kg		----	----	<0.2	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	----	----	<1	<1
Dibutyltin	1002-53-5	1	µgSn/kg		<1	----	----	<1	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	----	----	<0.5	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	----	----	<10	<10
Carbophenothion	786-19-6	10	µg/kg		<10	----	----	<10	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	----	----	<10.0	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	----	----	<10	<10
Chlorpyrifos	2921-88-2	10	µg/kg		<10	----	----	<10	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	----	----	<10	<10
Demeton-S-methyl	919-86-8	10	µg/kg		<10	----	----	<10	<10
Diazinon	333-41-5	10	µg/kg		<10	----	----	<10	<10
Dichlorvos	62-73-7	10	µg/kg		<10	----	----	<10	<10
Dimethoate	60-51-5	10	µg/kg		<10	----	----	<10	<10
Ethion	563-12-2	10	µg/kg		<10	----	----	<10	<10
Fenamiphos	22224-92-6	10	µg/kg		<10	----	----	<10	<10
Fenthion	55-38-9	10	µg/kg		<10	----	----	<10	<10
Malathion	121-75-5	10	µg/kg		<10	----	----	<10	<10
Azinphos Methyl	86-50-0	10	µg/kg		<10	----	----	<10	<10
Monocrotophos	6923-22-4	10	µg/kg		<10	----	----	<10	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE19 0.0-0.5A	BE19 0.0-0.5B	BE19 0.3V	BE20 0.0-0.5A	BE20 0.5-1.0A
				Client sampling date / time	08-FEB-2015 15:00	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503000-041	ES1503000-042	ES1503000-043	ES1503000-044	ES1503000-045
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	----	----	<10	<10
Parathion-methyl	298-00-0	10	µg/kg		<10	----	----	<10	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	----	----	<10	<10
Prothiofos	34643-46-4	10	µg/kg		<10	----	----	<10	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
beta-BHC	319-85-7	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
delta-BHC	319-86-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Dieldrin	60-57-1	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Endrin	72-20-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Heptachlor	76-44-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	----	----	<0.25	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	----	----	<0.25	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	----	----	<0.25	<0.25
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	----	----	<0.25	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	----	----	<5.0	<5.0

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE19 0.0-0.5A	BE19 0.0-0.5B	BE19 0.3V	BE20 0.0-0.5A	BE20 0.5-1.0A
				Client sampling date / time	08-FEB-2015 15:00	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00
					ES1503000-041	ES1503000-042	ES1503000-043	ES1503000-044	ES1503000-045
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	----	----	<5	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	----	----	<5	<5
Acenaphthylene	208-96-8	4	µg/kg		<4	----	----	<4	<4
Acenaphthene	83-32-9	4	µg/kg		<4	----	----	<5	<4
Fluorene	86-73-7	4	µg/kg		<4	----	----	<4	<4
Phenanthrene	85-01-8	4	µg/kg		<4	----	----	<4	<4
Anthracene	120-12-7	4	µg/kg		<4	----	----	<5	<4
Fluoranthene	206-44-0	4	µg/kg		<4	----	----	<4	<4
Pyrene	129-00-0	4	µg/kg		<4	----	----	<4	<4
Benz(a)anthracene	56-55-3	4	µg/kg		<4	----	----	<4	<4
Chrysene	218-01-9	4	µg/kg		<4	----	----	<4	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	----	----	<4	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	----	----	<4	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	----	----	<4	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	----	----	<4	<4
Perylene	198-55-0	4	µg/kg		<4	----	----	<4	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	----	----	<4	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	----	----	<4	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	----	----	<4	<4
Coronene	191-07-1	5	µg/kg		<5	----	----	<5	<5
^ **Sum of PAHs**	----	4	µg/kg		<4	----	----	<4	<4
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	**121**	----	----
Toluene-D8	2037-26-5	0.1	%		----	----	**125**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	**120**	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**75.5**	----	----	**84.9**	**79.1**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BE19 0.0-0.5A	BE19 0.0-0.5B	BE19 0.3V	BE20 0.0-0.5A	BE20 0.5-1.0A
			Client sampling date / time	08-FEB-2015 15:00	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503000-041	ES1503000-042	ES1503000-043	ES1503000-044	ES1503000-045
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**77.0**	----	----	**69.8**	**68.2**
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**76.4**	----	----	**69.0**	**66.0**
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**83.6**	----	----	**72.9**	**45.2**
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**80.6**	----	----	**89.3**	**86.6**
Anthracene-d10	1719-06-8	0.1	%	**110**	----	----	**121**	**118**
4-Terphenyl-d14	1718-51-0	0.1	%	**106**	----	----	**122**	**118**

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE20 0.5-1.0B	BE20 0.0-0.5B	BE20 0.3V	BE20 0.7V	BE21 0.0-0.5A
				Client sampling date / time	[10-FEB-2015]	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00
					ES1503000-046	ES1503000-047	ES1503000-048	ES1503000-049	ES1503000-050
EA150: Particle Sizing									
+75µm	----	1	%		<1	<1	----	----	----
+150µm	----	1	%		<1	<1	----	----	----
+300µm	----	1	%		<1	<1	----	----	----
+425µm	----	1	%		<1	<1	----	----	----
+600µm	----	1	%		<1	<1	----	----	----
+1180µm	----	1	%		<1	<1	----	----	----
+2.36mm	----	1	%		<1	<1	----	----	----
+4.75mm	----	1	%		<1	<1	----	----	----
+9.5mm	----	1	%		<1	<1	----	----	----
+19.0mm	----	1	%		<1	<1	----	----	----
+37.5mm	----	1	%		<1	<1	----	----	----
+75.0mm	----	1	%		<1	<1	----	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	----	**54.8**	**48.3**	**23.0**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		**52**	**59**	----	----	----
Silt (2-60 µm)	----	1	%		**46**	**37**	----	----	----
Sand (0.06-2.00 mm)	----	1	%		**2**	**4**	----	----	----
Gravel (>2mm)	----	1	%		<1	<1	----	----	----
Cobbles (>6cm)	----	1	%		<1	<1	----	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		**2.52**	----	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	----	----	**6800**
Iron	7439-89-6	50	mg/kg		----	----	----	----	**21300**
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	----	----	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	----	----	----	**8.02**
Cadmium	7440-43-9	0.1	mg/kg		----	----	----	----	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	----	----	----	**14.1**
Copper	7440-50-8	1.0	mg/kg		----	----	----	----	**13.0**
Cobalt	7440-48-4	0.5	mg/kg		----	----	----	----	**5.6**
Lead	7439-92-1	1.0	mg/kg		----	----	----	----	**5.3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE20 0.5-1.0B	BE20 0.0-0.5B	BE20 0.3V	BE20 0.7V	BE21 0.0-0.5A
				Client sampling date / time	[10-FEB-2015]	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00
					ES1503000-046	ES1503000-047	ES1503000-048	ES1503000-049	ES1503000-050
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	----	----	**244**
Nickel	7440-02-0	1.0	mg/kg		----	----	----	----	**7.8**
Selenium	7782-49-2	0.1	mg/kg		----	----	----	----	**0.6**
Silver	7440-22-4	0.1	mg/kg		----	----	----	----	<0.1
Vanadium	7440-62-2	2.0	mg/kg		----	----	----	----	**42.8**
Zinc	7440-66-6	1.0	mg/kg		----	----	----	----	**15.3**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	----	----	**0.03**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	----	----	**140**
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	----	----	**140**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	----	----	**61**
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	----	----	**3.4**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	----	----	**0.51**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	----	----	<3
>C16 - C34 Fraction	----	3	mg/kg		----	----	----	----	**34**
>C34 - C40 Fraction	----	5	mg/kg		----	----	----	----	**11**
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	----	----	**45**
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	<3	<3	----
C10 - C14 Fraction	----	3	mg/kg		----	----	----	----	<3
C15 - C28 Fraction	----	3	mg/kg		----	----	----	----	**12**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE20 0.5-1.0B	BE20 0.0-0.5B	BE20 0.3V	BE20 0.7V	BE21 0.0-0.5A
				Client sampling date / time	[10-FEB-2015]	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503000-046	ES1503000-047	ES1503000-048	ES1503000-049	ES1503000-050
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	----	----	24
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	----	----	36
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	<3	<3	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	<0.2	<0.2	----
Toluene	108-88-3	0.2	mg/kg		----	----	<0.2	<0.2	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	<0.2	<0.2	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	<0.2	<0.2	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	<0.2	<0.2	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	<0.5	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg		----	----	<0.2	<0.2	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	----	----	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	----	----	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	----	----	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	----	----	<10
Carbophenothion	786-19-6	10	µg/kg		----	----	----	----	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	----	----	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	----	----	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	----	----	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	----	----	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	----	----	<10
Diazinon	333-41-5	10	µg/kg		----	----	----	----	<10
Dichlorvos	62-73-7	10	µg/kg		----	----	----	----	<10
Dimethoate	60-51-5	10	µg/kg		----	----	----	----	<10
Ethion	563-12-2	10	µg/kg		----	----	----	----	<10
Fenamiphos	22224-92-6	10	µg/kg		----	----	----	----	<10
Fenthion	55-38-9	10	µg/kg		----	----	----	----	<10
Malathion	121-75-5	10	µg/kg		----	----	----	----	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	----	----	----	<10
Monocrotophos	6923-22-4	10	µg/kg		----	----	----	----	<10

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE20 0.5-1.0B	BE20 0.0-0.5B	BE20 0.3V	BE20 0.7V	BE21 0.0-0.5A
				Client sampling date / time	[10-FEB-2015]	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00
					ES1503000-046	ES1503000-047	ES1503000-048	ES1503000-049	ES1503000-050
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	----	----	<10
Parathion-methyl	298-00-0	10	µg/kg		----	----	----	----	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	----	----	<10
Prothiofos	34643-46-4	10	µg/kg		----	----	----	----	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	----	----	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	----	----	----	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	----	----	----	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	----	----	<0.50
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	----	----	----	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	----	----	----	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	----	----	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	----	----	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	----	----	<0.50
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	----	----	----	<0.50
Endrin	72-20-8	0.50	µg/kg		----	----	----	----	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	----	----	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	----	----	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	----	----	----	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	----	----	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	----	----	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	----	----	----	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	----	----	----	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	----	----	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	----	----	<0.25
^ **Total Chlordane (sum)**	----	0.25	µg/kg		----	----	----	----	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	----	----	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	----	----	<5.0

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE20 0.5-1.0B	BE20 0.0-0.5B	BE20 0.3V	BE20 0.7V	BE21 0.0-0.5A
				Client sampling date / time	[10-FEB-2015]	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00
					ES1503000-046	ES1503000-047	ES1503000-048	ES1503000-049	ES1503000-050
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	----	----	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	----	----	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	----	----	<5
Acenaphthylene	208-96-8	4	µg/kg		----	----	----	----	<4
Acenaphthene	83-32-9	4	µg/kg		----	----	----	----	<4
Fluorene	86-73-7	4	µg/kg		----	----	----	----	<4
Phenanthrene	85-01-8	4	µg/kg		----	----	----	----	<4
Anthracene	120-12-7	4	µg/kg		----	----	----	----	<4
Fluoranthene	206-44-0	4	µg/kg		----	----	----	----	<4
Pyrene	129-00-0	4	µg/kg		----	----	----	----	<4
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	----	----	<4
Chrysene	218-01-9	4	µg/kg		----	----	----	----	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	----	----	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	----	----	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	----	----	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	----	----	<4
Perylene	198-55-0	4	µg/kg		----	----	----	----	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	----	----	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	----	----	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	----	----	<4
Coronene	191-07-1	5	µg/kg		----	----	----	----	<5
^ **Sum of PAHs**	----	4	µg/kg		----	----	----	----	<4
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	**99.0**	**82.4**	----
Toluene-D8	2037-26-5	0.1	%		----	----	**106**	**90.8**	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	**97.4**	**86.4**	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	----	----	**84.7**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BE20 0.5-1.0B	BE20 0.0-0.5B	BE20 0.3V	BE20 0.7V	BE21 0.0-0.5A
			Client sampling date / time	[10-FEB-2015]	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503000-046	ES1503000-047	ES1503000-048	ES1503000-049	ES1503000-050
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	----	----	**85.6**
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	----	----	**100**
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	----	**87.1**
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	----	**83.0**
Anthracene-d10	1719-06-8	0.1	%	----	----	----	----	**98.2**
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	----	**93.7**

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE21 0.5-1.0A	BE21 0.0-0.5B	BE21 0.5-1.0B	BE21 0.3V	BE21 0.7V
				Client sampling date / time	08-FEB-2015 15:00	[10-FEB-2015]	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00
					ES1503000-051	ES1503000-052	ES1503000-053	ES1503000-054	ES1503000-055
EA150: Particle Sizing									
+75µm	----	1	%		----	<1	**42**	----	----
+150µm	----	1	%		----	<1	**39**	----	----
+300µm	----	1	%		----	<1	**36**	----	----
+425µm	----	1	%		----	<1	**35**	----	----
+600µm	----	1	%		----	<1	**34**	----	----
+1180µm	----	1	%		----	<1	**32**	----	----
+2.36mm	----	1	%		----	<1	**29**	----	----
+4.75mm	----	1	%		----	<1	**22**	----	----
+9.5mm	----	1	%		----	<1	**11**	----	----
+19.0mm	----	1	%		----	<1	<1	----	----
+37.5mm	----	1	%		----	<1	<1	----	----
+75.0mm	----	1	%		----	<1	<1	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**56.3**	----	----	**55.6**	**25.0**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	**63**	**36**	----	----
Silt (2-60 µm)	----	1	%		----	**32**	**19**	----	----
Sand (0.06-2.00 mm)	----	1	%		----	**5**	**15**	----	----
Gravel (>2mm)	----	1	%		----	<1	**30**	----	----
Cobbles (>6cm)	----	1	%		----	<1	<1	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	**2.70**	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**13000**	----	----	----	----
Iron	7439-89-6	50	mg/kg		**18500**	----	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	----	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		**6.98**	----	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	----	----	----	----
Chromium	7440-47-3	1.0	mg/kg		**19.8**	----	----	----	----
Copper	7440-50-8	1.0	mg/kg		**25.0**	----	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		**6.5**	----	----	----	----
Lead	7439-92-1	1.0	mg/kg		**9.4**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE21 0.5-1.0A	BE21 0.0-0.5B	BE21 0.5-1.0B	BE21 0.3V	BE21 0.7V
				Client sampling date / time	08-FEB-2015 15:00	[10-FEB-2015]	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00
					ES1503000-051	ES1503000-052	ES1503000-053	ES1503000-054	ES1503000-055
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		**105**	----	----	----	----
Nickel	7440-02-0	1.0	mg/kg		**6.7**	----	----	----	----
Selenium	7782-49-2	0.1	mg/kg		**1.0**	----	----	----	----
Silver	7440-22-4	0.1	mg/kg		**0.5**	----	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		**50.4**	----	----	----	----
Zinc	7440-66-6	1.0	mg/kg		**23.1**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		**0.03**	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		**620**	----	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		**620**	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		**285**	----	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		**12.1**	----	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		**0.17**	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	----	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		**6**	----	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	----	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		**6**	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	<3	<3
C10 - C14 Fraction	----	3	mg/kg		<3	----	----	----	----
C15 - C28 Fraction	----	3	mg/kg		**4**	----	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE21 0.5-1.0A	BE21 0.0-0.5B	BE21 0.5-1.0B	BE21 0.3V	BE21 0.7V
				Client sampling date / time	08-FEB-2015 15:00	[10-FEB-2015]	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00
					ES1503000-051	ES1503000-052	ES1503000-053	ES1503000-054	ES1503000-055
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	3	mg/kg		**4**	----	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	<3	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	<0.2	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	<0.2	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	<0.2	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	<0.2	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	<0.2	<0.2
^ **Total Xylenes**	1330-20-7	0.5	mg/kg		----	----	----	<0.5	<0.5
^ **Sum of BTEX**	----	0.2	mg/kg		----	----	----	<0.2	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	----	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	----	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	----	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	----	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	----	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	----	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	----	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	----	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	----	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	----	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	----	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	----	----	----	----
Ethion	563-12-2	10	µg/kg		<10	----	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	----	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	----	----	----	----
Malathion	121-75-5	10	µg/kg		<10	----	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	----	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE21 0.5-1.0A	BE21 0.0-0.5B	BE21 0.5-1.0B	BE21 0.3V	BE21 0.7V
				Client sampling date / time	08-FEB-2015 15:00	[10-FEB-2015]	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00
					ES1503000-051	ES1503000-052	ES1503000-053	ES1503000-054	ES1503000-055
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	----	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	----	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	----	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	----	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	----	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	----	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	----	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	----	----	----	----
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		<0.50	----	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	----	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	----	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	----	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	----	----	----	----
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		<0.50	----	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	----	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	----	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	----	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	----	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	----	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	----	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	----	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	----	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	----	----	----	----
^ **Total Chlordane (sum)**	----	0.25	µg/kg		<0.25	----	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	----	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE21 0.5-1.0A	BE21 0.0-0.5B	BE21 0.5-1.0B	BE21 0.3V	BE21 0.7V
				Client sampling date / time	08-FEB-2015 15:00	[10-FEB-2015]	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00
					ES1503000-051	ES1503000-052	ES1503000-053	ES1503000-054	ES1503000-055
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	----	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	----	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	----	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	----	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	----	----	----	----
Phenanthrene	85-01-8	4	µg/kg		**8**	----	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	----	----	----	----
Fluoranthene	206-44-0	4	µg/kg		**5**	----	----	----	----
Pyrene	129-00-0	4	µg/kg		**6**	----	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		**6**	----	----	----	----
Chrysene	218-01-9	4	µg/kg		**4**	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	----	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	----	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	----	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	----	----	----	----
Perylene	198-55-0	4	µg/kg		<4	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	----	----	----	----
Coronene	191-07-1	5	µg/kg		<5	----	----	----	----
^ **Sum of PAHs**	----	4	µg/kg		**29**	----	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	**89.2**	**102**
Toluene-D8	2037-26-5	0.1	%		----	----	----	**89.6**	**108**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	**82.0**	**97.2**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**91.1**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BE21 0.5-1.0A	BE21 0.0-0.5B	BE21 0.5-1.0B	BE21 0.3V	BE21 0.7V
			Client sampling date / time	08-FEB-2015 15:00	[10-FEB-2015]	[10-FEB-2015]	08-FEB-2015 15:00	08-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503000-051	ES1503000-052	ES1503000-053	ES1503000-054	ES1503000-055
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**67.3**	----	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**93.8**	----	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**75.0**	----	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**90.6**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**102**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	**104**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TRIPLICATE 3A	TRIPLICATE 3B	TRIP BLANK 4	----	----
				Client sampling date / time	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00	----	----
Compound	CAS Number	LOR	Unit		ES1503000-056	ES1503000-057	ES1503000-058	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		33.2	32.3	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		12200	12400	----	----	----
Iron	7439-89-6	50	mg/kg		17100	16900	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		7.59	7.89	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	----	----	----
Chromium	7440-47-3	1.0	mg/kg		24.5	22.4	----	----	----
Copper	7440-50-8	1.0	mg/kg		13.1	15.0	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		8.7	8.3	----	----	----
Lead	7439-92-1	1.0	mg/kg		7.4	6.6	----	----	----
Manganese	7439-96-5	10	mg/kg		226	226	----	----	----
Nickel	7440-02-0	1.0	mg/kg		10.7	9.9	----	----	----
Selenium	7782-49-2	0.1	mg/kg		0.7	0.7	----	----	----
Silver	7440-22-4	0.1	mg/kg		1.1	0.2	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		38.3	37.7	----	----	----
Zinc	7440-66-6	1.0	mg/kg		32.8	32.8	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		0.02	0.02	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		300	280	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		300	280	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		164	210	----	----	----
EK255A SD Ammonia in Sediment									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TRIPLICATE 3A	TRIPLICATE 3B	TRIP BLANK 4	----	----
				Client sampling date / time	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00	----	----
Compound	CAS Number	LOR	Unit		ES1503000-056	ES1503000-057	ES1503000-058	----	----
EK255A SD Ammonia in Sediment - Continued									
Ammonia as N	7664-41-7	0.2	mg/kg		1.7	2.2	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		0.53	0.70	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	<3	<3	----	----
>C16 - C34 Fraction	----	3	mg/kg		18	13	<3	----	----
>C34 - C40 Fraction	----	5	mg/kg		8	<5	<5	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		26	13	<3	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	<3	----	----
C10 - C14 Fraction	----	3	mg/kg		<3	<3	<3	----	----
C15 - C28 Fraction	----	3	mg/kg		8	7	<3	----	----
C29 - C36 Fraction	----	5	mg/kg		12	9	<5	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		20	16	<3	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	<3	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	<0.2	----	----
Toluene	108-88-3	0.2	mg/kg		----	----	<0.2	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	<0.2	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	<0.2	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	<0.2	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	<0.5	----	----
^ Sum of BTEX	----	0.2	mg/kg		----	----	<0.2	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	<1	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	<1	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	<0.5	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	<10	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	<10	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	<10.0	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	<10	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TRIPLICATE 3A	TRIPLICATE 3B	TRIP BLANK 4	----	----
			Client sampling date / time	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00	----	----
Compound	CAS Number	LOR	Unit	ES1503000-056	ES1503000-057	ES1503000-058	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued								
Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	----	----	----
Diazinon	333-41-5	10	µg/kg	<10	<10	----	----	----
Dichlorvos	62-73-7	10	µg/kg	<10	<10	----	----	----
Dimethoate	60-51-5	10	µg/kg	<10	<10	----	----	----
Ethion	563-12-2	10	µg/kg	<10	<10	----	----	----
Fenamiphos	22224-92-6	10	µg/kg	<10	<10	----	----	----
Fenthion	55-38-9	10	µg/kg	<10	<10	----	----	----
Malathion	121-75-5	10	µg/kg	<10	<10	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	----	----	----
Monocrotophos	6923-22-4	10	µg/kg	<10	<10	----	----	----
Parathion	56-38-2	10	µg/kg	<10	<10	----	----	----
Parathion-methyl	298-00-0	10	µg/kg	<10	<10	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	----	----	----
Prothiofos	34643-46-4	10	µg/kg	<10	<10	----	----	----
EP131A: Organochlorine Pesticides								
Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	----	----	----
beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	----	----	----
delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	----	----	----
Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	----	----	----
Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	----	----	----
Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	TRIPLICATE 3A	TRIPLICATE 3B	TRIP BLANK 4	----	----
				Client sampling date / time	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00	----	----
					ES1503000-056	ES1503000-057	ES1503000-058	----	----
EP131A: Organochlorine Pesticides - Continued									
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	<0.50	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	<0.50	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	<0.25	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	<0.50	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	<0.25	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	<0.25	----	----	----
^ **Total Chlordane (sum)**	----	0.25	µg/kg		<0.25	<0.25	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	<0.50	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	<5.0	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	<5	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	<5	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	<4	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	<4	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	<4	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	<4	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	<4	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	<4	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	<4	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	<4	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	<4	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	<4	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	<4	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	<4	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	<4	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TRIPLICATE 3A	TRIPLICATE 3B	TRIP BLANK 4	----	----
			Client sampling date / time	08-FEB-2015 15:00	08-FEB-2015 15:00	08-FEB-2015 15:00	----	----
Compound	CAS Number	LOR	Unit	ES1503000-056	ES1503000-057	ES1503000-058	----	----
EP132B: Polynuclear Aromatic Hydrocarbons - Continued								
Perylene	198-55-0	4	µg/kg	<4	<4	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	----	----	----
Coronene	191-07-1	5	µg/kg	<5	<5	----	----	----
^ Sum of PAHs	----	4	µg/kg	<4	<4	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	----	116	----	----
Toluene-D8	2037-26-5	0.1	%	----	----	120	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	----	113	----	----
EP090S: Organotin Surrogate								
Tripropyltin	----	0.1	%	86.2	85.1	----	----	----
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	67.6	71.2	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	55.0	63.7	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	63.2	75.5	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	93.9	84.0	----	----	----
Anthracene-d10	1719-06-8	0.1	%	110	104	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	105	97.3	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 3	----	----	----	----
				Client sampling date / time	08-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1503000-059	----	----	----	----
EG020T: Total Metals by ICP-MS									
Antimony	7440-36-0	0.001	mg/L		<0.001	----	----	----	----
Arsenic	7440-38-2	0.001	mg/L		<0.001	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	----	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	----	----	----	----
Manganese	7439-96-5	0.001	mg/L		<0.001	----	----	----	----
Nickel	7440-02-0	0.001	mg/L		<0.001	----	----	----	----
Silver	7440-22-4	0.001	mg/L		<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L		<0.005	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	----	----	----	----
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		<0.01	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	----	0.01	mg/L		<0.01	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		<0.01	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		<0.01	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L		<0.1	----	----	----	----
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser									
^ Total Nitrogen as N	----	0.1	mg/L		<0.1	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		<0.01	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	1	µg/L		<1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.5	µg/L		<0.5	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L		<0.5	----	----	----	----
beta-BHC	319-85-7	0.5	µg/L		<0.5	----	----	----	----
gamma-BHC	58-89-9	0.5	µg/L		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 3	----	----	----	----
				Client sampling date / time	08-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1503000-059	----	----	----	----
EP068A: Organochlorine Pesticides (OC) - Continued									
delta-BHC	319-86-8	0.5	µg/L		<0.5	----	----	----	----
Heptachlor	76-44-8	0.5	µg/L		<0.5	----	----	----	----
Aldrin	309-00-2	0.5	µg/L		<0.5	----	----	----	----
Heptachlor epoxide	1024-57-3	0.5	µg/L		<0.5	----	----	----	----
trans-Chlordane	5103-74-2	0.5	µg/L		<0.5	----	----	----	----
alpha-Endosulfan	959-98-8	0.5	µg/L		<0.5	----	----	----	----
cis-Chlordane	5103-71-9	0.5	µg/L		<0.5	----	----	----	----
Dieldrin	60-57-1	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDE	72-55-9	0.5	µg/L		<0.5	----	----	----	----
Endrin	72-20-8	0.5	µg/L		<0.5	----	----	----	----
beta-Endosulfan	33213-65-9	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDD	72-54-8	0.5	µg/L		<0.5	----	----	----	----
Endrin aldehyde	7421-93-4	0.5	µg/L		<0.5	----	----	----	----
Endosulfan sulfate	1031-07-8	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDT	50-29-3	2.0	µg/L		<2.0	----	----	----	----
Endrin ketone	53494-70-5	0.5	µg/L		<0.5	----	----	----	----
Methoxychlor	72-43-5	2.0	µg/L		<2.0	----	----	----	----
^ Total Chlordane (sum)	----	0.5	µg/L		<0.5	----	----	----	----
^ Sum of DDD + DDE + DDT	----	0.5	µg/L		<0.5	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L		<0.5	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.5	µg/L		<0.5	----	----	----	----
Demeton-S-methyl	919-86-8	0.5	µg/L		<0.5	----	----	----	----
Monocrotophos	6923-22-4	2.0	µg/L		<2.0	----	----	----	----
Dimethoate	60-51-5	0.5	µg/L		<0.5	----	----	----	----
Diazinon	333-41-5	0.5	µg/L		<0.5	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L		<0.5	----	----	----	----
Parathion-methyl	298-00-0	2.0	µg/L		<2.0	----	----	----	----
Malathion	121-75-5	0.5	µg/L		<0.5	----	----	----	----
Fenthion	55-38-9	0.5	µg/L		<0.5	----	----	----	----
Chlorpyrifos	2921-88-2	0.5	µg/L		<0.5	----	----	----	----
Parathion	56-38-2	2.0	µg/L		<2.0	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	µg/L		<0.5	----	----	----	----
Chlorfenvinphos	470-90-6	0.5	µg/L		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	RINSATE 3	----	----	----	----
			Client sampling date / time	08-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1503000-059	----	----	----	----
EP068B: Organophosphorus Pesticides (OP) - Continued								
Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	----	----	----	----
Fenamiphos	22224-92-6	0.5	µg/L	<0.5	----	----	----	----
Prothiofos	34643-46-4	0.5	µg/L	<0.5	----	----	----	----
Ethion	563-12-2	0.5	µg/L	<0.5	----	----	----	----
Carbophenothion	786-19-6	0.5	µg/L	<0.5	----	----	----	----
Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L	<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L	<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L	<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L	<1.0	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L	<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L	<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L	<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L	<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L	<50	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	RINSATE 3	----	----	----	----
			Client sampling date / time	08-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1503000-059	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L	<20	----	----	----	----
>C10 - C16 Fraction	>C10_C16	100	µg/L	<100	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L	<100	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L	<100	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L	<100	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L	<100	----	----	----	----
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	----	----	----	----
Toluene	108-88-3	2	µg/L	<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	----	----	----	----
^ **Total Xylenes**	1330-20-7	2	µg/L	<2	----	----	----	----
^ **Sum of BTEX**	----	1	µg/L	<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L	<5	----	----	----	----
EP090: Organotin Compounds								
Monobutyltin	78763-54-9	5	ngSn/L	<5	----	----	----	----
Dibutyltin	1002-53-5	5	ngSn/L	<5	----	----	----	----
Tributyltin	56573-85-4	2	ngSn/L	<2	----	----	----	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**95.4**	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**76.8**	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**65.5**	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	**35.3**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	**61.2**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	**51.4**	----	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**70.5**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**73.1**	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 3	----	----	----	----
				Client sampling date / time	08-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1503000-059	----	----	----	----
EP075(SIM)T: PAH Surrogates - Continued									
4-Terphenyl-d14	1718-51-0	0.1	%		73.9	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		108	----	----	----	----
Toluene-D8	2037-26-5	0.1	%		104	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		101	----	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		82.4	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
EP080-SD: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	67	137
Toluene-D8	2037-26-5	74	134
4-Bromofluorobenzene	460-00-4	73	137
EP090S: Organotin Surrogate			
Tripropyltin	----	35	130
EP130S: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	14.4	102
EP131S: OC Pesticide Surrogate			
Dibromo-DDE	21655-73-2	10	119
EP131T: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	10	106
EP132T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	55	135
Anthracene-d10	1719-06-8	70	136
4-Terphenyl-d14	1718-51-0	57	127

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	28.5	129
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	30	120
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	26.8	129
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10.0	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27.4	113
4-Terphenyl-d14	1718-51-0	32	112
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128
EP090S: Organotin Surrogate			
Tripropyltin	----	8.2	108

QUALITY CONTROL REPORT

Work Order	: **ES1503000**	Page	: 1 of 30
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 10-FEB-2015
Sampler	: GK	Issue Date	: 27-FEB-2015
Order number	: 245553		
		No. of samples received	: 59
Quote number	: SY/1021/14 V2	No. of samples analysed	: 59

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Dilani Fernando	Senior Inorganic Chemist	Melbourne Inorganics
Eric Chau	Metals Team Leader	Melbourne Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
		Sydney Organics
Peter Keyte	Newcastle Manager	Newcastle - Inorganics
Ryan Story	2IC Organic Instrument Chemist	Brisbane Organics
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils
Shobhna Chandra	Metals Coordinator	Sydney Inorganics

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA055: Moisture Content (QC Lot: 3825027)									
ES1503000-005	PC6 0.3V	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	33.2	33.4	0.6	0% - 20%
ES1503000-020	BE10 0.5-1.0A	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	49.6	51.5	3.8	0% - 20%
EA055: Moisture Content (QC Lot: 3825028)									
ES1503000-034	BE14 0.7V	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	48.0	49.2	2.4	0% - 20%
ES1503000-050	BE21 0.0-0.5A	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	23.0	25.5	10.5	0% - 20%
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3826977)									
ES1502850-054	Anonymous	EG005-SD: Aluminium	7429-90-5	50	mg/kg	17400	19000	8.7	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	31300	32400	3.5	0% - 20%
ES1503000-020	BE10 0.5-1.0A	EG005-SD: Aluminium	7429-90-5	50	mg/kg	18900	18100	4.3	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	32100	33000	2.8	0% - 20%
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3829114)									
ES1503000-051	BE21 0.5-1.0A	EG005-SD: Aluminium	7429-90-5	50	mg/kg	13000	12800	1.7	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	18500	18500	0.07	0% - 20%
ES1503080-020	Anonymous	EG005-SD: Aluminium	7429-90-5	50	mg/kg	4430	4320	2.6	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	12500	12400	1.3	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3826976)									
ES1502850-054	Anonymous	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.8	0.8	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	12.1	12.6	3.5	0% - 20%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	26.6	28.0	4.9	0% - 20%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	29.8	30.8	3.5	0% - 20%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	8.7	9.4	8.1	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	14.8	15.4	3.9	0% - 50%
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	56.0	57.4	2.5	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	12.8	12.8	0.1	0% - 50%
		EG020-SD: Manganese	7439-96-5	10	mg/kg	446	399	11.1	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	58.6	61.9	5.5	0% - 20%
ES1503000-020	BE10 0.5-1.0A	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	1.1	1.1	0.0	0% - 50%
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	0.1	0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	13.7	16.6	19.4	0% - 20%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	22.1	22.7	2.5	0% - 20%

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3826976) - continued									
ES1503000-020	BE10 0.5-1.0A	EG020-SD: Copper	7440-50-8	1.0	mg/kg	44.9	42.1	6.4	0% - 20%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	9.4	9.4	0.0	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	14.0	14.5	3.4	0% - 50%
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	41.8	42.2	0.9	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	8.24	12.0	37.4	0% - 50%
		EG020-SD: Manganese	7439-96-5	10	mg/kg	210	225	7.2	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	91.4	89.5	2.1	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3829113)									
ES1503000-051	BE21 0.5-1.0A	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	1.0	1.0	0.0	0% - 50%
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	0.5	0.4	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	6.5	7.1	8.6	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	19.8	19.4	1.7	0% - 50%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	25.0	23.8	5.2	0% - 20%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	9.4	9.5	0.0	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	6.7	7.1	5.9	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	23.1	23.1	0.0	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	6.98	7.49	7.0	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	105	145	32.0	0% - 50%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	50.4	49.8	1.0	0% - 20%
ES1503080-020	Anonymous	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.3	0.3	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	8.6	8.4	2.9	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	9.0	9.1	0.0	No Limit
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	3.4	3.3	0.0	No Limit
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	3.2	3.2	0.0	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	5.2	5.1	2.6	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	14.7	14.1	3.8	0% - 50%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	25.3	25.2	0.5	0% - 20%
		EG020-SD: Manganese	7439-96-5	10	mg/kg	1530	1500	2.1	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	35.2	33.8	4.3	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3826975)									
ES1502850-054	Anonymous	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	0.04	0.05	0.0	No Limit
ES1503000-020	BE10 0.5-1.0A	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	0.04	0.04	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3829112)									
ES1503000-051	BE21 0.5-1.0A	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	0.03	0.03	0.0	No Limit
ES1503080-020	Anonymous	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3828332)									
ES1503000-001	PC6 0.5-1.0A	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1503000-029	BE14 0.0-0.5A	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3828333)									
ES1503000-001	PC6 0.5-1.0A	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	0.2	0.1	0.0	No Limit
ES1503000-029	BE14 0.0-0.5A	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3824345)									
ES1502737-041	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	70	60	0.0	No Limit
ES1502902-002	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	700	770	9.8	0% - 20%
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3828825)									
ES1502604-008	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	650	790	19.2	0% - 20%
ES1503000-057	TRIPLICATE 3B	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	280	320	12.1	0% - 50%
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3824346)									
ES1502737-041	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	180	164	9.2	0% - 20%
ES1502902-002	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	292	320	9.2	0% - 20%
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3824348)									
ES1503000-030	BE14 0.5-1.0A	EK067G: Total Phosphorus as P	----	2	mg/kg	131	128	2.5	0% - 20%
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3828826)									
ES1502604-008	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	299	292	2.4	0% - 20%
ES1503000-057	TRIPLICATE 3B	EK067G: Total Phosphorus as P	----	2	mg/kg	210	198	5.8	0% - 20%
EK255A SD: Ammonia in Sediment (QC Lot: 3819565)									
ES1503000-001	PC6 0.5-1.0A	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	4.1	4.2	0.0	0% - 20%
ES1503000-030	BE14 0.5-1.0A	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	5.1	4.9	3.4	0% - 20%
EP003: Total Organic Carbon (TOC) in Soil (QC Lot: 3828186)									
ES1503000-001	PC6 0.5-1.0A	EP003: Total Organic Carbon	----	0.02	%	1.03	0.98	5.1	0% - 20%
ES1503000-030	BE14 0.5-1.0A	EP003: Total Organic Carbon	----	0.02	%	1.18	1.18	0.0	0% - 20%
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3819135)									
ES1503000-001	PC6 0.5-1.0A	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	19	18	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	30	29	3.4	0% - 50%
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	11	11	0.0	No Limit
ES1503000-030	BE14 0.5-1.0A	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	4	4	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	41	43	5.0	0% - 50%
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	68	70	2.9	0% - 20%
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	23	23	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3821455)									
ES1502902-001	Anonymous	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	3	4	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	20	20	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	31	33	6.2	0% - 50%

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3821455) - continued									
ES1502902-001	Anonymous	EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	8	9	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3818026)									
ES1503000-005	PC6 0.3V	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
ES1503000-033	BE14 0.3V	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3819135)									
ES1503000-001	PC6 0.5-1.0A	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	8	7	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	25	23	8.3	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	17	16	0.0	No Limit
ES1503000-030	BE14 0.5-1.0A	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	23	23	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	56	55	1.8	0% - 50%
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	33	32	4.6	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3821455)									
ES1502902-001	Anonymous	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	5	5	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	13	14	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	30	34	12.5	0% - 50%
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	12	15	20.6	No Limit
EP080-SD: BTEXN (QC Lot: 3818026)									
ES1503000-005	PC6 0.3V	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
ES1503000-033	BE14 0.3V	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP090: Organotin Compounds (QC Lot: 3824844)									
ES1503000-001	PC6 0.5-1.0A	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
ES1503000-030	BE14 0.5-1.0A	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3819112)									

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3819112) - continued									
ES1503000-001	PC6 0.5-1.0A	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
ES1503000-030	BE14 0.5-1.0A	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP131A: Organochlorine Pesticides (QC Lot: 3819113)									
ES1503000-001	PC6 0.5-1.0A	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
ES1503000-030	BE14 0.5-1.0A	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP131A: Organochlorine Pesticides (QC Lot: 3819113) - continued									
ES1503000-030	BE14 0.5-1.0A	EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 3819114)									
ES1503000-001	PC6 0.5-1.0A	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
ES1503000-030	BE14 0.5-1.0A	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3819134)									
ES1503000-001	PC6 0.5-1.0A	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3819134) - continued									
ES1503000-001	PC6 0.5-1.0A	EP132B-SD: Perylene	198-55-0	4	µg/kg	5	<4	23.2	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	5	<4	22.2	No Limit
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit
ES1503000-030	BE14 0.5-1.0A	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020T: Total Metals by ICP-MS (QC Lot: 3820455)									
EM1501294-006	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.0001	0.0	No Limit
		EG020A-T: Antimony	7440-36-0	0.001	mg/L	0.001	<0.001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.001	0.0	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Manganese	7439-96-5	0.001	mg/L	<0.001	<0.001	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG020T: Total Metals by ICP-MS (QC Lot: 3820455) - continued									
EM1501294-006	Anonymous	EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	0.005	0.006	0.0	No Limit
ES1503000-059	RINSATE 3	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Manganese	7439-96-5	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.005	0.0	No Limit
EG020T: Total Metals by ICP-MS (QC Lot: 3820458)									
ES1503000-059	RINSATE 3	EG020B-T: Silver	7440-22-4	0.001	mg/L	<0.001	<0.001	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3818674)									
EM1501288-001	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	0.0012	0.0015	22.4	0% - 50%
EK055G: Ammonia as N by Discrete Analyser (QC Lot: 3826048)									
ES1503000-059	RINSATE 3	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.01	0.0	No Limit
ES1503441-002	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	0.03	0.03	0.0	No Limit
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3819712)									
ES1503017-001	Anonymous	EK057G: Nitrite as N	----	0.01	mg/L	0.06	0.06	0.0	No Limit
EW1500497-006	Anonymous	EK057G: Nitrite as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3826047)									
ES1503000-059	RINSATE 3	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1503383-001	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	0.77	0.68	12.1	0% - 20%
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3826043)									
ES1503000-059	RINSATE 3	EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	<0.1	<0.1	0.0	No Limit
ES1503383-002	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	<0.1	<0.1	0.0	No Limit
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3826044)									
ES1503000-059	RINSATE 3	EK067G: Total Phosphorus as P	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1503383-002	Anonymous	EK067G: Total Phosphorus as P	----	0.01	mg/L	0.06	0.06	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3824869)									
ES1503225-004	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
ES1503253-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	350	340	0.0	0% - 50%
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3824869)									
ES1503225-004	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
ES1503253-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	370	370	0.0	0% - 50%
EP080: BTEXN (QC Lot: 3824869)									
ES1503225-004	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP080: BTEXN (QC Lot: 3824869) - continued									
ES1503225-004	Anonymous	EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
ES1503253-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	25	26	0.0	0% - 20%
		EP080: Toluene	108-88-3	2	µg/L	122	139	13.1	0% - 20%
		EP080: Ethylbenzene	100-41-4	2	µg/L	6	7	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	33	40	19.3	0% - 20%
		EP080: ortho-Xylene	95-47-6	2	µg/L	19	23	19.8	0% - 50%
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3826977)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	----	----	----	----
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	130	70	130
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3829114)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	120	86	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	87.0	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3826976)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	----	----	----	----
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	120	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	116	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	126	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	120	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	115	84	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	113	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	127	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	129	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	119	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	2.10 mg/kg	111	64	148
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	122	87	131
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	128	83	137
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3829113)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	----	----	----	----
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	109	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	106	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	120	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	110	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	114	84	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	102	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	125	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	118	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	115	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	2.10 mg/kg	131	64	148
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	119	87	131

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3829113) - continued								
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	118	83	137
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3826975)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.110 mg/kg	108	72	116
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3829112)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.110 mg/kg	83.2	72	116
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3828332)								
EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	90.7	82	120
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3828333)								
EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	106	89	115
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3824345)								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	<20	1000 mg/kg	95.9	64	114
				----	500 mg/kg	104	70	122
				----	100 mg/kg	100	70	127
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3828825)								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	----	100 mg/kg	91.5	70	127
				<20	1000 mg/kg	89.0	64	114
				----	500 mg/kg	100	70	122
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3824346)								
EK067G: Total Phosphorus as P	----	2	mg/kg	----	44.2 mg/kg	99.5	64	124
				<2	442 mg/kg	98.4	68	116
				----	100 mg/kg	103	69	123
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3824348)								
EK067G: Total Phosphorus as P	----	2	mg/kg	<2	442 mg/kg	93.4	68	116
				----	44.2 mg/kg	97.3	64	124
				----	100 mg/kg	100	69	123
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3828826)								
EK067G: Total Phosphorus as P	----	2	mg/kg	----	100 mg/kg	101	69	123
				<2	442 mg/kg	90.2	68	116
				----	44.2 mg/kg	87.4	64	124
EK255A SD: Ammonia in Sediment (QCLot: 3819565)								
EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	<0.2	0.1 mg/kg	101	70	130
EP003: Total Organic Carbon (TOC) in Soil (QCLot: 3828186)								
EP003: Total Organic Carbon	----	0.02	%	<0.02	0.44 %	101	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3819135)								
EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	6.25 mg/kg	96.4	70	130
EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	8.75 mg/kg	102	74	138

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3819135) - continued								
EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	3.75 mg/kg	99.4	63	131
EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3821455)								
EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	6.25 mg/kg	86.3	70	130
EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	8.75 mg/kg	99.4	74	138
EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	3.75 mg/kg	118	63	131
EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3818026)								
EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	6.2 mg/kg	99.7	61	133
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3819135)								
EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	5 mg/kg	97.2	78	118
EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	7.5 mg/kg	102	84	118
EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	5 mg/kg	103	73	119
EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821455)								
EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	5 mg/kg	88.7	78	118
EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	7.5 mg/kg	93.1	84	118
EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	5 mg/kg	108	73	119
EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD: BTEXN (QCLot: 3818026)								
EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	0.2 mg/kg	108	66	122
EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	0.2 mg/kg	111	69	122
EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.2 mg/kg	117	66	126
EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	0.4 mg/kg	119	59	129
EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.2 mg/kg	115	66	126
EP090: Organotin Compounds (QCLot: 3824844)								
EP090: Monobutyltin	78763-54-9	1.0	µgSn/kg	<1	1.25 µgSn/kg	103	36	128
EP090: Dibutyltin	1002-53-5	1.0	µgSn/kg	<1	1.25 µgSn/kg	94.0	42	132
EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	1.25 µgSn/kg	114	52	139
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3819112)								
EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	50 µg/kg	79.0	45	139
EP130: Carbophenothion	786-19-6	10	µg/kg	<10	50 µg/kg	77.2	47	117
EP130: Chlorfenvinphos (E)	18708-86-6	10	µg/kg	<10.0	5 µg/kg	76.6	48	156
EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	50 µg/kg	84.4	62	136
EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	50 µg/kg	74.2	57	137

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3819112) - continued								
EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	50 µg/kg	76.6	57	121
EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	50 µg/kg	71.4	20.4	142
EP130: Diazinon	333-41-5	10	µg/kg	<10	50 µg/kg	78.2	57	121
EP130: Dichlorvos	62-73-7	10	µg/kg	<10	50 µg/kg	85.1	47	115
EP130: Dimethoate	60-51-5	10	µg/kg	<10	50 µg/kg	85.6	55	133
EP130: Ethion	563-12-2	10	µg/kg	<10	50 µg/kg	84.2	54	130
EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	50 µg/kg	82.7	57	131
EP130: Fenthion	55-38-9	10	µg/kg	<10	50 µg/kg	72.0	38	130
EP130: Malathion	121-75-5	10	µg/kg	<10	50 µg/kg	83.8	62	138
EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	50 µg/kg	98.7	33	137
EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	50 µg/kg	90.4	50	148
EP130: Parathion	56-38-2	10	µg/kg	<10	50 µg/kg	75.2	64	140
EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	50 µg/kg	79.9	56	136
EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	50 µg/kg	76.2	50	132
EP130: Prothiofos	34643-46-4	10	µg/kg	<10	50 µg/kg	76.8	55	135
EP131A: Organochlorine Pesticides (QCLot: 3819113)								
EP131A: Aldrin	309-00-2	0.5	µg/kg	<0.50	5 µg/kg	43.8	38	150
EP131A: alpha-BHC	319-84-6	0.5	µg/kg	<0.50	5 µg/kg	65.7	17.6	156
EP131A: beta-BHC	319-85-7	0.5	µg/kg	<0.50	5 µg/kg	50.5	30.5	152
EP131A: delta-BHC	319-86-8	0.5	µg/kg	<0.50	5 µg/kg	76.3	37	151
EP131A: 4.4`-DDD	72-54-8	0.5	µg/kg	<0.50	5 µg/kg	106	25.9	150
EP131A: 4.4`-DDE	72-55-9	0.5	µg/kg	<0.50	5 µg/kg	83.1	35	129
EP131A: 4.4`-DDT	50-29-3	0.5	µg/kg	<0.50	5 µg/kg	87.4	23.4	163
EP131A: Sum of DDD + DDE + DDT	----	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Dieldrin	60-57-1	0.5	µg/kg	<0.50	5 µg/kg	44.7	30.2	140
EP131A: alpha-Endosulfan	959-98-8	0.5	µg/kg	<0.50	5 µg/kg	46.1	38	140
EP131A: beta-Endosulfan	33213-65-9	0.5	µg/kg	<0.50	5 µg/kg	41.7	32	152
EP131A: Endosulfan sulfate	1031-07-8	0.5	µg/kg	<0.50	5 µg/kg	47.6	36	162
EP131A: Endosulfan (sum)	115-29-7	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Endrin	72-20-8	0.5	µg/kg	<0.50	5 µg/kg	62.9	25.8	166
EP131A: Endrin aldehyde	7421-93-4	0.5	µg/kg	<0.50	5 µg/kg	71.3	20.1	116
EP131A: Endrin ketone	53494-70-5	0.5	µg/kg	<0.50	5 µg/kg	44.9	13.4	151
EP131A: Heptachlor	76-44-8	0.5	µg/kg	<0.50	5 µg/kg	85.1	39	173
EP131A: Heptachlor epoxide	1024-57-3	0.5	µg/kg	<0.50	5 µg/kg	42.5	34	148
EP131A: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/kg	<0.50	5 µg/kg	41.2	26.1	152
EP131A: gamma-BHC	58-89-9	0.5	µg/kg	<0.50	5 µg/kg	58.0	31.2	159
EP131A: Methoxychlor	72-43-5	0.5	µg/kg	<0.50	5 µg/kg	44.6	36	160

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP131A: Organochlorine Pesticides (QCLot: 3819113) - continued								
EP131A: cis-Chlordane	5103-71-9	0.5	µg/kg	<0.50	5 µg/kg	38.1	36	142
EP131A: trans-Chlordane	5103-74-2	0.5	µg/kg	<0.50	5 µg/kg	68.5	29.5	138
EP131A: Total Chlordane (sum)	----	0.5	µg/kg	<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3819114)								
EP131B: Total Polychlorinated biphenyls	----	5	µg/kg	<5.0	50 µg/kg	91.6	44	136
EP131B: Aroclor 1016	12674-11-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1221	11104-28-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1232	11141-16-5	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1242	53469-21-9	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1248	12672-29-6	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1254	11097-69-1	5	µg/kg	<5.0	50 µg/kg	91.6	44	136
EP131B: Aroclor 1260	11096-82-5	5	µg/kg	<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3819134)								
EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	25 µg/kg	109	67	133
EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	25 µg/kg	107	63	135
EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	25 µg/kg	108	68	132
EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	25 µg/kg	122	67	133
EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	25 µg/kg	106	69	131
EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	25 µg/kg	107	66	138
EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	25 µg/kg	107	67	133
EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	25 µg/kg	104	64	130
EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	25 µg/kg	124	67	133
EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	25 µg/kg	103	65	133
EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	25 µg/kg	103	70	134
EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	25 µg/kg	80.0	63	133
EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	25 µg/kg	99.3	67	133
EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	25 µg/kg	85.1	64	130
EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	25 µg/kg	87.1	72	130
EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	25 µg/kg	87.5	70	132
EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	25 µg/kg	86.8	65	127
EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	25 µg/kg	87.8	67	135
EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	25 µg/kg	84.0	62	126
EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	25 µg/kg	102	66	134
EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	----	----	----	----

Sub-Matrix: **WATER**

		Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
			Spike	Spike Recovery (%)	Recovery Limits (%)

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 3820455)								
EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	0.1 mg/L	106	90	114
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	104	94	116
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	108	90	110
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	100	90	110
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	108	91	109
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	106	91	111
EG020A-T: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	104	91	111
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	106	91	111
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	98.0	91	109
EG020T: Total Metals by ICP-MS (QCLot: 3820458)								
EG020B-T: Silver	7440-22-4	0.001	mg/L	<0.001	0.01 mg/L	100	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3818674)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.0100 mg/L	99.6	87	113
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3826048)								
EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	1.0 mg/L	96.2	86	112
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3819712)								
EK057G: Nitrite as N	----	0.01	mg/L	<0.01	0.5 mg/L	92.2	83	119
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3826047)								
EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	0.5 mg/L	104	87	119
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3826043)								
EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	----	1.0 mg/L	97.5	66	126
				----	5 mg/L	105	66	119
				<0.1	10 mg/L	89.7	66	114
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3826044)								
EK067G: Total Phosphorus as P	----	0.01	mg/L	<0.01	4.42 mg/L	94.3	67	117
				----	1.0 mg/L	106	66	124
				----	0.442 mg/L	94.1	63	123
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3819300)								
EP066: Total Polychlorinated biphenyls	----	1	µg/L	<1	10 µg/L	76.8	61.6	107
EP068A: Organochlorine Pesticides (OC) (QCLot: 3819299)								
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	5 µg/L	91.7	65	107
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	5 µg/L	92.8	51	119
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	5 µg/L	89.6	63	113
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	5 µg/L	90.6	62	112
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	5 µg/L	102	60	106
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	5 µg/L	79.1	58	108

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 3819299) - continued								
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	5 µg/L	95.0	58	114
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	5 µg/L	104	59	111
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	5 µg/L	108	62	114
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	5 µg/L	85.9	64	114
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	5 µg/L	101	62	114
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	5 µg/L	107	59	111
EP068: 4.4`-DDE	72-55-9	0.5	µg/L	<0.5	5 µg/L	99.5	63	111
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	5 µg/L	109	61	119
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	5 µg/L	99.3	71	119
EP068: 4.4`-DDD	72-54-8	0.5	µg/L	<0.5	5 µg/L	108	70	118
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	5 µg/L	89.8	62	112
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	5 µg/L	96.3	53	113
EP068: 4.4`-DDT	50-29-3	2.0	µg/L	<2.0	5 µg/L	88.4	52	120
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	5 µg/L	101	51	117
EP068: Methoxychlor	72-43-5	2.0	µg/L	<2.0	5 µg/L	69.7	53	127
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3819299)								
EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	5 µg/L	93.1	52	122
EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	5 µg/L	84.4	51	123
EP068: Monocrotophos	6923-22-4	0.5	µg/L	<2.0	5 µg/L	35.5	10	89.1
EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	5 µg/L	79.9	61	119
EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	5 µg/L	97.5	67	113
EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	5 µg/L	102	60	116
EP068: Parathion-methyl	298-00-0	2.0	µg/L	<2.0	5 µg/L	91.7	64	120
EP068: Malathion	121-75-5	0.5	µg/L	<0.5	5 µg/L	101	67	115
EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	5 µg/L	108	64	110
EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	5 µg/L	97.8	63	109
EP068: Parathion	56-38-2	2.0	µg/L	<2.0	5 µg/L	107	63	121
EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	5 µg/L	96.6	60	110
EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	5 µg/L	103	68	114
EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	5 µg/L	102	61	109
EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	5 µg/L	101	63	117
EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	5 µg/L	95.8	63	111
EP068: Ethion	563-12-2	0.5	µg/L	<0.5	5 µg/L	110	65	115
EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	5 µg/L	89.5	55	115
EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	5 µg/L	80.0	44	124
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3819302)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3819302) - continued								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	<1.0	5 µg/L	83.2	58.6	119
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	<1.0	5 µg/L	93.4	63.6	114
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	<1.0	5 µg/L	85.3	62.2	113
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	<1.0	5 µg/L	95.8	63.9	115
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	<1.0	5 µg/L	98.5	62.6	116
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	<1.0	5 µg/L	101	64.3	116
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	<1.0	5 µg/L	93.0	63.6	118
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	<1.0	5 µg/L	96.5	63.1	118
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	<1.0	5 µg/L	98.2	64.1	117
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	<1.0	5 µg/L	93.4	62.5	116
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.2	µg/L	<1.0	5 µg/L	91.1	61.7	119
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	<1.0	5 µg/L	80.6	61.7	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	<0.5	5 µg/L	101	63.3	117
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.2	µg/L	<1.0	5 µg/L	89.0	59.9	118
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.2	µg/L	<1.0	5 µg/L	87.4	61.2	117
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.2	µg/L	<1.0	5 µg/L	88.6	59.1	118
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3819301)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	2000 µg/L	104	59	129
EP071: C15 - C28 Fraction	----	100	µg/L	<100	3000 µg/L	96.0	71	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	2000 µg/L	104	62	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3824869)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	97.2	75	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3819301)								
EP071: >C10 - C16 Fraction	>C10_C16	100	µg/L	<100	2500 µg/L	86.5	58.9	131
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	3500 µg/L	102	73.9	138
EP071: >C34 - C40 Fraction	----	50	µg/L	<100	1500 µg/L	99.9	67	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3824869)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	99.1	75	127
EP080: BTEXN (QCLot: 3824869)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	93.3	70	124
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	96.4	65	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	92.1	70	120
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	90.3	69	121
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	92.6	72	122
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	96.8	70	124

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP090: Organotin Compounds (QCLot: 3820968)								
EP090H: Monobutyltin	78763-54-9	2	ngSn/L	<5	50 ngSn/L	69.9	25	139
EP090H: Dibutyltin	1002-53-5	2	ngSn/L	<5	50 ngSn/L	69.7	50	114
EP090H: Tributyltin	56573-85-4	1	ngSn/L	<2	50 ngSn/L	64.7	39	120

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3826976)							
ES1502902-001	Anonymous	EG020-SD: Arsenic	7440-38-2	50 mg/kg	116	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	113	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	122	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	115	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	106	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	116	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	113	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3829113)							
ES1503000-056	TRIPLICATE 3A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	101	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	102	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	118	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	104	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	96.2	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	102	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	106	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3826975)							
ES1502850-054	Anonymous	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	104	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3829112)							
ES1503000-051	BE21 0.5-1.0A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	96.6	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3828332)							
ES1503000-001	PC6 0.5-1.0A	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	98.2	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3828333)							
ES1503000-001	PC6 0.5-1.0A	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	102	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3824345)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3824345) - continued							
ES1502737-041	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	88.6	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3828825)							
ES1502604-008	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	100	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3824346)							
ES1502737-041	Anonymous	EK067G: Total Phosphorus as P	----	100 mg/kg	103	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3824348)							
ES1503000-030	BE14 0.5-1.0A	EK067G: Total Phosphorus as P	----	100 mg/kg	82.4	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3828826)							
ES1502604-008	Anonymous	EK067G: Total Phosphorus as P	----	100 mg/kg	96.7	70	130
EK255A SD: Ammonia in Sediment (QCLot: 3819565)							
ES1503000-001	PC6 0.5-1.0A	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	# Not Determined	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3818026)							
ES1503000-005	PC6 0.3V	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	87.6	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3819135)							
ES1503000-001	PC6 0.5-1.0A	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	104	70	130
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	91.0	70	130
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	84.2	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821455)							
ES1502902-001	Anonymous	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	124	70	130
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	95.8	70	130
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	101	70	130
EP080-SD: BTEXN (QCLot: 3818026)							
ES1503000-005	PC6 0.3V	EP080-SD: Benzene	71-43-2	0.5 mg/kg	72.4	70	130
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	86.9	70	130
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	102	70	130
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	100	70	130
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	101	70	130
EP090: Organotin Compounds (QCLot: 3824844)							
ES1503000-002	PC6 0.0-0.5A	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	# 10.0	35	130
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	55.7	20	130
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	97.4	20	130
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3819112)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3819112) - continued							
ES1503000-001	PC6 0.5-1.0A	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	71.2	36	144
		EP130: Carbophenothion	786-19-6	50 µg/kg	73.1	38	120
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	144	49	157
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	73.0	53	145
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	80.1	60	140
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	76.3	56	126
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	74.1	9.7	148
		EP130: Diazinon	333-41-5	50 µg/kg	72.3	60	122
		EP130: Dichlorvos	62-73-7	50 µg/kg	76.2	33	123
		EP130: Dimethoate	60-51-5	50 µg/kg	75.9	36	142
		EP130: Ethion	563-12-2	50 µg/kg	68.9	48	136
		EP130: Fenamiphos	22224-92-6	50 µg/kg	69.4	42	136
		EP130: Fenthion	55-38-9	50 µg/kg	81.9	35	131
		EP130: Malathion	121-75-5	50 µg/kg	74.9	55	141
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	74.0	23.5	132
		EP130: Monocrotophos	6923-22-4	50 µg/kg	77.7	35	153
		EP130: Parathion	56-38-2	50 µg/kg	72.9	57	147
		EP130: Parathion-methyl	298-00-0	50 µg/kg	84.5	48	140
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	71.7	45	137
		EP130: Prothiofos	34643-46-4	50 µg/kg	90.1	51	137
EP131A: Organochlorine Pesticides (QCLot: 3819113)							
ES1503000-001	PC6 0.5-1.0A	EP131A: Aldrin	309-00-2	5 µg/kg	83.1	23.4	153
		EP131A: alpha-BHC	319-84-6	5 µg/kg	44.5	17.6	156
		EP131A: beta-BHC	319-85-7	5 µg/kg	43.2	24.9	153
		EP131A: delta-BHC	319-86-8	5 µg/kg	85.0	25.2	147
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	93.1	25.9	150
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	46.6	31.2	125
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	100	23.4	163
		EP131A: Dieldrin	60-57-1	5 µg/kg	37.6	30.2	140
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	39.6	28.8	135
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	41.4	22.6	141
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	50.4	16.1	156
		EP131A: Endrin	72-20-8	5 µg/kg	84.2	17.7	162
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	48.0	20.1	116
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	50.1	13.4	151
		EP131A: Heptachlor	76-44-8	5 µg/kg	40.3	23.8	170
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	50.4	28.3	140

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Recovery Limits (%): Low	Recovery Limits (%): High
EP131A: Organochlorine Pesticides (QCLot: 3819113) - continued							
ES1503000-001	PC6 0.5-1.0A	EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	53.4	17.7	144
		EP131A: gamma-BHC	58-89-9	5 µg/kg	52.8	21.8	158
		EP131A: Methoxychlor	72-43-5	5 µg/kg	58.1	24.4	158
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	50.4	27.3	139
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	54.5	29.5	138
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3819114)							
ES1503000-001	PC6 0.5-1.0A	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	85.8	44	136
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	85.8	44	136
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3819134)							
ES1503000-001	PC6 0.5-1.0A	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	80.3	70	130
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	90.0	70	130
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	87.7	70	130
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	88.8	70	130
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	94.0	70	130
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	81.2	70	130
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	90.4	70	130
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	85.2	70	130
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	92.7	70	130
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	82.6	70	130
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	87.0	70	130
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	86.9	70	130
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	78.3	70	130
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	87.1	70	130
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	87.2	70	130
		EP132B-SD: Perylene	198-55-0	25 µg/kg	81.7	70	130
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	89.5	70	130
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	90.1	70	130
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	87.5	70	130
		EP132B-SD: Coronene	191-07-1	25 µg/kg	107	70	130

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 3820455)							
EM1501294-006	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	106	82	118
		EG020A-T: Cadmium	7440-43-9	0.25 mg/L	105	75	129

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 3820455) - continued							
EM1501294-006	Anonymous	EG020A-T: Chromium	7440-47-3	1 mg/L	114	80	118
		EG020A-T: Copper	7440-50-8	1 mg/L	108	81	115
		EG020A-T: Lead	7439-92-1	1 mg/L	106	83	121
		EG020A-T: Manganese	7439-96-5	1 mg/L	108	73	123
		EG020A-T: Nickel	7440-02-0	1 mg/L	108	80	118
		EG020A-T: Zinc	7440-66-6	1 mg/L	104	74	116
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3818674)							
EM1501329-002	Anonymous	EG035T: Mercury	7439-97-6	0.0100 mg/L	98.9	70	130
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3826048)							
ES1503000-059	RINSATE 3	EK055G: Ammonia as N	7664-41-7	1 mg/L	97.2	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3819712)							
ES1503017-001	Anonymous	EK057G: Nitrite as N	----	0.5 mg/L	95.0	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3826047)							
ES1503000-059	RINSATE 3	EK059G: Nitrite + Nitrate as N	----	0.5 mg/L	103	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3826043)							
ES1503080-044	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	5 mg/L	105	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3826044)							
ES1503080-044	Anonymous	EK067G: Total Phosphorus as P	----	1.0 mg/L	105	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3824869)							
ES1503225-004	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	94.4	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3824869)							
ES1503225-004	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	96.3	70	130
EP080: BTEXN (QCLot: 3824869)							
ES1503225-004	Anonymous	EP080: Benzene	71-43-2	25 µg/L	82.0	70	130
		EP080: Toluene	108-88-3	25 µg/L	84.8	70	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	87.6	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	89.5	70	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	90.4	70	130
		EP080: Naphthalene	91-20-3	25 µg/L	94.0	70	130

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

The quality control term Matrix Spike (MS) and Matrix Spike Duplicate (MSD) refers to intralaboratory split samples spiked with a representative set of target analytes. The purpose of these QC parameters are to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3818026)										
ES1503000-005	PC6 0.3V	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	87.6	----	70	130	----	----
EP080-SD: BTEXN (QCLot: 3818026)										
ES1503000-005	PC6 0.3V	EP080-SD: Benzene	71-43-2	0.5 mg/kg	72.4	----	70	130	----	----
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	86.9	----	70	130	----	----
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	102	----	70	130	----	----
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	100	----	70	130	----	----
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	101	----	70	130	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3819112)										
ES1503000-001	PC6 0.5-1.0A	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	71.2	----	36	144	----	----
		EP130: Carbophenothion	786-19-6	50 µg/kg	73.1	----	38	120	----	----
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	144	----	49	157	----	----
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	73.0	----	53	145	----	----
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	80.1	----	60	140	----	----
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	76.3	----	56	126	----	----
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	74.1	----	9.7	148	----	----
		EP130: Diazinon	333-41-5	50 µg/kg	72.3	----	60	122	----	----
		EP130: Dichlorvos	62-73-7	50 µg/kg	76.2	----	33	123	----	----
		EP130: Dimethoate	60-51-5	50 µg/kg	75.9	----	36	142	----	----
		EP130: Ethion	563-12-2	50 µg/kg	68.9	----	48	136	----	----
		EP130: Fenamiphos	22224-92-6	50 µg/kg	69.4	----	42	136	----	----
		EP130: Fenthion	55-38-9	50 µg/kg	81.9	----	35	131	----	----
		EP130: Malathion	121-75-5	50 µg/kg	74.9	----	55	141	----	----
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	74.0	----	23.5	132	----	----
		EP130: Monocrotophos	6923-22-4	50 µg/kg	77.7	----	35	153	----	----
		EP130: Parathion	56-38-2	50 µg/kg	72.9	----	57	147	----	----
		EP130: Parathion-methyl	298-00-0	50 µg/kg	84.5	----	48	140	----	----
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	71.7	----	45	137	----	----
		EP130: Prothiofos	34643-46-4	50 µg/kg	90.1	----	51	137	----	----
EP131A: Organochlorine Pesticides (QCLot: 3819113)										
ES1503000-001	PC6 0.5-1.0A	EP131A: Aldrin	309-00-2	5 µg/kg	83.1	----	23.4	153	----	----
		EP131A: alpha-BHC	319-84-6	5 µg/kg	44.5	----	17.6	156	----	----
		EP131A: beta-BHC	319-85-7	5 µg/kg	43.2	----	24.9	153	----	----
		EP131A: delta-BHC	319-86-8	5 µg/kg	85.0	----	25.2	147	----	----
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	93.1	----	25.9	150	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP131A: Organochlorine Pesticides (QCLot: 3819113) - continued										
ES1503000-001	PC6 0.5-1.0A	EP131A: 4.4`-DDE	72-55-9	5 µg/kg	46.6	----	31.2	125	----	----
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	100	----	23.4	163	----	----
		EP131A: Dieldrin	60-57-1	5 µg/kg	37.6	----	30.2	140	----	----
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	39.6	----	28.8	135	----	----
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	41.4	----	22.6	141	----	----
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	50.4	----	16.1	156	----	----
		EP131A: Endrin	72-20-8	5 µg/kg	84.2	----	17.7	162	----	----
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	48.0	----	20.1	116	----	----
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	50.1	----	13.4	151	----	----
		EP131A: Heptachlor	76-44-8	5 µg/kg	40.3	----	23.8	170	----	----
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	50.4	----	28.3	140	----	----
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	53.4	----	17.7	144	----	----
		EP131A: gamma-BHC	58-89-9	5 µg/kg	52.8	----	21.8	158	----	----
		EP131A: Methoxychlor	72-43-5	5 µg/kg	58.1	----	24.4	158	----	----
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	50.4	----	27.3	139	----	----
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	54.5	----	29.5	138	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3819114)										
ES1503000-001	PC6 0.5-1.0A	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	85.8	----	44	136	----	----
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	85.8	----	44	136	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3819134)										
ES1503000-001	PC6 0.5-1.0A	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	80.3	----	70	130	----	----
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	90.0	----	70	130	----	----
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	87.7	----	70	130	----	----
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	88.8	----	70	130	----	----
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	94.0	----	70	130	----	----
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	81.2	----	70	130	----	----
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	90.4	----	70	130	----	----
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	85.2	----	70	130	----	----
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	92.7	----	70	130	----	----
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	82.6	----	70	130	----	----
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	87.0	----	70	130	----	----
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	86.9	----	70	130	----	----
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	78.3	----	70	130	----	----
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	87.1	----	70	130	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3819134) - continued										
ES1503000-001	PC6 0.5-1.0A	EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	87.2	----	70	130	----	----
		EP132B-SD: Perylene	198-55-0	25 µg/kg	81.7	----	70	130	----	----
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	89.5	----	70	130	----	----
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	90.1	----	70	130	----	----
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	87.5	----	70	130	----	----
		EP132B-SD: Coronene	191-07-1	25 µg/kg	107	----	70	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3819135)										
ES1503000-001	PC6 0.5-1.0A	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	104	----	70	130	----	----
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	91.0	----	70	130	----	----
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	84.2	----	70	130	----	----
EK255A SD: Ammonia in Sediment (QCLot: 3819565)										
ES1503000-001	PC6 0.5-1.0A	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	# Not Determined	----	70	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821455)										
ES1502902-001	Anonymous	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	124	----	70	130	----	----
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	95.8	----	70	130	----	----
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	101	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3824345)										
ES1502737-041	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	88.6	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3824346)										
ES1502737-041	Anonymous	EK067G: Total Phosphorus as P	----	100 mg/kg	103	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3824348)										
ES1503000-030	BE14 0.5-1.0A	EK067G: Total Phosphorus as P	----	100 mg/kg	82.4	----	70	130	----	----
EP090: Organotin Compounds (QCLot: 3824844)										
ES1503000-002	PC6 0.0-0.5A	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	# 10.0	----	35	130	----	----
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	55.7	----	20	130	----	----
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	97.4	----	20	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3826975)										
ES1502850-054	Anonymous	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	104	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3826976)										
ES1502902-001	Anonymous	EG020-SD: Arsenic	7440-38-2	50 mg/kg	116	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	113	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	122	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	115	----	70	130	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3826976) - continued										
ES1502902-001	Anonymous	EG020-SD: Lead	7439-92-1	250 mg/kg	106	----	70	130	----	----
		EG020-SD: Nickel	7440-02-0	50 mg/kg	116	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	113	----	70	130	----	----
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3828332)										
ES1503000-001	PC6 0.5-1.0A	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	98.2	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3828333)										
ES1503000-001	PC6 0.5-1.0A	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	102	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3828825)										
ES1502604-008	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	100	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3828826)										
ES1502604-008	Anonymous	EK067G: Total Phosphorus as P	----	100 mg/kg	96.7	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3829112)										
ES1503000-051	BE21 0.5-1.0A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	96.6	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3829113)										
ES1503000-056	TRIPLICATE 3A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	101	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	102	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	118	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	104	----	70	130	----	----
		EG020-SD: Lead	7439-92-1	250 mg/kg	96.2	----	70	130	----	----
		EG020-SD: Nickel	7440-02-0	50 mg/kg	102	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	106	----	70	130	----	----

Sub-Matrix: **WATER**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3818674)										
EM1501329-002	Anonymous	EG035T: Mercury	7439-97-6	0.0100 mg/L	98.9	----	70	130	----	----
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3819712)										
ES1503017-001	Anonymous	EK057G: Nitrite as N	----	0.5 mg/L	95.0	----	70	130	----	----
EG020T: Total Metals by ICP-MS (QCLot: 3820455)										
EM1501294-006	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	106	----	82	118	----	----
		EG020A-T: Cadmium	7440-43-9	0.25 mg/L	105	----	75	129	----	----
		EG020A-T: Chromium	7440-47-3	1 mg/L	114	----	80	118	----	----
		EG020A-T: Copper	7440-50-8	1 mg/L	108	----	81	115	----	----
		EG020A-T: Lead	7439-92-1	1 mg/L	106	----	83	121	----	----

Sub-Matrix: **WATER**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EG020T: Total Metals by ICP-MS (QCLot: 3820455) - continued										
EM1501294-006	Anonymous	EG020A-T: Manganese	7439-96-5	1 mg/L	108	----	73	123	----	----
		EG020A-T: Nickel	7440-02-0	1 mg/L	108	----	80	118	----	----
		EG020A-T: Zinc	7440-66-6	1 mg/L	104	----	74	116	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3824869)										
ES1503225-004	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	94.4	----	70	130	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3824869)										
ES1503225-004	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	96.3	----	70	130	----	----
EP080: BTEXN (QCLot: 3824869)										
ES1503225-004	Anonymous	EP080: Benzene	71-43-2	25 µg/L	82.0	----	70	130	----	----
		EP080: Toluene	108-88-3	25 µg/L	84.8	----	70	130	----	----
		EP080: Ethylbenzene	100-41-4	25 µg/L	87.6	----	70	130	----	----
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	89.5	----	70	130	----	----
		EP080: ortho-Xylene	95-47-6	25 µg/L	90.4	----	70	130	----	----
		EP080: Naphthalene	91-20-3	25 µg/L	94.0	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3826043)										
ES1503080-044	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	5 mg/L	105	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3826044)										
ES1503080-044	Anonymous	EK067G: Total Phosphorus as P	----	1.0 mg/L	105	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3826047)										
ES1503000-059	RINSATE 3	EK059G: Nitrite + Nitrate as N	----	0.5 mg/L	103	----	70	130	----	----
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3826048)										
ES1503000-059	RINSATE 3	EK055G: Ammonia as N	7664-41-7	1 mg/L	97.2	----	70	130	----	----

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1503000**	Page	: 1 of 19
Client	: AURECON AUSTRALASIA PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 10-FEB-2015
Sampler	: GK	Issue Date	: 27-FEB-2015
Order number	: 245553		
		No. of samples received	: 59
Quote number	: SY/1021/14 V2	No. of samples analysed	: 59

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with recommended holding times (USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content							
Soil Glass Jar - Unpreserved (EA055-103)							
PC6 0.5-1.0A, PC6 0.0-0.5A, PC6 0.3V, PC6 0.7V, PC7 0.0-0.5A, PC7 0.5-1.0A, PC7 0.3V, PC7 0.7V, BE7 0.0-0.5A, BE7 0.5-1.0A, BE7 0.3V, BE7 0.7V, BE10 0.0-0.5A, BE10 0.5-1.0A, BE10 0.3V, BE10 0.7V, PC11 0.0-0.5A, PC11 0.3V, PC11 0.7V, BE14 0.0-0.5A, BE14 0.5-1.0A, BE14 0.3V, BE14 0.7V, BE15 0.0-0.5A, BE15 0.5-1.0A, BE15 0.3V, BE14 0.7V, BE19 0.0-0.5A, BE19 0.3V, BE20 0.0-0.5A, BE20 0.5-1.0A, BE20 0.3V, BE20 0.7V, BE21 0.0-0.5A, BE21 0.5-1.0A, BE21 0.3V, BE21 0.7V, TRIPLICATE 3A, TRIPLICATE 3B	**08-FEB-2015**	**----**	----	----	**16-FEB-2015**	22-FEB-2015	✓
EA150: Particle Sizing							
Snap Lock Bag - Separate bag received (EA150H)							
PC6 0.0-0.5B, PC6 0.5-1.0B, PC7 0.0-0.5B, PC7 0.5-1.0B, BE7 0.0-0.5B, BE7 0.5-1.0B, BE10 0.0-0.5B, BE10 0.5-1.0B, PC11 0.0-0.5B, BE14 0.0-0.5B, BE14 0.5-1.0B, BE15 0.0-0.5B, BE15 0.5-1.0B, BE19 0.0-0.5B, BE20 0.5-1.0B, BE20 0.0-0.5B, BE21 0.0-0.5B, BE21 0.5-1.0B	**10-FEB-2015**	**---**	09-AUG-2015	----	**24-FEB-2015**	09-AUG-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA150: Soil Classification based on Particle Size								
Snap Lock Bag - Separate bag received (EA150H)								
PC6 0.0-0.5B,	PC6 0.5-1.0B,	**10-FEB-2015**	**---**	09-AUG-2015	----	**24-FEB-2015**	09-AUG-2015	✓
PC7 0.0-0.5B,	PC7 0.5-1.0B,							
BE7 0.0-0.5B,	BE7 0.5-1.0B,							
BE10 0.0-0.5B,	BE10 0.5-1.0B,							
PC11 0.0-0.5B,	BE14 0.0-0.5B,							
BE14 0.5-1.0B,	BE15 0.0-0.5B,							
BE15 0.5-1.0B,	BE19 0.0-0.5B,							
BE20 0.5-1.0B,	BE20 0.0-0.5B,							
BE21 0.0-0.5B,	BE21 0.5-1.0B							
EA152: Soil Particle Density								
Snap Lock Bag - Separate bag received (EA152)								
PC6 0.0-0.5B,	PC6 0.5-1.0B,	**10-FEB-2015**	**---**	09-AUG-2015	----	**26-FEB-2015**	09-AUG-2015	✓
PC7 0.0-0.5B,	PC7 0.5-1.0B,							
BE7 0.0-0.5B,	BE7 0.5-1.0B,							
BE10 0.0-0.5B,	BE10 0.5-1.0B,							
PC11 0.0-0.5B,	BE15 0.5-1.0B,							
BE19 0.0-0.5B,	BE20 0.5-1.0B,							
BE21 0.5-1.0B								
EG005-SD: Total Metals in Sediments by ICP-AES								
Soil Glass Jar - Unpreserved (EG005-SD)								
PC6 0.5-1.0A,	PC6 0.0-0.5A,	**08-FEB-2015**	**17-FEB-2015**	07-AUG-2015	✓	**18-FEB-2015**	07-AUG-2015	✓
PC7 0.0-0.5A,	PC7 0.5-1.0A,							
BE7 0.0-0.5A,	BE7 0.5-1.0A,							
BE10 0.0-0.5A,	BE10 0.5-1.0A,							
PC11 0.0-0.5A,	BE14 0.0-0.5A,							
BE14 0.5-1.0A,	BE15 0.0-0.5A,							
BE15 0.5-1.0A,	BE19 0.0-0.5A,							
BE20 0.0-0.5A,	BE20 0.5-1.0A,							
BE21 0.0-0.5A								
Soil Glass Jar - Unpreserved (EG005-SD)								
BE21 0.5-1.0A,	TRIPLICATE 3A,	**08-FEB-2015**	**18-FEB-2015**	07-AUG-2015	✓	**19-FEB-2015**	07-AUG-2015	✓
TRIPLICATE 3B								

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020-SD: Total Metals in Sediments by ICPMS							
Soil Glass Jar - Unpreserved (EG020-SD)							
PC6 0.5-1.0A, PC6 0.0-0.5A, PC7 0.0-0.5A, PC7 0.5-1.0A, BE7 0.0-0.5A, BE7 0.5-1.0A, BE10 0.0-0.5A, BE10 0.5-1.0A, PC11 0.0-0.5A, BE14 0.0-0.5A, BE14 0.5-1.0A, BE15 0.0-0.5A, BE15 0.5-1.0A, BE19 0.0-0.5A, BE20 0.0-0.5A, BE20 0.5-1.0A, BE21 0.0-0.5A	**08-FEB-2015**	**17-FEB-2015**	07-AUG-2015	✓	**18-FEB-2015**	07-AUG-2015	✓
Soil Glass Jar - Unpreserved (EG020-SD)							
BE21 0.5-1.0A, TRIPLICATE 3A, TRIPLICATE 3B	**08-FEB-2015**	**18-FEB-2015**	07-AUG-2015	✓	**20-FEB-2015**	07-AUG-2015	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T-LL)							
PC6 0.5-1.0A, PC6 0.0-0.5A, PC7 0.0-0.5A, PC7 0.5-1.0A, BE7 0.0-0.5A, BE7 0.5-1.0A, BE10 0.0-0.5A, BE10 0.5-1.0A, PC11 0.0-0.5A, BE14 0.0-0.5A, BE14 0.5-1.0A, BE15 0.0-0.5A, BE15 0.5-1.0A, BE19 0.0-0.5A, BE20 0.0-0.5A, BE20 0.5-1.0A, BE21 0.0-0.5A	**08-FEB-2015**	**17-FEB-2015**	08-MAR-2015	✓	**18-FEB-2015**	08-MAR-2015	✓
Soil Glass Jar - Unpreserved (EG035T-LL)							
BE21 0.5-1.0A, TRIPLICATE 3A, TRIPLICATE 3B	**08-FEB-2015**	**18-FEB-2015**	08-MAR-2015	✓	**20-FEB-2015**	08-MAR-2015	✓
EK057G: Nitrite as N by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK057G)							
PC6 0.5-1.0A, PC6 0.0-0.5A, PC7 0.0-0.5A, PC7 0.5-1.0A, BE7 0.0-0.5A, BE7 0.5-1.0A, BE10 0.0-0.5A, BE10 0.5-1.0A, PC11 0.0-0.5A, BE14 0.0-0.5A, BE14 0.5-1.0A, BE15 0.0-0.5A, BE15 0.5-1.0A, BE19 0.0-0.5A, BE20 0.0-0.5A, BE20 0.5-1.0A, BE21 0.0-0.5A, BE21 0.5-1.0A, TRIPLICATE 3A, TRIPLICATE 3B	**08-FEB-2015**	**18-FEB-2015**	07-AUG-2015	✓	**18-FEB-2015**	07-AUG-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK059G)							
PC6 0.5-1.0A, PC6 0.0-0.5A, PC7 0.0-0.5A, PC7 0.5-1.0A, BE7 0.0-0.5A, BE7 0.5-1.0A, BE10 0.0-0.5A, BE10 0.5-1.0A, PC11 0.0-0.5A, BE14 0.0-0.5A, BE14 0.5-1.0A, BE15 0.0-0.5A, BE15 0.5-1.0A, BE19 0.0-0.5A, BE20 0.0-0.5A, BE20 0.5-1.0A, BE21 0.0-0.5A, BE21 0.5-1.0A, TRIPLICATE 3A, TRIPLICATE 3B	**08-FEB-2015**	**18-FEB-2015**	07-AUG-2015	✓	**18-FEB-2015**	07-AUG-2015	✓
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser							
Soil Glass Jar - Unpreserved (EK061G)							
PC6 0.5-1.0A, PC6 0.0-0.5A, PC7 0.0-0.5A, PC7 0.5-1.0A, BE7 0.0-0.5A, BE7 0.5-1.0A, BE10 0.0-0.5A, BE10 0.5-1.0A, PC11 0.0-0.5A, BE14 0.0-0.5A, BE14 0.5-1.0A	**08-FEB-2015**	**16-FEB-2015**	07-AUG-2015	✓	**18-FEB-2015**	07-AUG-2015	✓
Soil Glass Jar - Unpreserved (EK061G)							
BE15 0.0-0.5A, BE15 0.5-1.0A, BE19 0.0-0.5A, BE20 0.0-0.5A, BE20 0.5-1.0A, BE21 0.0-0.5A, BE21 0.5-1.0A, TRIPLICATE 3A, TRIPLICATE 3B	**08-FEB-2015**	**19-FEB-2015**	07-AUG-2015	✓	**19-FEB-2015**	07-AUG-2015	✓
EK067G: Total Phosphorus as P by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK067G)							
PC6 0.5-1.0A, PC6 0.0-0.5A, PC7 0.0-0.5A, PC7 0.5-1.0A, BE7 0.0-0.5A, BE7 0.5-1.0A, BE10 0.0-0.5A, BE10 0.5-1.0A, PC11 0.0-0.5A, BE14 0.0-0.5A, BE14 0.5-1.0A	**08-FEB-2015**	**16-FEB-2015**	07-AUG-2015	✓	**18-FEB-2015**	07-AUG-2015	✓
Soil Glass Jar - Unpreserved (EK067G)							
BE15 0.0-0.5A, BE15 0.5-1.0A, BE19 0.0-0.5A, BE20 0.0-0.5A, BE20 0.5-1.0A, BE21 0.0-0.5A, BE21 0.5-1.0A, TRIPLICATE 3A, TRIPLICATE 3B	**08-FEB-2015**	**19-FEB-2015**	07-AUG-2015	✓	**19-FEB-2015**	07-AUG-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK255A SD Ammonia in Sediment								
Soil Glass Jar - Unpreserved (EK255A SD)								
PC6 0.5-1.0A,	PC6 0.0-0.5A,	**08-FEB-2015**	**----**	----	----	**11-FEB-2015**	07-AUG-2015	✓
PC7 0.0-0.5A,	PC7 0.5-1.0A,							
BE7 0.0-0.5A,	BE7 0.5-1.0A,							
BE10 0.0-0.5A,	BE10 0.5-1.0A,							
PC11 0.0-0.5A,	BE14 0.0-0.5A,							
BE14 0.5-1.0A,	BE15 0.0-0.5A,							
BE15 0.5-1.0A,	BE19 0.0-0.5A,							
BE20 0.0-0.5A,	BE20 0.5-1.0A,							
BE21 0.0-0.5A,	BE21 0.5-1.0A,							
TRIPLICATE 3A,	TRIPLICATE 3B							
EP003: Total Organic Carbon (TOC) in Soil								
Pulp Bag (EP003)								
PC6 0.5-1.0A,	PC6 0.0-0.5A,	**08-FEB-2015**	**18-FEB-2015**	08-MAR-2015	✓	**18-FEB-2015**	08-MAR-2015	✓
PC7 0.0-0.5A,	PC7 0.5-1.0A,							
BE7 0.0-0.5A,	BE7 0.5-1.0A,							
BE10 0.0-0.5A,	BE10 0.5-1.0A,							
PC11 0.0-0.5A,	BE14 0.0-0.5A,							
BE14 0.5-1.0A,	BE15 0.0-0.5A,							
BE15 0.5-1.0A,	BE19 0.0-0.5A,							
BE20 0.0-0.5A,	BE20 0.5-1.0A,							
BE21 0.0-0.5A,	BE21 0.5-1.0A,							
TRIPLICATE 3A,	TRIPLICATE 3B							
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013								
Soil Glass Jar - Unpreserved (EP071-SD)								
PC6 0.5-1.0A,	PC6 0.0-0.5A,	**08-FEB-2015**	**---**	22-FEB-2015	----	**16-FEB-2015**	22-FEB-2015	✓
PC7 0.0-0.5A,	PC7 0.5-1.0A,							
BE7 0.0-0.5A,	BE7 0.5-1.0A,							
BE10 0.0-0.5A,	BE10 0.5-1.0A,							
PC11 0.0-0.5A,	BE14 0.0-0.5A,							
BE14 0.5-1.0A,	BE15 0.0-0.5A,							
BE15 0.5-1.0A,	BE19 0.0-0.5A,							
BE20 0.0-0.5A,	BE20 0.5-1.0A,							
BE21 0.0-0.5A,	BE21 0.5-1.0A,							
TRIPLICATE 3A,	TRIPLICATE 3B							
Soil Glass Jar - Unpreserved (EP071-SD)								
TRIP BLANK 4		**08-FEB-2015**	**13-FEB-2015**	22-FEB-2015	✓	**16-FEB-2015**	25-MAR-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080-SD: BTEXN								
Soil Glass Jar - Unpreserved (EP080-SD)								
PC6 0.3V,	PC6 0.7V,	**08-FEB-2015**	**11-FEB-2015**	22-FEB-2015	✓	**18-FEB-2015**	22-FEB-2015	✓
PC7 0.3V,	PC7 0.7V,							
BE7 0.3V,	BE7 0.7V,							
BE10 0.3V,	BE10 0.7V,							
PC11 0.3V,	PC11 0.7V,							
BE14 0.3V,	BE14 0.7V,							
BE15 0.3V,	BE14 0.7V,							
BE19 0.3V,	BE20 0.3V,							
BE20 0.7V,	BE21 0.3V,							
BE21 0.7V,	TRIP BLANK 4							
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080-SD)								
PC6 0.3V,	PC6 0.7V,	**08-FEB-2015**	**11-FEB-2015**	22-FEB-2015	✓	**18-FEB-2015**	22-FEB-2015	✓
PC7 0.3V,	PC7 0.7V,							
BE7 0.3V,	BE7 0.7V,							
BE10 0.3V,	BE10 0.7V,							
PC11 0.3V,	PC11 0.7V,							
BE14 0.3V,	BE14 0.7V,							
BE15 0.3V,	BE14 0.7V,							
BE19 0.3V,	BE20 0.3V,							
BE20 0.7V,	BE21 0.3V,							
BE21 0.7V,	TRIP BLANK 4							
EP090: Organotin Compounds								
Soil Glass Jar - Unpreserved (EP090)								
PC6 0.5-1.0A,	PC6 0.0-0.5A,	**08-FEB-2015**	**16-FEB-2015**	22-FEB-2015	✓	**18-FEB-2015**	28-MAR-2015	✓
PC7 0.0-0.5A,	PC7 0.5-1.0A,							
BE7 0.0-0.5A,	BE7 0.5-1.0A,							
BE10 0.0-0.5A,	BE10 0.5-1.0A,							
PC11 0.0-0.5A,	BE14 0.0-0.5A,							
BE14 0.5-1.0A,	BE15 0.0-0.5A,							
BE15 0.5-1.0A,	BE19 0.0-0.5A,							
BE20 0.0-0.5A,	BE20 0.5-1.0A,							
BE21 0.0-0.5A,	BE21 0.5-1.0A,							
TRIPLICATE 3A,	TRIPLICATE 3B							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP130A: Organophosphorus Pesticides (Ultra-trace)								
Soil Glass Jar - Unpreserved (EP130)								
PC6 0.5-1.0A,	PC6 0.0-0.5A,	**08-FEB-2015**	**11-FEB-2015**	22-FEB-2015	✓	**16-FEB-2015**	23-MAR-2015	✓
PC7 0.0-0.5A,	PC7 0.5-1.0A,							
BE7 0.0-0.5A,	BE7 0.5-1.0A,							
BE10 0.0-0.5A,	BE10 0.5-1.0A,							
PC11 0.0-0.5A,	BE14 0.0-0.5A,							
BE14 0.5-1.0A,	BE15 0.0-0.5A,							
BE15 0.5-1.0A,	BE19 0.0-0.5A,							
BE20 0.0-0.5A,	BE20 0.5-1.0A,							
BE21 0.0-0.5A,	BE21 0.5-1.0A,							
TRIPLICATE 3A,	TRIPLICATE 3B							
EP131A: Organochlorine Pesticides								
Soil Glass Jar - Unpreserved (EP131A)								
PC6 0.5-1.0A,	PC6 0.0-0.5A,	**08-FEB-2015**	**11-FEB-2015**	22-FEB-2015	✓	**16-FEB-2015**	23-MAR-2015	✓
PC7 0.0-0.5A,	PC7 0.5-1.0A,							
BE7 0.0-0.5A,	BE7 0.5-1.0A,							
BE10 0.0-0.5A,	BE10 0.5-1.0A,							
PC11 0.0-0.5A,	BE14 0.0-0.5A,							
BE14 0.5-1.0A,	BE15 0.0-0.5A,							
BE15 0.5-1.0A,	BE19 0.0-0.5A,							
BE20 0.0-0.5A,	BE20 0.5-1.0A,							
BE21 0.0-0.5A,	BE21 0.5-1.0A,							
TRIPLICATE 3A,	TRIPLICATE 3B							
EP131B: Polychlorinated Biphenyls (as Aroclors)								
Soil Glass Jar - Unpreserved (EP131B)								
PC6 0.5-1.0A,	PC6 0.0-0.5A,	**08-FEB-2015**	**11-FEB-2015**	22-FEB-2015	✓	**16-FEB-2015**	23-MAR-2015	✓
PC7 0.0-0.5A,	PC7 0.5-1.0A,							
BE7 0.0-0.5A,	BE7 0.5-1.0A,							
BE10 0.0-0.5A,	BE10 0.5-1.0A,							
PC11 0.0-0.5A,	BE14 0.0-0.5A,							
BE14 0.5-1.0A,	BE15 0.0-0.5A,							
BE15 0.5-1.0A,	BE19 0.0-0.5A,							
BE20 0.0-0.5A,	BE20 0.5-1.0A,							
BE21 0.0-0.5A,	BE21 0.5-1.0A,							
TRIPLICATE 3A,	TRIPLICATE 3B							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP132B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP132B-SD)							
PC6 0.5-1.0A, PC6 0.0-0.5A, PC7 0.0-0.5A, PC7 0.5-1.0A, BE7 0.0-0.5A, BE7 0.5-1.0A, BE10 0.0-0.5A, BE10 0.5-1.0A, PC11 0.0-0.5A, BE14 0.0-0.5A, BE14 0.5-1.0A, BE15 0.0-0.5A, BE15 0.5-1.0A, BE19 0.0-0.5A, BE20 0.0-0.5A, BE20 0.5-1.0A, BE21 0.0-0.5A, BE21 0.5-1.0A, TRIPLICATE 3A, TRIPLICATE 3B	**08-FEB-2015**	**---**	22-FEB-2015	----	**16-FEB-2015**	22-FEB-2015	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG020A-T)							
RINSATE 3	**08-FEB-2015**	**12-FEB-2015**	07-AUG-2015	✓	**13-FEB-2015**	07-AUG-2015	✓
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG020B-T)							
RINSATE 3	**08-FEB-2015**	**12-FEB-2015**	07-AUG-2015	✓	**13-FEB-2015**	07-AUG-2015	✓
EG035T: Total Recoverable Mercury by FIMS							
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG035T)							
RINSATE 3	**08-FEB-2015**	**----**	----	----	**11-FEB-2015**	08-MAR-2015	✓
EK055G: Ammonia as N by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK055G)							
RINSATE 3	**08-FEB-2015**	**---**	08-MAR-2015	----	**17-FEB-2015**	08-MAR-2015	✓
EK057G: Nitrite as N by Discrete Analyser							
Clear Plastic Bottle - Natural (EK057G)							
RINSATE 3	**08-FEB-2015**	**---**	10-FEB-2015	----	**11-FEB-2015**	10-FEB-2015	✗
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK059G)							
RINSATE 3	**08-FEB-2015**	**---**	08-MAR-2015	----	**17-FEB-2015**	08-MAR-2015	✓
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK061G)							
RINSATE 3	**08-FEB-2015**	**17-FEB-2015**	08-MAR-2015	✓	**17-FEB-2015**	08-MAR-2015	✓
EK067G: Total Phosphorus as P by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK067G)							
RINSATE 3	**08-FEB-2015**	**17-FEB-2015**	08-MAR-2015	✓	**17-FEB-2015**	08-MAR-2015	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP066: Polychlorinated Biphenyls (PCB)							
Amber Glass Bottle - Unpreserved (EP066)							
RINSATE 3	**08-FEB-2015**	**11-FEB-2015**	15-FEB-2015	✓	**12-FEB-2015**	23-MAR-2015	✓
EP068A: Organochlorine Pesticides (OC)							
Amber Glass Bottle - Unpreserved (EP068)							
RINSATE 3	**08-FEB-2015**	**11-FEB-2015**	15-FEB-2015	✓	**12-FEB-2015**	23-MAR-2015	✓
EP068B: Organophosphorus Pesticides (OP)							
Amber Glass Bottle - Unpreserved (EP068)							
RINSATE 3	**08-FEB-2015**	**11-FEB-2015**	15-FEB-2015	✓	**12-FEB-2015**	23-MAR-2015	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
RINSATE 3	**08-FEB-2015**	**11-FEB-2015**	15-FEB-2015	✓	**12-FEB-2015**	23-MAR-2015	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
RINSATE 3	**08-FEB-2015**	**11-FEB-2015**	15-FEB-2015	✓	**12-FEB-2015**	23-MAR-2015	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
RINSATE 3	**08-FEB-2015**	**16-FEB-2015**	22-FEB-2015	✓	**16-FEB-2015**	22-FEB-2015	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber VOC Vial - Sulfuric Acid (EP080)							
RINSATE 3	**08-FEB-2015**	**16-FEB-2015**	22-FEB-2015	✓	**16-FEB-2015**	22-FEB-2015	✓
EP090: Organotin Compounds							
Amber Glass Bottle - Unpreserved (EP090H)							
RINSATE 3	**08-FEB-2015**	**12-FEB-2015**	15-FEB-2015	✓	**12-FEB-2015**	24-MAR-2015	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Ammonia in Sediments	EK255A SD	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Moisture Content	EA055-103	4	39	**10.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	4	41	**9.8**	**9.5**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	4	40	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	4	40	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	4	40	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	5	46	**10.9**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	3	28	**10.7**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Ammonia in Sediments	EK255A SD	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	6	41	**14.6**	**14.3**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	40	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	40	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	40	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	9	46	**19.6**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	2	28	**7.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Method Blanks (MB)							
Ammonia in Sediments	EK255A SD	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	2	41	4.9	4.8	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	40	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	40	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	40	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	3	46	6.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	2	28	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia in Sediments	EK255A SD	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	2	41	4.9	4.8	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	40	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	40	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	3	46	6.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	2	28	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Ammonia as N by Discrete analyser	EK055G	2	18	11.1	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP) - Continued							
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	5	**20.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	2	19	**10.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	2	**50.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	2	16	**12.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Ammonia as N by Discrete analyser	EK055G	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Compounds (Soluble)	EP090H	1	2	**50.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	7	**14.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	4	**25.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	3	20	**15.0**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	5	**20.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	2	**50.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	3	20	**15.0**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	8	**12.5**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	16	**6.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Ammonia as N by Discrete analyser	EK055G	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Compounds (Soluble)	EP090H	1	2	**50.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	7	**14.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	4	**25.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	5	**20.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	2	**50.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	8	**12.5**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	16	**6.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia as N by Discrete analyser	EK055G	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Matrix Spikes (MS) - Continued							
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	5	**20.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	16	**6.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055-103	SOIL	In-house. A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Particle Size Analysis by Hydrometer	EA150H	SOIL	Particle Size Analysis by Hydrometer according to AS1289.3.6.3 - 2003
Soil Particle Density	* EA152	SOIL	Soil Particle Density by AS 1289.3.5.1-2006 : Methods of testing soils for engineering purposes - Soil classification tests - Determination of the soil particle density of a soil - Standard method A modification of the AS 1289.3.5.1 method may apply when testing dispersed soils also tested by AS1289.3.6.3. This modification uses the dispersion solution from AS1289.3.6.3 in place of water for density determinations
Total Fe and Al in Sediments by ICPAES	EG005-SD	SOIL	In house: Referenced to APHA 21st ed., 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3). LORs per NODG
Total Metals in Sediments by ICPMS	EG020-SD	SOIL	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector. Analyte list and LORs per NODG.
Total Mercury by FIMS (Low Level)	EG035T-LL	SOIL	In house: Referenced to AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Nitrite as N - Soluble by Discrete Analyser	EK057G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3- B. Nitrite in a water extract is determined by direct colourimetry by Discrete Analyser.
Nitrate as N - Soluble by Discrete Analyser	EK058G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3--F. Nitrate in the 1:5 soil:water extract is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results.
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3- F. Combined oxidised Nitrogen (NO2+NO3) in a water extract is determined by Chemical Reduction, and direct colourimetry by Discrete Analyser.
TKN as N By Discrete Analyser	EK061G	SOIL	In house: Referenced to APHA 21st ed., 4500-Norg-D Soil samples are digested using Kjeldahl digestion followed by determination by Discrete Analyser.
Total Nitrogen as N (TKN + NOx) By Discrete Analyser	EK062G	SOIL	In house: Referenced to APHA 21st ed., 4500 Norg/NO3- Total Nitrogen is determined as the sum of TKN and Oxidised Nitrrogen, each determined seperately as N.
Total Phosporus By Discrete Analyser	EK067G	SOIL	In house: Referenced to APHA 21st ed., 4500 P-B&F This procedure involves sulfuric acid digestion and quantification using Discrete Analyser.
Ammonia in Sediments	EK255A SD	SOIL	Rayment and Higginson (1992) Method 7C1 and 7C2. This method measures exchangeable ammonium which is defined by the amount of ammonium released by shaking sediment with an un-buffered 2M potassium chloride solution.

Analytical Methods	Method	Matrix	Method Descriptions
Total Organic Carbon	EP003	SOIL	In-house C-IR17. Dried and pulverised sample is reacted with acid to remove inorganic Carbonates, then combusted in a LECO furnace in the presence of strong oxidants / catalysts. The evolved (Organic) Carbon (as CO2) is automaticaly measured by infra-red detector.
TPH - Semivolatile Fraction	EP071-SD	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 504)
TRH Volatiles/BTEX in Sediments	EP080-SD	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve.
Organotin Analysis	EP090	SOIL	(USEPA SW 846 - 8270D) Prepared sample extracts are analysed by GC/MS coupled with high volume injection, and quanitified against an established calibration curve.
Organophosphorus Pesticides (Ultra-trace)	EP130	SOIL	USEPA Method 3640 (GPC cleanup), 8141 (GC/FPD - Capillary Column) This technique is compliant with NEPM (2013) Schedule B(3) (Method 505)
Organochlorine Pesticides (Ultra-trace)	EP131A	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (2013) Schedule B(3) (Method 504)
PCB's (Ultra-trace)	EP131B	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (2013) Schedule B(3) (Method 504)
PAHs in Sediments by GCMS(SIM)	EP132B-SD	SOIL	USEPA 8270 GCMS Capillary column, SIM mode using large volume programmed temperature vaporisation injection.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Metals by ICP-MS - Suite B	EG020B-T	WATER	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Mercury by FIMS	EG035T	WATER	In house: Referenced to AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Ammonia as N by Discrete analyser	EK055G	WATER	In house: Referenced to APHA 21st ed., 4500-NH3 G Ammonia is determined by direct colorimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Nitrite as N by Discrete Analyser	EK057G	WATER	In house: Referenced to APHA 21st ed., 4500-NO2- B. Nitrite is determined by direct colourimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Nitrate as N by Discrete Analyser	EK058G	WATER	In house: Referenced to APHA 21st ed., 4500-NO3- F. Nitrate is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results. This method is compliant with NEPM (2013) Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	WATER	In house: Referenced to APHA 21st ed., 4500-NO3- F. Combined oxidised Nitrogen (NO2+NO3) is determined by Chemical Reduction and direct colourimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	WATER	In house: Referenced to APHA 21st ed., 4500-Norg D (In house). An aliquot of sample is digested using a high temperature Kjeldahl digestion to convert nitrogenous compounds to ammonia. Ammonia is determined colorimetrically by discrete analyser. This method is compliant with NEPM (2013) Schedule B(3)
Total Nitrogen as N (TKN + Nox) By Discrete Analyser	EK062G	WATER	In house: Referenced to APHA 21st ed., 4500-Norg / 4500-NO3-. This method is compliant with NEPM (2013) Schedule B(3)
Total Phosphorus as P By Discrete Analyser	EK067G	WATER	In house: Referenced to APHA 21st ed., 4500-P H, Jirka et al (1976), Zhang et al (2006). This procedure involves sulphuric acid digestion of a sample aliquot to break phosphorus down to orthophosphate. The orthophosphate reacts with ammonium molybdate and antimony potassium tartrate to form a complex which is then reduced and its concentration measured at 880nm using discrete analyser. This method is compliant with NEPM (2013) Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Pesticides by GCMS	EP068	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
Organotin Compounds (Soluble)	EP090H	WATER	(USEPA SW 846 - 8270D, ALS QWI-ORG/EP090) Sample extracts (ALS QWI-ORG/035) are analysed by GC/MS coupled with high volume injection (10-50µL). Quantitation is achieved using internal standard and average response factor quantitation techniques against an established five-point curve. Butyltin results are reported in either "as tin" units eg. ng Sn/L or "ng TBT+/L". The analytical standards are prepared in "as tin" units. Sample results are converted to TBT+ results as required.

Preparation Methods	Method	Matrix	Method Descriptions
TKN/TP Digestion	EK061/EK067	SOIL	APHA 21st ed., 4500 Norg- D; APHA 21st ed., 4500 P - H. Macro Kjeldahl digestion.
1:5 solid / water leach for soluble analytes	EN34	SOIL	10 g of soil is mixed with 50 mL of distilled water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids/ Sample Cleanup	ORG17A-UTP	SOIL	In-house, Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. Samples are extracted, concentrated (by KD) and exchanged into an appropriate solvent for GPC and florisil cleanup as required.

Preparation Methods	Method	Matrix	Method Descriptions
Tumbler Extraction of Solids for LVI (Non-concentrating)	ORG17D	SOIL	In house: 10g of sample, Na2SO4 and surrogate are extracted with 50mL 1:1 DCM/Acetone by end over end tumbling. An aliquot is concentrated by nitrogen blowdown to a reduced volume for analysis if required.
Organotin Sample Preparation	ORG35	SOIL	In house. 20g sample is spiked with surrogate and leached in a methanol:acetic acid:UHP water mix and vacuum filtered. Reagents and solvents are added to the sample and the mixture tumbled. The butyltin compounds are simultaneously derivatised and extracted. The extract is further extracted with petroleum ether. The resultant extracts are combined and concentrated for analysis.
TKN/TP Digestion	EK061/EK067	WATER	APHA 21st ed., 4500 Norg - D; APHA 21st ed., 4500 P - H. This method is compliant with NEPM (2013) Schedule B(3)
Digestion for Total Recoverable Metals	EN25	WATER	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (2013) Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (2013) Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Organotin Sample Preparation	ORG34H	WATER	(IN HOUSE, ALS QWI-ORG/35) A specified volume (determined by the detection limit requirement) of sample is spiked with surrogate, acidified and vacuum filtered. Reagents and solvent are added to the sample and the mixture tumbled for 20 minutes. The butyltin compounds is derivitisated, extracted and the subtitution reaction is completed. The extracts is transferred to a separatory funnel and further extracted two times using petroleum ether. The resultant extracts are combined and concentrated to the desired volume for analysis.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW 846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EK255A SD: Ammonia in Sediment	ES1503000-001	PC6 0.5-1.0A	**Ammonia as N**	7664-41-7	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP090: Organotin Compounds	ES1503000-002	PC6 0.0-0.5A	**Monobutyltin**	78763-54-9	10.0 %	35-130%	**Recovery less than lower data quality objective**

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Duplicate outliers occur.**
- **For all matrices, no Laboratory Control outliers occur.**

Regular Sample Surrogates

- **For all regular sample matrices, no surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

Matrix: **WATER**

Method / Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EK057G: Nitrite as N by Discrete Analyser						
Clear Plastic Bottle - Natural						
RINSATE 3	----	----	----	11-FEB-2015	10-FEB-2015	**1**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 8	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	RELINQUISHED BY: Georgina Kerr DATE/TIME: 9 February 2015	RECEIVED BY: Kelly Schafer DATE/TIME: 9 February 2015 1845
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: KSchafer DATE/TIME: 10-2-15 1600	RECEIVED BY: Dan DATE/TIME: 11/2 am
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:			

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	WB6 0.0-0.5 A	9/02/2015	S	Glass Jar (250 ml)	2	1								
2	WB6 0.5-1.0 A	9/02/2015	S	Glass Jar (250 ml)	2	1								
3	WB6 0.0-0.5 B	9/02/2015	S	Bag (White label)	1		1							
4	WB6 0.5-1.0 B	9/02/2015	S	Bag (White label)	1		1							
5	WB6 0.3V	9/02/2015	S	Glass Jar (250 ml)	1			1						
6	WB6 0.7V	9/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	8	2	2	2						

All 150ml Jars sent direct to Brisbane for TOC/TBT

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Subcon / Forward Lab / Split WO
Lab / Analysis: Brisbane / TBT ---- melb/metals
Organised By / Date: ----
Relinquished By / Date: Newcastle / DSD
Connote / Courier: 3 4 9 10 15 16 21 22
WO No: 27 28 13 14 11 12
Attach By PO / Internal Sheet: ----

Environmental Division
Sydney
Work Order
ES1503080

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OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice brick present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 8	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		9 February 2015	9 February 2015

RELINQUISHED BY:	RECEIVED BY:
KSchafer	Dan J
DATE/TIME: 10-2-15 1600	DATE/TIME: 11/2 0944

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH				Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
7	WB7 0.0-0.5 A	9/02/2015	S	Glass Jar (250 ml)	2	1									
8	WB7 0.5-1.0 A	9/02/2015	S	Glass Jar (250 ml)	2	1									
9	WB7 0.0-0.5 B	9/02/2015	S	Bag (White label)	1		1								
10	WB7 0.5-1.0 B	9/02/2015	S	Bag (White label)	1		1								
11	WB7 0.3V	9/02/2015	S	Glass Jar (250 ml)	1			1							
12	WB7 0.7V	9/02/2015	S	Glass Jar (250 ml)	1			1							
				TOTAL	8	2	2	2							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

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ALS Laboratory: please tick →

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) **Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround		Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 (3) 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (8)	Other comments:

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*	Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		9 February 2015	9 February 2015	10-2-15 1600

RECEIVED BY:	**COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:**
DATE/TIME: 11/2 0900	

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
13	WB10 0.5-1.0A	9/02/2015	S	Glass Jar (250 ml)	2	1								
14	WB10 0.0-0.5A	9/02/2015	S	Glass Jar (250 ml)	2	1								
15	WB10 0.0-0.5B	9/02/2015	S	Bag (White label)	1		1							
16	WB10 0.5-1.0B	9/02/2015	S	Bag (White label)	1		1							
17	WB10 0.3V	9/02/2015	S	Glass Jar (250 ml)	1			1						
18	WB10 0.7V	9/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	8	2	2	2						

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 8372 6735 E: mudgee.mail@alsglobal.com

NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 02 4422 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com

SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 8	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		9 February 2015	9 February 2015

RELINQUISHED BY:	RECEIVED BY:
Kschafer	Dan
DATE/TIME: 10-2-15 1600	DATE/TIME: 11/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOIL (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
19	WB11 0.0-0.5A	9/02/2015	S	Glass Jar (250 ml)	2	1								
20	WB11 0.5-1.0A	9/02/2015	S	Glass Jar (250 ml)	2	1								
21	WB11 0.0-0.5B	9/02/2015	S	Bag (White label)	1		1							
22	WB11 0.5-1.0B	9/02/2015	S	Bag (White label)	1		1							
23	WB11 0.3V	9/02/2015	S	Glass Jar (250 ml)	1			1						
24	WB11 0.7V	9/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
CASTLEMAINE 1/5 Kingston Town Close Castlemaine VIC 3450
Ph: 07 7471 5600 E: gladstone@alsglobal.com
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Ph: 07 4944 0177 E: mackay@alsglobal.com
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Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
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NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7555 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: WOLLONGONG Unit 1, 16 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS: (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes / No / N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 8	Random Sample Temperature on Receipt: °C
ORDER NUMBER: 245553			Other comment:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	Kelly Schafer	Schafer	Dan
DATE/TIME: 9 February 2015	DATE/TIME: 9 February 2015	DATE/TIME: 10-2-15 1600	DATE/TIME: 11/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION	ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
25	WB14 0.0-0.5A	9/02/2015	S	Glass Jar (250 ml)	2	1								
26	WB14 0.5-1.0A	9/02/2015	S	Glass Jar (250 ml)	2	1								
27	WB14 0.0-0.5B	9/02/2015	S	Bag (White label)	1		1							
28	WB14 0.5-1.0B	9/02/2015	S	Bag (White label)	1		1							
29	WB14 0.3V	9/02/2015	S	Glass Jar (250 ml)	1			1						
30	WB14 0.7V	9/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 24 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
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Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 021423 2063 E: nowra@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
GOLDCOAST 74 Caloundra Road Caloundra QLD 4551
Ph: 07 5491 5688 E: samples.goldcoast@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 245553	**COC SEQUENCE NUMBER (Circle)** COC: 1 2 3 4 5 (6) 7	Random Sample Temperature on Receipt	°C
PROJECT MANAGER: Sally Leyland — **CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (8)	Other comment:	

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*	KSchafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME: 10.2.15 1600
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		9 February 2015	9 February 2015	

RECEIVED BY:	
Dan J	
DATE/TIME: 11/2 0944	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION	ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
31	WB15 0.0-0.5 A	9/02/2015	S	Glass Jar (250 ml)	2	1								
32	WB15 0.5-1.0 A	9/02/2015	S	Glass Jar (250 ml)	2	1								
33	WB15 0.0-0.5 B	9/02/2015	S	Bag (White label)	1		1							
34	WB15 0.5-1.0 B	9/02/2015	S	Bag (White label)	1		1							
35	WB15 0.3V	9/02/2015	S	Glass Jar (250 ml)	1			1						
36	WB15 0.7V	9/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02/4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Very Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-280 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6	Random Sample Temperature on Receipt? °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	DATE/TIME: 9 February 2015	DATE/TIME: 9 February 2015
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: Kschafer	RECEIVED BY: Dan
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 10.2.15 1600	DATE/TIME: 11/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
37	PC9 0.0-0.3 A	9/02/2015	S	Glass Jar (250 ml)	2	1								
38	PC9 0.3V	9/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	3	1		1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS: ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6	Random Sample Temperature on Receipt	°C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006 OF: 1 2 3 4 5 6	Other comments:	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	Kelly Schafer	KSchafer	Dan
DATE/TIME: 9 February 2015	DATE/TIME: 9 February 2015	DATE/TIME: 10-2-15 1600	DATE/TIME: 11/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
39	Triplicate 4A	9/02/2015	S	Glass Jar (250 ml)	2	1								
40	Triplicate 4B	9/02/2015	S	Glass Jar (250 ml)	2	1								
41	Triplicate 4A, B	9/02/2015	S	Bag (White label)	1		1							
42	Triplicate 4B, B	9/02/2015	S	Bag (White label)	1		1							
43	Trip Blank 5	9/02/2015	S	Pre-filled glass jar	1	1								
44	Rinsate 4	9/02/2015	W	Bottle	8	1								
				TOTAL	15	4	2							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1503080**	Page	: 1 of 58
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553		
C-O-C number	: ----	Date Samples Received	: 11-FEB-2015
Sampler	: GK	Issue Date	: 28-FEB-2015
Site	: ----		
		No. of samples received	: 44
Quote number	: SY/1021/14 V2	No. of samples analysed	: 43

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.**

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Ashesh Patel	Inorganic Chemist	Sydney Inorganics
Dianne Blane	Laboratory Coordinator (2IC)	Newcastle - Inorganics
Diem Nguyen	Instrument Chemist	Melbourne Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
		Sydney Organics
Ryan Story	2IC Organic Instrument Chemist	Brisbane Organics
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils
Shobhna Chandra	Metals Coordinator	Sydney Inorganics
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB6 0.0-0.5A-A	WB6 0.5-1.0A	WB6 0.0-0.5B	WB6 0.5-1.0B	WB6 0.3V
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
					ES1503080-001	ES1503080-002	ES1503080-003	ES1503080-004	ES1503080-005
EA150: Particle Sizing									
+75µm	----	1	%		----	----	98	97	----
+150µm	----	1	%		----	----	88	90	----
+300µm	----	1	%		----	----	12	37	----
+425µm	----	1	%		----	----	5	21	----
+600µm	----	1	%		----	----	3	13	----
+1180µm	----	1	%		----	----	1	7	----
+2.36mm	----	1	%		----	----	<1	5	----
+4.75mm	----	1	%		----	----	<1	2	----
+9.5mm	----	1	%		----	----	<1	<1	----
+19.0mm	----	1	%		----	----	<1	<1	----
+37.5mm	----	1	%		----	----	<1	<1	----
+75.0mm	----	1	%		----	----	<1	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		21.0	19.3	----	----	21.0
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	2	3	----
Silt (2-60 µm)	----	1	%		----	----	<1	<1	----
Sand (0.06-2.00 mm)	----	1	%		----	----	97	91	----
Gravel (>2mm)	----	1	%		----	----	1	6	----
Cobbles (>6cm)	----	1	%		----	----	<1	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	2.66	2.66	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		3860	3480	----	----	----
Iron	7439-89-6	50	mg/kg		9480	8740	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		20.6	17.5	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	----	----	----
Chromium	7440-47-3	1.0	mg/kg		7.9	7.6	----	----	----
Copper	7440-50-8	1.0	mg/kg		2.7	2.4	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		6.2	5.6	----	----	----
Lead	7439-92-1	1.0	mg/kg		2.5	2.4	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB6 0.0-0.5A-A	WB6 0.5-1.0A	WB6 0.0-0.5B	WB6 0.5-1.0B	WB6 0.3V
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
					ES1503080-001	ES1503080-002	ES1503080-003	ES1503080-004	ES1503080-005
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		1010	754	----	----	----
Nickel	7440-02-0	1.0	mg/kg		3.8	3.4	----	----	----
Selenium	7782-49-2	0.1	mg/kg		0.3	0.3	----	----	----
Silver	7440-22-4	0.1	mg/kg		0.1	<0.1	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		27.5	26.8	----	----	----
Zinc	7440-66-6	1.0	mg/kg		13.7	12.1	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	<0.01	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		50	60	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		50	60	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		184	248	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		3.8	3.0	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		0.08	0.08	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	<3	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		<3	<3	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	<5	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	<3	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		<3	<3	----	----	----
C15 - C28 Fraction	----	3	mg/kg		<3	<3	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB6 0.0-0.5A-A	WB6 0.5-1.0A	WB6 0.0-0.5B	WB6 0.5-1.0B	WB6 0.3V
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503080-001	ES1503080-002	ES1503080-003	ES1503080-004	ES1503080-005
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	<5	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		<3	<3	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	----	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	<1	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	<1	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	<0.5	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	<10	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	<10	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	<10.0	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	<10	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	<10	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	<10	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	<10	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	<10	----	----	----
Ethion	563-12-2	10	µg/kg		<10	<10	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	<10	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	<10	----	----	----
Malathion	121-75-5	10	µg/kg		<10	<10	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	<10	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	<10	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB6 0.0-0.5A-A	WB6 0.5-1.0A	WB6 0.0-0.5B	WB6 0.5-1.0B	WB6 0.3V
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503080-001	ES1503080-002	ES1503080-003	ES1503080-004	ES1503080-005
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	<10	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	<10	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	<10	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	<10	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	<0.50	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	<0.50	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	<0.50	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	<0.50	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	<0.50	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	<0.25	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	<0.50	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	<0.25	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	<0.25	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	<0.25	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	<0.50	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	<5.0	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB6 0.0-0.5A-A	WB6 0.5-1.0A	WB6 0.0-0.5B	WB6 0.5-1.0B	WB6 0.3V
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
					ES1503080-001	ES1503080-002	ES1503080-003	ES1503080-004	ES1503080-005
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	<5.0	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	<5	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	<5	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	<4	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	<4	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	<4	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	<4	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	<4	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	<4	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	<4	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	<4	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	<4	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	<4	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	<4	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	<4	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	<4	----	----	----
Perylene	198-55-0	4	µg/kg		<4	<4	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	<4	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	<4	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	<4	----	----	----
Coronene	191-07-1	5	µg/kg		<5	<5	----	----	----
^ **Sum of PAHs**	----	4	µg/kg		<4	<4	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	----	**95.0**
Toluene-D8	2037-26-5	0.1	%		----	----	----	----	**117**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	----	**106**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**46.5**	**40.0**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB6 0.0-0.5A-A	WB6 0.5-1.0A	WB6 0.0-0.5B	WB6 0.5-1.0B	WB6 0.3V
			Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503080-001	ES1503080-002	ES1503080-003	ES1503080-004	ES1503080-005
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	77.1	84.3	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	66.9	64.9	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	70.0	83.6	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	112	109	----	----	----
Anthracene-d10	1719-06-8	0.1	%	91.5	85.1	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	95.8	87.8	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB6 0.7V	WB7 0.0-0.5A-B	WB7 0.5-1.0A	WB7 0.0-0.5B	WB7 0.5-1.0B
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503080-006	ES1503080-007	ES1503080-008	ES1503080-009	ES1503080-010
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	**99**	**97**
+150µm	----	1	%		----	----	----	**93**	**84**
+300µm	----	1	%		----	----	----	**7**	**1**
+425µm	----	1	%		----	----	----	**1**	<1
+600µm	----	1	%		----	----	----	<1	<1
+1180µm	----	1	%		----	----	----	<1	<1
+2.36mm	----	1	%		----	----	----	<1	<1
+4.75mm	----	1	%		----	----	----	<1	<1
+9.5mm	----	1	%		----	----	----	<1	<1
+19.0mm	----	1	%		----	----	----	<1	<1
+37.5mm	----	1	%		----	----	----	<1	<1
+75.0mm	----	1	%		----	----	----	<1	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**25.2**	**19.5**	**19.3**	----	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	**1**	**2**
Silt (2-60 µm)	----	1	%		----	----	----	<1	<1
Sand (0.06-2.00 mm)	----	1	%		----	----	----	**99**	**98**
Gravel (>2mm)	----	1	%		----	----	----	<1	<1
Cobbles (>6cm)	----	1	%		----	----	----	<1	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	**2.68**	**2.70**
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	**4050**	**4110**	----	----
Iron	7439-89-6	50	mg/kg		----	**11100**	**11700**	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	<0.50	<0.50	----	----
Arsenic	7440-38-2	1.00	mg/kg		----	**22.5**	**20.1**	----	----
Cadmium	7440-43-9	0.1	mg/kg		----	<0.1	<0.1	----	----
Chromium	7440-47-3	1.0	mg/kg		----	**9.4**	**10.7**	----	----
Copper	7440-50-8	1.0	mg/kg		----	**3.0**	**2.9**	----	----
Cobalt	7440-48-4	0.5	mg/kg		----	**7.0**	**6.8**	----	----
Lead	7439-92-1	1.0	mg/kg		----	**2.7**	**2.7**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB6 0.7V	WB7 0.0-0.5A-B	WB7 0.5-1.0A	WB7 0.0-0.5B	WB7 0.5-1.0B
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
					ES1503080-006	ES1503080-007	ES1503080-008	ES1503080-009	ES1503080-010
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	1030	700	----	----
Nickel	7440-02-0	1.0	mg/kg		----	4.3	4.4	----	----
Selenium	7782-49-2	0.1	mg/kg		----	0.3	0.3	----	----
Silver	7440-22-4	0.1	mg/kg		----	0.1	<0.1	----	----
Vanadium	7440-62-2	2.0	mg/kg		----	34.5	36.5	----	----
Zinc	7440-66-6	1.0	mg/kg		----	15.1	14.3	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	<0.01	<0.01	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	0.3	<0.1	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	0.3	<0.1	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	80	40	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	80	40	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	266	232	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	1.5	1.1	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	0.05	0.25	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	<3	<3	----	----
>C16 - C34 Fraction	----	3	mg/kg		----	<3	<3	----	----
>C34 - C40 Fraction	----	5	mg/kg		----	<5	<5	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	<3	<3	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	----	----	----	----
C10 - C14 Fraction	----	3	mg/kg		----	<3	<3	----	----
C15 - C28 Fraction	----	3	mg/kg		----	<3	<3	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB6 0.7V	WB7 0.0-0.5A-B	WB7 0.5-1.0A	WB7 0.0-0.5B	WB7 0.5-1.0B
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
					ES1503080-006	ES1503080-007	ES1503080-008	ES1503080-009	ES1503080-010
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	<5	<5	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	<3	<3	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	----	----	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.2	mg/kg		<0.2	----	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	----	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	----	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	<1	<1	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	<1	<1	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	<0.5	<0.5	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	<10	<10	----	----
Carbophenothion	786-19-6	10	µg/kg		----	<10	<10	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	<10.0	<10.0	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	<10	<10	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	<10	<10	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	<10	<10	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	<10	<10	----	----
Diazinon	333-41-5	10	µg/kg		----	<10	<10	----	----
Dichlorvos	62-73-7	10	µg/kg		----	<10	<10	----	----
Dimethoate	60-51-5	10	µg/kg		----	<10	<10	----	----
Ethion	563-12-2	10	µg/kg		----	<10	<10	----	----
Fenamiphos	22224-92-6	10	µg/kg		----	<10	<10	----	----
Fenthion	55-38-9	10	µg/kg		----	<10	<10	----	----
Malathion	121-75-5	10	µg/kg		----	<10	<10	----	----
Azinphos Methyl	86-50-0	10	µg/kg		----	<10	<10	----	----
Monocrotophos	6923-22-4	10	µg/kg		----	<10	<10	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB6 0.7V	WB7 0.0-0.5A-B	WB7 0.5-1.0A	WB7 0.0-0.5B	WB7 0.5-1.0B
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
					ES1503080-006	ES1503080-007	ES1503080-008	ES1503080-009	ES1503080-010
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	<10	<10	----	----
Parathion-methyl	298-00-0	10	µg/kg		----	<10	<10	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	<10	<10	----	----
Prothiofos	34643-46-4	10	µg/kg		----	<10	<10	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg		----	<0.50	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	<0.50	<0.50	----	----
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	<0.50	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	<0.50	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	<0.50	<0.50	----	----
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	<0.50	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	<0.50	<0.50	----	----
gamma-BHC	58-89-9	0.25	µg/kg		----	<0.25	<0.25	----	----
Methoxychlor	72-43-5	0.50	µg/kg		----	<0.50	<0.50	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	<0.25	<0.25	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	<0.25	<0.25	----	----
^ **Total Chlordane (sum)**	----	0.25	µg/kg		----	<0.25	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	<0.50	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	<5.0	<5.0	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB6 0.7V	WB7 0.0-0.5A-B	WB7 0.5-1.0A	WB7 0.0-0.5B	WB7 0.5-1.0B
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
					ES1503080-006	ES1503080-007	ES1503080-008	ES1503080-009	ES1503080-010
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	<5.0	<5.0	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	<5	<5	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	<5	<5	----	----
Acenaphthylene	208-96-8	4	µg/kg		----	<4	<4	----	----
Acenaphthene	83-32-9	4	µg/kg		----	**9**	<4	----	----
Fluorene	86-73-7	4	µg/kg		----	<4	<4	----	----
Phenanthrene	85-01-8	4	µg/kg		----	<4	<4	----	----
Anthracene	120-12-7	4	µg/kg		----	<4	<4	----	----
Fluoranthene	206-44-0	4	µg/kg		----	<4	<4	----	----
Pyrene	129-00-0	4	µg/kg		----	**12**	<4	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	<4	<4	----	----
Chrysene	218-01-9	4	µg/kg		----	<4	<4	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	<4	<4	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	<4	<4	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	<4	<4	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	<4	<4	----	----
Perylene	198-55-0	4	µg/kg		----	<4	<4	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	<4	<4	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	<4	<4	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	<4	<4	----	----
Coronene	191-07-1	5	µg/kg		----	<5	<5	----	----
^ **Sum of PAHs**	----	4	µg/kg		----	**21**	<4	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**119**	----	----	----	----
Toluene-D8	2037-26-5	0.1	%		**109**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**91.7**	----	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	**51.4**	**80.7**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB6 0.7V	WB7 0.0-0.5A-B	WB7 0.5-1.0A	WB7 0.0-0.5B	WB7 0.5-1.0B
			Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503080-006	ES1503080-007	ES1503080-008	ES1503080-009	ES1503080-010
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	83.6	71.2	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	75.8	63.2	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	77.4	69.6	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	103	112	----	----
Anthracene-d10	1719-06-8	0.1	%	----	114	90.8	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	119	95.0	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB7 0.3V	WB7 0.7V	WB10 0.5-1.0A	WB10 0.0-0.5A	WB10 0.0-0.5B
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503080-011	ES1503080-012	ES1503080-013	ES1503080-014	ES1503080-015
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	----	94
+150µm	----	1	%		----	----	----	----	32
+300µm	----	1	%		----	----	----	----	<1
+425µm	----	1	%		----	----	----	----	<1
+600µm	----	1	%		----	----	----	----	<1
+1180µm	----	1	%		----	----	----	----	<1
+2.36mm	----	1	%		----	----	----	----	<1
+4.75mm	----	1	%		----	----	----	----	<1
+9.5mm	----	1	%		----	----	----	----	<1
+19.0mm	----	1	%		----	----	----	----	<1
+37.5mm	----	1	%		----	----	----	----	<1
+75.0mm	----	1	%		----	----	----	----	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		25.8	25.2	22.1	26.4	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	----	3
Silt (2-60 µm)	----	1	%		----	----	----	----	1
Sand (0.06-2.00 mm)	----	1	%		----	----	----	----	96
Gravel (>2mm)	----	1	%		----	----	----	----	<1
Cobbles (>6cm)	----	1	%		----	----	----	----	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	----	2.68
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	4400	4800	----
Iron	7439-89-6	50	mg/kg		----	----	10100	9480	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	<0.50	<0.50	----
Arsenic	7440-38-2	1.00	mg/kg		----	----	12.0	11.8	----
Cadmium	7440-43-9	0.1	mg/kg		----	----	<0.1	<0.1	----
Chromium	7440-47-3	1.0	mg/kg		----	----	11.2	10.6	----
Copper	7440-50-8	1.0	mg/kg		----	----	3.0	2.9	----
Cobalt	7440-48-4	0.5	mg/kg		----	----	6.1	6.3	----
Lead	7439-92-1	1.0	mg/kg		----	----	2.6	2.6	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB7 0.3V	WB7 0.7V	WB10 0.5-1.0A	WB10 0.0-0.5A	WB10 0.0-0.5B
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
					ES1503080-011	ES1503080-012	ES1503080-013	ES1503080-014	ES1503080-015
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	**597**	**528**	----
Nickel	7440-02-0	1.0	mg/kg		----	----	**4.4**	**4.4**	----
Selenium	7782-49-2	0.1	mg/kg		----	----	**0.3**	**0.4**	----
Silver	7440-22-4	0.1	mg/kg		----	----	<0.1	<0.1	----
Vanadium	7440-62-2	2.0	mg/kg		----	----	**30.9**	**23.6**	----
Zinc	7440-66-6	1.0	mg/kg		----	----	**13.3**	**14.0**	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	<0.01	<0.01	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	<0.1	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	**0.1**	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	**0.1**	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	**80**	**60**	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	**80**	**60**	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	**234**	**215**	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	**0.8**	**2.9**	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	**0.08**	**0.38**	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	**4**	<3	----
>C16 - C34 Fraction	----	3	mg/kg		----	----	**6**	<3	----
>C34 - C40 Fraction	----	5	mg/kg		----	----	<5	<5	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	**10**	<3	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	<3	----	----	----
C10 - C14 Fraction	----	3	mg/kg		----	----	**5**	<3	----
C15 - C28 Fraction	----	3	mg/kg		----	----	**6**	<3	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB7 0.3V	WB7 0.7V	WB10 0.5-1.0A	WB10 0.0-0.5A	WB10 0.0-0.5B
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
					ES1503080-011	ES1503080-012	ES1503080-013	ES1503080-014	ES1503080-015
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	<5	<5	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	**11**	<3	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	<3	----	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	----	----
Toluene	108-88-3	0.2	mg/kg		<0.2	<0.2	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	<0.2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	<0.2	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	<0.2	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	<1	<1	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	<1	<1	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	<0.5	<0.5	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	<10	<10	----
Carbophenothion	786-19-6	10	µg/kg		----	----	<10	<10	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	<10.0	<10.0	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	<10	<10	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	<10	<10	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	<10	<10	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	<10	<10	----
Diazinon	333-41-5	10	µg/kg		----	----	<10	<10	----
Dichlorvos	62-73-7	10	µg/kg		----	----	<10	<10	----
Dimethoate	60-51-5	10	µg/kg		----	----	<10	<10	----
Ethion	563-12-2	10	µg/kg		----	----	<10	<10	----
Fenamiphos	22224-92-6	10	µg/kg		----	----	<10	<10	----
Fenthion	55-38-9	10	µg/kg		----	----	<10	<10	----
Malathion	121-75-5	10	µg/kg		----	----	<10	<10	----
Azinphos Methyl	86-50-0	10	µg/kg		----	----	<10	<10	----
Monocrotophos	6923-22-4	10	µg/kg		----	----	<10	<10	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB7 0.3V	WB7 0.7V	WB10 0.5-1.0A	WB10 0.0-0.5A	WB10 0.0-0.5B
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
					ES1503080-011	ES1503080-012	ES1503080-013	ES1503080-014	ES1503080-015
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	<10	<10	----
Parathion-methyl	298-00-0	10	µg/kg		----	----	<10	<10	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	<10	<10	----
Prothiofos	34643-46-4	10	µg/kg		----	----	<10	<10	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	<0.50	<0.50	----
alpha-BHC	319-84-6	0.50	µg/kg		----	----	<0.50	<0.50	----
beta-BHC	319-85-7	0.50	µg/kg		----	----	<0.50	<0.50	----
delta-BHC	319-86-8	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	<0.50	<0.50	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	----	<0.50	<0.50	----
Dieldrin	60-57-1	0.50	µg/kg		----	----	<0.50	<0.50	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	<0.50	<0.50	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	<0.50	<0.50	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	<0.50	<0.50	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin	72-20-8	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	<0.50	<0.50	----
Heptachlor	76-44-8	0.50	µg/kg		----	----	<0.50	<0.50	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	<0.50	<0.50	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	<0.50	<0.50	----
gamma-BHC	58-89-9	0.25	µg/kg		----	----	<0.25	<0.25	----
Methoxychlor	72-43-5	0.50	µg/kg		----	----	<0.50	<0.50	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	<0.25	<0.25	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	<0.25	<0.25	----
^ Total Chlordane (sum)	----	0.25	µg/kg		----	----	<0.25	<0.25	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	<0.50	<0.50	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	<5.0	<5.0	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB7 0.3V	WB7 0.7V	WB10 0.5-1.0A	WB10 0.0-0.5A	WB10 0.0-0.5B
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503080-011	ES1503080-012	ES1503080-013	ES1503080-014	ES1503080-015
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	<5.0	<5.0	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	<5	<5	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	<5	<5	----
Acenaphthylene	208-96-8	4	µg/kg		----	----	<4	<4	----
Acenaphthene	83-32-9	4	µg/kg		----	----	<4	<4	----
Fluorene	86-73-7	4	µg/kg		----	----	<4	<4	----
Phenanthrene	85-01-8	4	µg/kg		----	----	<4	<4	----
Anthracene	120-12-7	4	µg/kg		----	----	<4	<4	----
Fluoranthene	206-44-0	4	µg/kg		----	----	<4	<4	----
Pyrene	129-00-0	4	µg/kg		----	----	<4	<4	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	<4	<4	----
Chrysene	218-01-9	4	µg/kg		----	----	<4	<4	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	<4	<4	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	<4	<4	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	<4	<4	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	<4	<4	----
Perylene	198-55-0	4	µg/kg		----	----	<4	<4	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	<4	<4	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	<4	<4	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	<4	<4	----
Coronene	191-07-1	5	µg/kg		----	----	<5	<5	----
^ Sum of PAHs	----	4	µg/kg		----	----	<4	<4	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**104**	**124**	----	----	----
Toluene-D8	2037-26-5	0.1	%		**95.2**	**111**	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**85.7**	**97.1**	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	**81.9**	**79.5**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB7 0.3V	WB7 0.7V	WB10 0.5-1.0A	WB10 0.0-0.5A	WB10 0.0-0.5B
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503080-011	ES1503080-012	ES1503080-013	ES1503080-014	ES1503080-015
EP130S: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%		----	----	79.8	66.9	----
EP131S: OC Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.1	%		----	----	84.4	52.7	----
EP131T: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	----	94.0	78.9	----
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		----	----	122	111	----
Anthracene-d10	1719-06-8	0.1	%		----	----	111	86.5	----
4-Terphenyl-d14	1718-51-0	0.1	%		----	----	111	87.4	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB10 0.5-1.0B	WB10 0.3V	WB10 0.7V	WB11 0.0-0.5A	WB11 0.5-1.0A
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503080-016	ES1503080-017	ES1503080-018	ES1503080-019	ES1503080-020
EA150: Particle Sizing									
+75µm	----	1	%		95	----	----	----	----
+150µm	----	1	%		17	----	----	----	----
+300µm	----	1	%		1	----	----	----	----
+425µm	----	1	%		<1	----	----	----	----
+600µm	----	1	%		<1	----	----	----	----
+1180µm	----	1	%		<1	----	----	----	----
+2.36mm	----	1	%		<1	----	----	----	----
+4.75mm	----	1	%		<1	----	----	----	----
+9.5mm	----	1	%		<1	----	----	----	----
+19.0mm	----	1	%		<1	----	----	----	----
+37.5mm	----	1	%		<1	----	----	----	----
+75.0mm	----	1	%		<1	----	----	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	23.6	23.6	24.1	21.9
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		3	----	----	----	----
Silt (2-60 µm)	----	1	%		<1	----	----	----	----
Sand (0.06-2.00 mm)	----	1	%		97	----	----	----	----
Gravel (>2mm)	----	1	%		<1	----	----	----	----
Cobbles (>6cm)	----	1	%		<1	----	----	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		2.68	----	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	----	5080	4430
Iron	7439-89-6	50	mg/kg		----	----	----	12200	12500
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	----	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	----	----	17.8	25.3
Cadmium	7440-43-9	0.1	mg/kg		----	----	----	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	----	----	10.2	9.0
Copper	7440-50-8	1.0	mg/kg		----	----	----	4.4	3.4
Cobalt	7440-48-4	0.5	mg/kg		----	----	----	7.7	8.6
Lead	7439-92-1	1.0	mg/kg		----	----	----	3.1	3.2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB10 0.5-1.0B	WB10 0.3V	WB10 0.7V	WB11 0.0-0.5A	WB11 0.5-1.0A
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503080-016	ES1503080-017	ES1503080-018	ES1503080-019	ES1503080-020
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	----	**917**	**1530**
Nickel	7440-02-0	1.0	mg/kg		----	----	----	**5.2**	**5.2**
Selenium	7782-49-2	0.1	mg/kg		----	----	----	**0.4**	**0.3**
Silver	7440-22-4	0.1	mg/kg		----	----	----	<0.1	<0.1
Vanadium	7440-62-2	2.0	mg/kg		----	----	----	**33.4**	**35.2**
Zinc	7440-66-6	1.0	mg/kg		----	----	----	**16.4**	**14.7**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	----	<0.01	<0.01
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	----	<0.1	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	**0.2**	**0.2**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	**0.2**	**0.2**
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	----	**210**	**50**
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	----	**210**	**50**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	----	**277**	**321**
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	----	**3.0**	**2.4**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	----	**0.37**	**0.10**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	----	<3	<3
>C16 - C34 Fraction	----	3	mg/kg		----	----	----	**4**	<3
>C34 - C40 Fraction	----	5	mg/kg		----	----	----	<5	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	----	**4**	<3
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	<3	<3	----	----
C10 - C14 Fraction	----	3	mg/kg		----	----	----	<3	<3
C15 - C28 Fraction	----	3	mg/kg		----	----	----	<3	<3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB10 0.5-1.0B	WB10 0.3V	WB10 0.7V	WB11 0.0-0.5A	WB11 0.5-1.0A
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503080-016	ES1503080-017	ES1503080-018	ES1503080-019	ES1503080-020
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	----	<5	<5
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	----	<3	<3
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	<3	<3	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	<0.2	<0.2	----	----
Toluene	108-88-3	0.2	mg/kg		----	<0.2	<0.2	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	<0.2	<0.2	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	<0.2	<0.2	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	<0.2	<0.2	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	<0.5	<0.5	----	----
^ Sum of BTEX	----	0.2	mg/kg		----	<0.2	<0.2	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	----	<1	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	----	<1	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	----	<0.5	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	----	<10	<10
Carbophenothion	786-19-6	10	µg/kg		----	----	----	<10	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	----	<10.0	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	----	<10	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	----	<10	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	----	<10	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	----	<10	<10
Diazinon	333-41-5	10	µg/kg		----	----	----	<10	<10
Dichlorvos	62-73-7	10	µg/kg		----	----	----	<10	<10
Dimethoate	60-51-5	10	µg/kg		----	----	----	<10	<10
Ethion	563-12-2	10	µg/kg		----	----	----	<10	<10
Fenamiphos	22224-92-6	10	µg/kg		----	----	----	<10	<10
Fenthion	55-38-9	10	µg/kg		----	----	----	<10	<10
Malathion	121-75-5	10	µg/kg		----	----	----	<10	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	----	----	<10	<10
Monocrotophos	6923-22-4	10	µg/kg		----	----	----	<10	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB10 0.5-1.0B	WB10 0.3V	WB10 0.7V	WB11 0.0-0.5A	WB11 0.5-1.0A
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
					ES1503080-016	ES1503080-017	ES1503080-018	ES1503080-019	ES1503080-020
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	----	<10	<10
Parathion-methyl	298-00-0	10	µg/kg		----	----	----	<10	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	----	<10	<10
Prothiofos	34643-46-4	10	µg/kg		----	----	----	<10	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	----	<0.50	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	----	----	<0.50	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	----	----	<0.50	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	----	----	<0.50	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	----	<0.50	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	----	<0.50	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	----	<0.50	<0.50
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	----	----	<0.50	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	----	----	<0.50	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	----	<0.50	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	----	<0.50	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	----	<0.50	<0.50
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	----	----	<0.50	<0.50
Endrin	72-20-8	0.50	µg/kg		----	----	----	<0.50	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	----	<0.50	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	----	<0.50	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	----	----	<0.50	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	----	<0.50	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	----	<0.50	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	----	----	<0.25	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	----	----	<0.50	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	----	<0.25	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	----	<0.25	<0.25
^ **Total Chlordane (sum)**	----	0.25	µg/kg		----	----	----	<0.25	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	----	<0.50	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	----	<5.0	<5.0

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB10 0.5-1.0B	WB10 0.3V	WB10 0.7V	WB11 0.0-0.5A	WB11 0.5-1.0A
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
					ES1503080-016	ES1503080-017	ES1503080-018	ES1503080-019	ES1503080-020
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	----	<5.0	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	----	<5	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	----	<5	<5
Acenaphthylene	208-96-8	4	µg/kg		----	----	----	<4	<4
Acenaphthene	83-32-9	4	µg/kg		----	----	----	<4	<4
Fluorene	86-73-7	4	µg/kg		----	----	----	<4	<4
Phenanthrene	85-01-8	4	µg/kg		----	----	----	<4	<4
Anthracene	120-12-7	4	µg/kg		----	----	----	<4	<4
Fluoranthene	206-44-0	4	µg/kg		----	----	----	<4	<4
Pyrene	129-00-0	4	µg/kg		----	----	----	<4	<4
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	----	<4	<4
Chrysene	218-01-9	4	µg/kg		----	----	----	<4	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	----	<4	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	----	<4	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	----	<4	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	----	<4	<4
Perylene	198-55-0	4	µg/kg		----	----	----	<4	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	----	<4	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	----	<4	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	----	<4	<4
Coronene	191-07-1	5	µg/kg		----	----	----	<5	<5
^ **Sum of PAHs**	----	4	µg/kg		----	----	----	<4	<4
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	**127**	**87.1**	----	----
Toluene-D8	2037-26-5	0.1	%		----	**113**	**103**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	**98.1**	**89.8**	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	----	**73.7**	**92.3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB10 0.5-1.0B	WB10 0.3V	WB10 0.7V	WB11 0.0-0.5A	WB11 0.5-1.0A
			Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503080-016	ES1503080-017	ES1503080-018	ES1503080-019	ES1503080-020
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	----	79.8	81.6
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	----	67.6	91.3
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	81.1	90.1
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	107	99.2
Anthracene-d10	1719-06-8	0.1	%	----	----	----	96.7	89.4
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	95.4	91.6

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB11 0.0-0.5B	WB11 0.5-1.0B	WB11 0.3V	WB11 0.7V	WB14 0.0-0.5A
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503080-021	ES1503080-022	ES1503080-023	ES1503080-024	ES1503080-025
EA150: Particle Sizing									
+75µm	----	1	%		82	97	----	----	----
+150µm	----	1	%		73	94	----	----	----
+300µm	----	1	%		1	23	----	----	----
+425µm	----	1	%		<1	18	----	----	----
+600µm	----	1	%		<1	14	----	----	----
+1180µm	----	1	%		<1	8	----	----	----
+2.36mm	----	1	%		<1	4	----	----	----
+4.75mm	----	1	%		<1	2	----	----	----
+9.5mm	----	1	%		<1	<1	----	----	----
+19.0mm	----	1	%		<1	<1	----	----	----
+37.5mm	----	1	%		<1	<1	----	----	----
+75.0mm	----	1	%		<1	<1	----	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	----	36.8	25.1	22.4
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		12	3	----	----	----
Silt (2-60 µm)	----	1	%		6	<1	----	----	----
Sand (0.06-2.00 mm)	----	1	%		82	92	----	----	----
Gravel (>2mm)	----	1	%		<1	5	----	----	----
Cobbles (>6cm)	----	1	%		<1	<1	----	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		2.68	2.69	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	----	----	4240
Iron	7439-89-6	50	mg/kg		----	----	----	----	11000
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	----	----	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	----	----	----	18.3
Cadmium	7440-43-9	0.1	mg/kg		----	----	----	----	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	----	----	----	10.0
Copper	7440-50-8	1.0	mg/kg		----	----	----	----	3.2
Cobalt	7440-48-4	0.5	mg/kg		----	----	----	----	7.0
Lead	7439-92-1	1.0	mg/kg		----	----	----	----	2.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB11 0.0-0.5B	WB11 0.5-1.0B	WB11 0.3V	WB11 0.7V	WB14 0.0-0.5A
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503080-021	ES1503080-022	ES1503080-023	ES1503080-024	ES1503080-025
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	----	----	**822**
Nickel	7440-02-0	1.0	mg/kg		----	----	----	----	**4.9**
Selenium	7782-49-2	0.1	mg/kg		----	----	----	----	**0.3**
Silver	7440-22-4	0.1	mg/kg		----	----	----	----	<0.1
Vanadium	7440-62-2	2.0	mg/kg		----	----	----	----	**31.0**
Zinc	7440-66-6	1.0	mg/kg		----	----	----	----	**14.1**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	----	----	<0.01
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	----	**0.3**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	----	**0.3**
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	----	----	**60**
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	----	----	**60**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	----	----	**245**
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	----	----	**0.5**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	----	----	**0.19**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	----	----	<3
>C16 - C34 Fraction	----	3	mg/kg		----	----	----	----	<3
>C34 - C40 Fraction	----	5	mg/kg		----	----	----	----	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	----	----	<3
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	<3	<3	----
C10 - C14 Fraction	----	3	mg/kg		----	----	----	----	<3
C15 - C28 Fraction	----	3	mg/kg		----	----	----	----	<3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB11 0.0-0.5B	WB11 0.5-1.0B	WB11 0.3V	WB11 0.7V	WB14 0.0-0.5A
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503080-021	ES1503080-022	ES1503080-023	ES1503080-024	ES1503080-025
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	----	----	<5
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	----	----	<3
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	<3	<3	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	<0.2	<0.2	----
Toluene	108-88-3	0.2	mg/kg		----	----	<0.2	<0.2	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	<0.2	<0.2	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	<0.2	<0.2	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	<0.2	<0.2	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	<0.5	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg		----	----	<0.2	<0.2	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	----	----	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	----	----	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	----	----	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	----	----	<10
Carbophenothion	786-19-6	10	µg/kg		----	----	----	----	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	----	----	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	----	----	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	----	----	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	----	----	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	----	----	<10
Diazinon	333-41-5	10	µg/kg		----	----	----	----	<10
Dichlorvos	62-73-7	10	µg/kg		----	----	----	----	<10
Dimethoate	60-51-5	10	µg/kg		----	----	----	----	<10
Ethion	563-12-2	10	µg/kg		----	----	----	----	<10
Fenamiphos	22224-92-6	10	µg/kg		----	----	----	----	<10
Fenthion	55-38-9	10	µg/kg		----	----	----	----	<10
Malathion	121-75-5	10	µg/kg		----	----	----	----	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	----	----	----	<10
Monocrotophos	6923-22-4	10	µg/kg		----	----	----	----	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB11 0.0-0.5B	WB11 0.5-1.0B	WB11 0.3V	WB11 0.7V	WB14 0.0-0.5A
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
					ES1503080-021	ES1503080-022	ES1503080-023	ES1503080-024	ES1503080-025
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	----	----	<10
Parathion-methyl	298-00-0	10	µg/kg		----	----	----	----	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	----	----	<10
Prothiofos	34643-46-4	10	µg/kg		----	----	----	----	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	----	----	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	----	----	----	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	----	----	----	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	----	----	<0.50
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	----	----	----	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	----	----	----	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	----	----	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	----	----	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	----	----	<0.50
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	----	----	----	<0.50
Endrin	72-20-8	0.50	µg/kg		----	----	----	----	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	----	----	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	----	----	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	----	----	----	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	----	----	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	----	----	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	----	----	----	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	----	----	----	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	----	----	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	----	----	<0.25
^ **Total Chlordane (sum)**	----	0.25	µg/kg		----	----	----	----	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	----	----	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	----	----	<5.0

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB11 0.0-0.5B	WB11 0.5-1.0B	WB11 0.3V	WB11 0.7V	WB14 0.0-0.5A
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
					ES1503080-021	ES1503080-022	ES1503080-023	ES1503080-024	ES1503080-025
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	----	----	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	----	----	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	----	----	<5
Acenaphthylene	208-96-8	4	µg/kg		----	----	----	----	<4
Acenaphthene	83-32-9	4	µg/kg		----	----	----	----	<4
Fluorene	86-73-7	4	µg/kg		----	----	----	----	<4
Phenanthrene	85-01-8	4	µg/kg		----	----	----	----	<4
Anthracene	120-12-7	4	µg/kg		----	----	----	----	<4
Fluoranthene	206-44-0	4	µg/kg		----	----	----	----	<4
Pyrene	129-00-0	4	µg/kg		----	----	----	----	<4
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	----	----	<4
Chrysene	218-01-9	4	µg/kg		----	----	----	----	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	----	----	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	----	----	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	----	----	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	----	----	<4
Perylene	198-55-0	4	µg/kg		----	----	----	----	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	----	----	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	----	----	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	----	----	<4
Coronene	191-07-1	5	µg/kg		----	----	----	----	<5
^ **Sum of PAHs**	----	4	µg/kg		----	----	----	----	<4
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	**128**	**114**	----
Toluene-D8	2037-26-5	0.1	%		----	----	**110**	**101**	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	**97.7**	**88.3**	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	----	----	**61.6**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB11 0.0-0.5B	WB11 0.5-1.0B	WB11 0.3V	WB11 0.7V	WB14 0.0-0.5A
			Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503080-021	ES1503080-022	ES1503080-023	ES1503080-024	ES1503080-025
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	----	----	86.5
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	----	----	69.7
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	----	64.6
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	----	108
Anthracene-d10	1719-06-8	0.1	%	----	----	----	----	87.2
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	----	89.6

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB14 0.5-1.0A	WB14 0.0-0.5B	WB14 0.5-1.0B	WB14 0.3V	WB14 0.7V
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
					ES1503080-026	ES1503080-027	ES1503080-028	ES1503080-029	ES1503080-030
EA150: Particle Sizing									
+75µm	----	1	%		----	98	97	----	----
+150µm	----	1	%		----	54	37	----	----
+300µm	----	1	%		----	2	1	----	----
+425µm	----	1	%		----	<1	<1	----	----
+600µm	----	1	%		----	<1	<1	----	----
+1180µm	----	1	%		----	<1	<1	----	----
+2.36mm	----	1	%		----	<1	<1	----	----
+4.75mm	----	1	%		----	<1	<1	----	----
+9.5mm	----	1	%		----	<1	<1	----	----
+19.0mm	----	1	%		----	<1	<1	----	----
+37.5mm	----	1	%		----	<1	<1	----	----
+75.0mm	----	1	%		----	<1	<1	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		21.0	----	----	27.5	23.6
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	2	1	----	----
Silt (2-60 µm)	----	1	%		----	<1	1	----	----
Sand (0.06-2.00 mm)	----	1	%		----	98	98	----	----
Gravel (>2mm)	----	1	%		----	<1	<1	----	----
Cobbles (>6cm)	----	1	%		----	<1	<1	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	2.69	2.68	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		4470	----	----	----	----
Iron	7439-89-6	50	mg/kg		10700	----	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	----	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		15.6	----	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	----	----	----	----
Chromium	7440-47-3	1.0	mg/kg		10.0	----	----	----	----
Copper	7440-50-8	1.0	mg/kg		3.3	----	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		6.6	----	----	----	----
Lead	7439-92-1	1.0	mg/kg		2.5	----	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB14 0.5-1.0A	WB14 0.0-0.5B	WB14 0.5-1.0B	WB14 0.3V	WB14 0.7V
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
					ES1503080-026	ES1503080-027	ES1503080-028	ES1503080-029	ES1503080-030
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		**614**	----	----	----	----
Nickel	7440-02-0	1.0	mg/kg		**4.6**	----	----	----	----
Selenium	7782-49-2	0.1	mg/kg		**0.3**	----	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.1	----	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		**29.9**	----	----	----	----
Zinc	7440-66-6	1.0	mg/kg		**14.2**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		**0.2**	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		**0.2**	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		**50**	----	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ **Total Nitrogen as N**	----	20	mg/kg		**50**	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		**230**	----	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		**2.7**	----	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		**0.08**	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	----	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		<3	----	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	----	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	<3	<3
C10 - C14 Fraction	----	3	mg/kg		<3	----	----	----	----
C15 - C28 Fraction	----	3	mg/kg		<3	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB14 0.5-1.0A	WB14 0.0-0.5B	WB14 0.5-1.0B	WB14 0.3V	WB14 0.7V
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
					ES1503080-026	ES1503080-027	ES1503080-028	ES1503080-029	ES1503080-030
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	----	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		<3	----	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	<3	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	<0.2	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	<0.2	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	<0.2	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	<0.2	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	----	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	<0.2	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	----	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	----	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	----	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	----	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	----	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	----	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	----	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	----	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	----	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	----	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	----	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	----	----	----	----
Ethion	563-12-2	10	µg/kg		<10	----	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	----	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	----	----	----	----
Malathion	121-75-5	10	µg/kg		<10	----	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	----	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB14 0.5-1.0A	WB14 0.0-0.5B	WB14 0.5-1.0B	WB14 0.3V	WB14 0.7V
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
					ES1503080-026	ES1503080-027	ES1503080-028	ES1503080-029	ES1503080-030
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	----	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	----	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	----	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	----	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	----	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	----	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	----	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	----	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	----	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	----	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	----	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	----	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	----	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	----	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	----	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	----	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	----	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	----	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	----	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	----	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	----	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	----	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	----	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	----	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	----	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB14 0.5-1.0A	WB14 0.0-0.5B	WB14 0.5-1.0B	WB14 0.3V	WB14 0.7V
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
					ES1503080-026	ES1503080-027	ES1503080-028	ES1503080-029	ES1503080-030
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	----	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	----	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	----	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	----	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	----	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	----	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	----	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	----	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	----	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	----	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	----	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	----	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	----	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	----	----	----	----
Perylene	198-55-0	4	µg/kg		<4	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	----	----	----	----
Coronene	191-07-1	5	µg/kg		<5	----	----	----	----
^ **Sum of PAHs**	----	4	µg/kg		<4	----	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	**87.6**	**88.9**
Toluene-D8	2037-26-5	0.1	%		----	----	----	**102**	**106**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	**89.8**	**92.6**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**72.7**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB14 0.5-1.0A	WB14 0.0-0.5B	WB14 0.5-1.0B	WB14 0.3V	WB14 0.7V
			Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503080-026	ES1503080-027	ES1503080-028	ES1503080-029	ES1503080-030
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**75.8**	----	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**66.6**	----	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**64.4**	----	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**91.7**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**112**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	**114**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB15 0.0-0.5A	WB15 0.5-1.0A	WB15 0.0-0.5B	WB15 0.5-1.0B	WB15 0.3V
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
					ES1503080-031	ES1503080-032	ES1503080-033	ES1503080-034	ES1503080-035
EA150: Particle Sizing									
+75µm	----	1	%		----	----	96	60	----
+150µm	----	1	%		----	----	27	12	----
+300µm	----	1	%		----	----	2	<1	----
+425µm	----	1	%		----	----	<1	<1	----
+600µm	----	1	%		----	----	<1	<1	----
+1180µm	----	1	%		----	----	<1	<1	----
+2.36mm	----	1	%		----	----	<1	<1	----
+4.75mm	----	1	%		----	----	<1	<1	----
+9.5mm	----	1	%		----	----	<1	<1	----
+19.0mm	----	1	%		----	----	<1	<1	----
+37.5mm	----	1	%		----	----	<1	<1	----
+75.0mm	----	1	%		----	----	<1	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		25.0	25.2	----	----	26.0
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	2	17	----
Silt (2-60 µm)	----	1	%		----	----	1	13	----
Sand (0.06-2.00 mm)	----	1	%		----	----	97	70	----
Gravel (>2mm)	----	1	%		----	----	<1	<1	----
Cobbles (>6cm)	----	1	%		----	----	<1	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	2.68	2.69	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		4910	4660	----	----	----
Iron	7439-89-6	50	mg/kg		10100	9450	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		13.0	9.91	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	----	----	----
Chromium	7440-47-3	1.0	mg/kg		11.5	10.4	----	----	----
Copper	7440-50-8	1.0	mg/kg		3.0	3.2	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		6.8	6.2	----	----	----
Lead	7439-92-1	1.0	mg/kg		2.6	2.7	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB15 0.0-0.5A	WB15 0.5-1.0A	WB15 0.0-0.5B	WB15 0.5-1.0B	WB15 0.3V
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
					ES1503080-031	ES1503080-032	ES1503080-033	ES1503080-034	ES1503080-035
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		472	466	----	----	----
Nickel	7440-02-0	1.0	mg/kg		4.7	4.5	----	----	----
Selenium	7782-49-2	0.1	mg/kg		0.4	0.4	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.1	<0.1	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		25.2	23.5	----	----	----
Zinc	7440-66-6	1.0	mg/kg		15.0	13.8	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	<0.01	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		70	120	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		70	120	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		200	166	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		3.1	4.6	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		0.14	0.39	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	<3	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		<3	3	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	<5	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	3	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		<3	<3	----	----	----
C15 - C28 Fraction	----	3	mg/kg		<3	<3	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB15 0.0-0.5A	WB15 0.5-1.0A	WB15 0.0-0.5B	WB15 0.5-1.0B	WB15 0.3V
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
					ES1503080-031	ES1503080-032	ES1503080-033	ES1503080-034	ES1503080-035
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	<5	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		<3	<3	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	----	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	<1	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	<1	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	<0.5	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	<10	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	<10	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	<10.0	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	<10	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	<10	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	<10	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	<10	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	<10	----	----	----
Ethion	563-12-2	10	µg/kg		<10	<10	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	<10	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	<10	----	----	----
Malathion	121-75-5	10	µg/kg		<10	<10	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	<10	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	<10	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB15 0.0-0.5A	WB15 0.5-1.0A	WB15 0.0-0.5B	WB15 0.5-1.0B	WB15 0.3V
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
					ES1503080-031	ES1503080-032	ES1503080-033	ES1503080-034	ES1503080-035
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	<10	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	<10	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	<10	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	<10	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	<0.50	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	<0.50	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	<0.50	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	<0.50	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	<0.50	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	<0.25	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	<0.50	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	<0.25	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	<0.25	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	<0.25	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	<0.50	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	<5.0	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB15 0.0-0.5A	WB15 0.5-1.0A	WB15 0.0-0.5B	WB15 0.5-1.0B	WB15 0.3V
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
					ES1503080-031	ES1503080-032	ES1503080-033	ES1503080-034	ES1503080-035
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	<5.0	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	<5	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	<5	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	<4	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	<4	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	<4	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	<4	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	<4	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	<4	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	<4	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	<4	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	<4	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	<4	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	<4	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	<4	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	<4	----	----	----
Perylene	198-55-0	4	µg/kg		<4	<4	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	<4	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	<4	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	<4	----	----	----
Coronene	191-07-1	5	µg/kg		<5	<5	----	----	----
^ **Sum of PAHs**	----	4	µg/kg		<4	<4	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	----	**95.3**
Toluene-D8	2037-26-5	0.1	%		----	----	----	----	**115**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	----	**99.7**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**81.0**	**79.9**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB15 0.0-0.5A	WB15 0.5-1.0A	WB15 0.0-0.5B	WB15 0.5-1.0B	WB15 0.3V
			Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503080-031	ES1503080-032	ES1503080-033	ES1503080-034	ES1503080-035
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	87.5	74.0	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	70.2	70.6	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	77.1	80.5	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	103	101	----	----	----
Anthracene-d10	1719-06-8	0.1	%	89.8	89.6	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	94.0	89.1	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB15 0.7V	PC9 0.0-0.3A	TRIPLICATE 4A	TRIPLICATE 4B	TRIPLICATE 4A, B
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
					ES1503080-036	ES1503080-037	ES1503080-039	ES1503080-040	ES1503080-041
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	----	94
+150µm	----	1	%		----	----	----	----	12
+300µm	----	1	%		----	----	----	----	<1
+425µm	----	1	%		----	----	----	----	<1
+600µm	----	1	%		----	----	----	----	<1
+1180µm	----	1	%		----	----	----	----	<1
+2.36mm	----	1	%		----	----	----	----	<1
+4.75mm	----	1	%		----	----	----	----	<1
+9.5mm	----	1	%		----	----	----	----	<1
+19.0mm	----	1	%		----	----	----	----	<1
+37.5mm	----	1	%		----	----	----	----	<1
+75.0mm	----	1	%		----	----	----	----	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		26.0	38.1	30.4	29.2	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	----	4
Silt (2-60 µm)	----	1	%		----	----	----	----	<1
Sand (0.06-2.00 mm)	----	1	%		----	----	----	----	96
Gravel (>2mm)	----	1	%		----	----	----	----	<1
Cobbles (>6cm)	----	1	%		----	----	----	----	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	----	2.68
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	9540	5520	5880	----
Iron	7439-89-6	50	mg/kg		----	15000	12000	11200	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	<0.50	<0.50	<0.50	----
Arsenic	7440-38-2	1.00	mg/kg		----	12.9	11.4	15.3	----
Cadmium	7440-43-9	0.1	mg/kg		----	<0.1	<0.1	<0.1	----
Chromium	7440-47-3	1.0	mg/kg		----	17.8	12.6	12.2	----
Copper	7440-50-8	1.0	mg/kg		----	10.6	4.1	4.5	----
Cobalt	7440-48-4	0.5	mg/kg		----	7.5	8.2	7.4	----
Lead	7439-92-1	1.0	mg/kg		----	6.2	3.5	3.4	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB15 0.7V	PC9 0.0-0.3A	TRIPLICATE 4A	TRIPLICATE 4B	TRIPLICATE 4A, B
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
					ES1503080-036	ES1503080-037	ES1503080-039	ES1503080-040	ES1503080-041
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	317	615	691	----
Nickel	7440-02-0	1.0	mg/kg		----	7.9	5.5	5.6	----
Selenium	7782-49-2	0.1	mg/kg		----	0.7	0.4	0.5	----
Silver	7440-22-4	0.1	mg/kg		----	<0.1	<0.1	<0.1	----
Vanadium	7440-62-2	2.0	mg/kg		----	33.8	31.0	29.3	----
Zinc	7440-66-6	1.0	mg/kg		----	29.7	17.9	16.7	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	0.02	<0.01	<0.01	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	<0.1	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	0.2	<0.1	0.1	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	0.2	<0.1	0.1	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	460	320	290	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	460	320	290	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	218	242	233	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	7.5	9.2	8.6	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	0.54	0.24	0.13	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	<3	<3	<3	----
>C16 - C34 Fraction	----	3	mg/kg		----	12	5	4	----
>C34 - C40 Fraction	----	5	mg/kg		----	<5	<5	<5	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	12	5	4	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	<3	----	----	----
C10 - C14 Fraction	----	3	mg/kg		----	<3	<3	<3	----
C15 - C28 Fraction	----	3	mg/kg		----	8	<3	<3	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB15 0.7V	PC9 0.0-0.3A	TRIPLICATE 4A	TRIPLICATE 4B	TRIPLICATE 4A, B
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
					ES1503080-036	ES1503080-037	ES1503080-039	ES1503080-040	ES1503080-041
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	8	<5	<5	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	16	<3	<3	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	<3	----	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	----	----
Toluene	108-88-3	0.2	mg/kg		<0.2	<0.2	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	<0.2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	<0.2	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	<0.2	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	<1	<1	<1	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	<1	<1	<1	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	<0.5	<0.5	<0.5	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	<10	<10	<10	----
Carbophenothion	786-19-6	10	µg/kg		----	<10	<10	<10	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	<10.0	<10.0	<10.0	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	<10	<10	<10	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	<10	<10	<10	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	<10	<10	<10	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	<10	<10	<10	----
Diazinon	333-41-5	10	µg/kg		----	<10	<10	<10	----
Dichlorvos	62-73-7	10	µg/kg		----	<10	<10	<10	----
Dimethoate	60-51-5	10	µg/kg		----	<10	<10	<10	----
Ethion	563-12-2	10	µg/kg		----	<10	<10	<10	----
Fenamiphos	22224-92-6	10	µg/kg		----	<10	<10	<10	----
Fenthion	55-38-9	10	µg/kg		----	<10	<10	<10	----
Malathion	121-75-5	10	µg/kg		----	<10	<10	<10	----
Azinphos Methyl	86-50-0	10	µg/kg		----	<10	<10	<10	----
Monocrotophos	6923-22-4	10	µg/kg		----	<10	<10	<10	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB15 0.7V	PC9 0.0-0.3A	TRIPLICATE 4A	TRIPLICATE 4B	TRIPLICATE 4A, B
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
					ES1503080-036	ES1503080-037	ES1503080-039	ES1503080-040	ES1503080-041
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	<10	<10	<10	----
Parathion-methyl	298-00-0	10	µg/kg		----	<10	<10	<10	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	<10	<10	<10	----
Prothiofos	34643-46-4	10	µg/kg		----	<10	<10	<10	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
alpha-BHC	319-84-6	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
beta-BHC	319-85-7	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
delta-BHC	319-86-8	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
Dieldrin	60-57-1	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
Endrin	72-20-8	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
Heptachlor	76-44-8	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
gamma-BHC	58-89-9	0.25	µg/kg		----	<0.25	<0.25	<0.25	----
Methoxychlor	72-43-5	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	<0.25	<0.25	<0.25	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	<0.25	<0.25	<0.25	----
^ **Total Chlordane (sum)**	----	0.25	µg/kg		----	<0.25	<0.25	<0.25	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	<0.50	<0.50	<0.50	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		----	<5.0	<5.0	<5.0	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	<5.0	<5.0	<5.0	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	<5.0	<5.0	<5.0	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB15 0.7V	PC9 0.0-0.3A	TRIPLICATE 4A	TRIPLICATE 4B	TRIPLICATE 4A, B
				Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
					ES1503080-036	ES1503080-037	ES1503080-039	ES1503080-040	ES1503080-041
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	<5.0	<5.0	<5.0	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	<5.0	<5.0	<5.0	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	<5.0	<5.0	<5.0	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	<5.0	<5.0	<5.0	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	<5.0	<5.0	<5.0	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	<5	<5	<5	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	<5	<5	<5	----
Acenaphthylene	208-96-8	4	µg/kg		----	<4	<4	<4	----
Acenaphthene	83-32-9	4	µg/kg		----	<4	<4	<4	----
Fluorene	86-73-7	4	µg/kg		----	<4	<4	<4	----
Phenanthrene	85-01-8	4	µg/kg		----	**7**	<4	<4	----
Anthracene	120-12-7	4	µg/kg		----	<4	<4	<4	----
Fluoranthene	206-44-0	4	µg/kg		----	**7**	<4	<4	----
Pyrene	129-00-0	4	µg/kg		----	**9**	<4	<4	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	<4	<4	<4	----
Chrysene	218-01-9	4	µg/kg		----	<4	<4	<4	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	**6**	<4	<4	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	<4	<4	<4	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	**4**	<4	<4	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	**4**	<4	<4	----
Perylene	198-55-0	4	µg/kg		----	<4	<4	<4	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	**4**	**5**	<4	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	<4	**6**	<4	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	<4	<4	<4	----
Coronene	191-07-1	5	µg/kg		----	<5	<5	<5	----
^ **Sum of PAHs**	----	4	µg/kg		----	**41**	**11**	<4	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**87.2**	**94.8**	----	----	----
Toluene-D8	2037-26-5	0.1	%		**106**	**97.0**	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**94.1**	**98.0**	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	**65.8**	**49.8**	**65.5**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB15 0.7V	PC9 0.0-0.3A	TRIPLICATE 4A	TRIPLICATE 4B	TRIPLICATE 4A, B
			Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00	09-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503080-036	ES1503080-037	ES1503080-039	ES1503080-040	ES1503080-041
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	65.5	81.4	82.2	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	110	67.8	85.3	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	81.9	80.0	103	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	99.1	95.2	103	----
Anthracene-d10	1719-06-8	0.1	%	----	89.4	86.3	96.7	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	83.8	85.7	95.6	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TRIPLICATE 4B, B	TRIP BLANK	----	----	----
			Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	----	----	----
Compound	CAS Number	LOR	Unit	ES1503080-042	ES1503080-043	----	----	----
EA150: Particle Sizing								
+75µm	----	1	%	**94**	----	----	----	----
+150µm	----	1	%	**20**	----	----	----	----
+300µm	----	1	%	<1	----	----	----	----
+425µm	----	1	%	<1	----	----	----	----
+600µm	----	1	%	<1	----	----	----	----
+1180µm	----	1	%	<1	----	----	----	----
+2.36mm	----	1	%	<1	----	----	----	----
+4.75mm	----	1	%	<1	----	----	----	----
+9.5mm	----	1	%	<1	----	----	----	----
+19.0mm	----	1	%	<1	----	----	----	----
+37.5mm	----	1	%	<1	----	----	----	----
+75.0mm	----	1	%	<1	----	----	----	----
EA150: Soil Classification based on Particle Size								
Clay (<2 µm)	----	1	%	**3**	----	----	----	----
Silt (2-60 µm)	----	1	%	<1	----	----	----	----
Sand (0.06-2.00 mm)	----	1	%	**97**	----	----	----	----
Gravel (>2mm)	----	1	%	<1	----	----	----	----
Cobbles (>6cm)	----	1	%	<1	----	----	----	----
EA152: Soil Particle Density								
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3	**2.69**	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013								
>C10 - C16 Fraction	>C10_C16	3	mg/kg	----	<3	----	----	----
>C16 - C34 Fraction	----	3	mg/kg	----	<3	----	----	----
>C34 - C40 Fraction	----	5	mg/kg	----	<5	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg	----	<3	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	3	mg/kg	----	<3	----	----	----
C10 - C14 Fraction	----	3	mg/kg	----	<3	----	----	----
C15 - C28 Fraction	----	3	mg/kg	----	<3	----	----	----
C29 - C36 Fraction	----	5	mg/kg	----	<5	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg	----	<3	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons								
C6 - C10 Fraction	C6_C10	3	mg/kg	----	<3	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TRIPLICATE 4B, B	TRIP BLANK	----	----	----
			Client sampling date / time	09-FEB-2015 15:00	09-FEB-2015 15:00	----	----	----
Compound	CAS Number	LOR	Unit	ES1503080-042	ES1503080-043	----	----	----
EP080-SD: BTEXN								
Benzene	71-43-2	0.2	mg/kg	----	<0.2	----	----	----
Toluene	108-88-3	0.2	mg/kg	----	<0.2	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg	----	<0.2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	----	<0.2	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg	----	<0.2	----	----	----
^ **Total Xylenes**	1330-20-7	0.5	mg/kg	----	<0.5	----	----	----
^ **Sum of BTEX**	----	0.2	mg/kg	----	<0.2	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	**93.1**	----	----	----
Toluene-D8	2037-26-5	0.1	%	----	**108**	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	**98.0**	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 4	----	----	----	----
				Client sampling date / time	09-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1503080-044	----	----	----	----
EG020T: Total Metals by ICP-MS									
Antimony	7440-36-0	0.001	mg/L		<0.001	----	----	----	----
Arsenic	7440-38-2	0.001	mg/L		<0.001	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	----	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	----	----	----	----
Manganese	7439-96-5	0.001	mg/L		<0.001	----	----	----	----
Nickel	7440-02-0	0.001	mg/L		<0.001	----	----	----	----
Silver	7440-22-4	0.001	mg/L		<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L		<0.005	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	----	----	----	----
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		<0.01	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	----	0.01	mg/L		<0.01	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		<0.01	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		<0.01	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L		<0.1	----	----	----	----
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser									
^ Total Nitrogen as N	----	0.1	mg/L		<0.1	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		<0.01	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	1	µg/L		<1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.5	µg/L		<0.5	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L		<0.5	----	----	----	----
beta-BHC	319-85-7	0.5	µg/L		<0.5	----	----	----	----
gamma-BHC	58-89-9	0.5	µg/L		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 4	----	----	----	----
				Client sampling date / time	09-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1503080-044	----	----	----	----
EP068A: Organochlorine Pesticides (OC) - Continued									
delta-BHC	319-86-8	0.5	µg/L		<0.5	----	----	----	----
Heptachlor	76-44-8	0.5	µg/L		<0.5	----	----	----	----
Aldrin	309-00-2	0.5	µg/L		<0.5	----	----	----	----
Heptachlor epoxide	1024-57-3	0.5	µg/L		<0.5	----	----	----	----
trans-Chlordane	5103-74-2	0.5	µg/L		<0.5	----	----	----	----
alpha-Endosulfan	959-98-8	0.5	µg/L		<0.5	----	----	----	----
cis-Chlordane	5103-71-9	0.5	µg/L		<0.5	----	----	----	----
Dieldrin	60-57-1	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDE	72-55-9	0.5	µg/L		<0.5	----	----	----	----
Endrin	72-20-8	0.5	µg/L		<0.5	----	----	----	----
beta-Endosulfan	33213-65-9	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDD	72-54-8	0.5	µg/L		<0.5	----	----	----	----
Endrin aldehyde	7421-93-4	0.5	µg/L		<0.5	----	----	----	----
Endosulfan sulfate	1031-07-8	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDT	50-29-3	2.0	µg/L		<2.0	----	----	----	----
Endrin ketone	53494-70-5	0.5	µg/L		<0.5	----	----	----	----
Methoxychlor	72-43-5	2.0	µg/L		<2.0	----	----	----	----
^ Total Chlordane (sum)	----	0.5	µg/L		<0.5	----	----	----	----
^ Sum of DDD + DDE + DDT	----	0.5	µg/L		<0.5	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L		<0.5	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.5	µg/L		<0.5	----	----	----	----
Demeton-S-methyl	919-86-8	0.5	µg/L		<0.5	----	----	----	----
Monocrotophos	6923-22-4	2.0	µg/L		<2.0	----	----	----	----
Dimethoate	60-51-5	0.5	µg/L		<0.5	----	----	----	----
Diazinon	333-41-5	0.5	µg/L		<0.5	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L		<0.5	----	----	----	----
Parathion-methyl	298-00-0	2.0	µg/L		<2.0	----	----	----	----
Malathion	121-75-5	0.5	µg/L		<0.5	----	----	----	----
Fenthion	55-38-9	0.5	µg/L		<0.5	----	----	----	----
Chlorpyrifos	2921-88-2	0.5	µg/L		<0.5	----	----	----	----
Parathion	56-38-2	2.0	µg/L		<2.0	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	µg/L		<0.5	----	----	----	----
Chlorfenvinphos	470-90-6	0.5	µg/L		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 4	----	----	----	----
				Client sampling date / time	09-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1503080-044	----	----	----	----
EP068B: Organophosphorus Pesticides (OP) - Continued									
Bromophos-ethyl	4824-78-6	0.5	µg/L		<0.5	----	----	----	----
Fenamiphos	22224-92-6	0.5	µg/L		<0.5	----	----	----	----
Prothiofos	34643-46-4	0.5	µg/L		<0.5	----	----	----	----
Ethion	563-12-2	0.5	µg/L		<0.5	----	----	----	----
Carbophenothion	786-19-6	0.5	µg/L		<0.5	----	----	----	----
Azinphos Methyl	86-50-0	0.5	µg/L		<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L		<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L		<1.0	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L		<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	----	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		<0.5	----	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L		<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L		<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	µg/L		<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	----	----	----	----

Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Client sample ID: RINSATE 4	----	----	----	----
				Client sampling date / time: 09-FEB-2015 15:00	----	----	----	----
				ES1503080-044	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L	<20	----	----	----	----
>C10 - C16 Fraction	>C10_C16	100	µg/L	<100	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L	<100	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L	<100	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L	<100	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L	<100	----	----	----	----
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	----	----	----	----
Toluene	108-88-3	2	µg/L	<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	----	----	----	----
^ **Total Xylenes**	1330-20-7	2	µg/L	<2	----	----	----	----
^ **Sum of BTEX**	----	1	µg/L	<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L	<5	----	----	----	----
EP090: Organotin Compounds								
Monobutyltin	78763-54-9	5	ngSn/L	<5	----	----	----	----
Dibutyltin	1002-53-5	5	ngSn/L	<5	----	----	----	----
Tributyltin	56573-85-4	2	ngSn/L	<2	----	----	----	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**85.5**	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**97.1**	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**87.7**	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	**23.9**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	**53.4**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	**39.1**	----	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**59.3**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**76.1**	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 4	----	----	----	----
				Client sampling date / time	09-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1503080-044	----	----	----	----
EP075(SIM)T: PAH Surrogates - Continued									
4-Terphenyl-d14	1718-51-0	0.1	%		73.8	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		114	----	----	----	----
Toluene-D8	2037-26-5	0.1	%		115	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		120	----	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		73.6	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
EP080-SD: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	67	137
Toluene-D8	2037-26-5	74	134
4-Bromofluorobenzene	460-00-4	73	137
EP090S: Organotin Surrogate			
Tripropyltin	----	35	130
EP130S: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	14.4	102
EP131S: OC Pesticide Surrogate			
Dibromo-DDE	21655-73-2	10	119
EP131T: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	10	106
EP132T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	55	135
Anthracene-d10	1719-06-8	70	136
4-Terphenyl-d14	1718-51-0	57	127

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	28.5	129
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	30	120
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	26.8	129
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10.0	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27.4	113
4-Terphenyl-d14	1718-51-0	32	112
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128
EP090S: Organotin Surrogate			
Tripropyltin	----	8.2	108

QUALITY CONTROL REPORT

Work Order	: **ES1503080**	Page	: 1 of 33
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 11-FEB-2015
Sampler	: GK	Issue Date	: 28-FEB-2015
Order number	: 245553		
		No. of samples received	: 44
Quote number	: SY/1021/14 V2	No. of samples analysed	: 43

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Ashesh Patel	Inorganic Chemist	Sydney Inorganics
Dianne Blane	Laboratory Coordinator (2IC)	Newcastle - Inorganics
Diem Nguyen	Instrument Chemist	Melbourne Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
		Sydney Organics
Ryan Story	2IC Organic Instrument Chemist	Brisbane Organics
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils
Shobhna Chandra	Metals Coordinator	Sydney Inorganics
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA055: Moisture Content (QC Lot: 3826840)									
ES1503080-005	WB6 0.3V	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	21.0	22.1	5.4	0% - 20%
ES1503080-020	WB11 0.5-1.0A	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	21.9	22.4	2.1	0% - 20%
EA055: Moisture Content (QC Lot: 3826841)									
ES1503080-035	WB15 0.3V	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	26.0	26.9	3.4	0% - 20%
ES1503240-006	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	24.3	23.2	4.6	0% - 20%
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3829114)									
ES1503000-051	Anonymous	EG005-SD: Aluminium	7429-90-5	50	mg/kg	13000	12800	1.7	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	18500	18500	0.07	0% - 20%
ES1503080-020	WB11 0.5-1.0A	EG005-SD: Aluminium	7429-90-5	50	mg/kg	4430	4320	2.6	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	12500	12400	1.3	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3829113)									
ES1503000-051	Anonymous	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	1.0	1.0	0.0	0% - 50%
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	0.5	0.4	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	6.5	7.1	8.6	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	19.8	19.4	1.7	0% - 50%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	25.0	23.8	5.2	0% - 20%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	9.4	9.5	0.0	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	6.7	7.1	5.9	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	23.1	23.1	0.0	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	6.98	7.49	7.0	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	105	145	32.0	0% - 50%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	50.4	49.8	1.0	0% - 20%
ES1503080-020	WB11 0.5-1.0A	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.3	0.3	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	8.6	8.4	2.9	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	9.0	9.1	0.0	No Limit
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	3.4	3.3	0.0	No Limit
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	3.2	3.2	0.0	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	5.2	5.1	2.6	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	14.7	14.1	3.8	0% - 50%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	25.3	25.2	0.5	0% - 20%
		EG020-SD: Manganese	7439-96-5	10	mg/kg	1530	1500	2.1	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3829113) - continued									
ES1503080-020	WB11 0.5-1.0A	EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	35.2	33.8	4.3	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3829112)									
ES1503000-051	Anonymous	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	0.03	0.03	0.0	No Limit
ES1503080-020	WB11 0.5-1.0A	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3828334)									
ES1503080-001	WB6 0.0-0.5A-A	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1503080-026	WB14 0.5-1.0A	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3828335)									
ES1503080-001	WB6 0.0-0.5A-A	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1503080-026	WB14 0.5-1.0A	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	0.2	0.2	0.0	No Limit
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3828825)									
ES1502604-008	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	650	790	19.2	0% - 20%
ES1503000-057	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	280	320	12.1	0% - 50%
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3832645)									
ES1503080-025	WB14 0.0-0.5A	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	60	60	0.0	No Limit
ES1503240-007	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	90	90	0.0	No Limit
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3828826)									
ES1502604-008	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	299	292	2.4	0% - 20%
ES1503000-057	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	210	198	5.8	0% - 20%
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3832646)									
ES1503080-025	WB14 0.0-0.5A	EK067G: Total Phosphorus as P	----	2	mg/kg	245	247	0.8	0% - 20%
ES1503240-007	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	381	345	10.1	0% - 20%
EK255A SD: Ammonia in Sediment (QC Lot: 3822225)									
ES1502850-041	Anonymous	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	97.4	96.5	0.9	0% - 20%
ES1502850-051	Anonymous	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	14.8	14.7	0.7	0% - 20%
EK255A SD: Ammonia in Sediment (QC Lot: 3822226)									
ES1503080-014	WB10 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	2.9	2.9	0.0	0% - 50%
ES1503240-001	Anonymous	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	3.6	3.5	0.0	0% - 50%
EP003: Total Organic Carbon (TOC) in Soil (QC Lot: 3824875)									
ES1503080-002	WB6 0.5-1.0A	EP003: Total Organic Carbon	----	0.02	%	0.08	0.09	0.0	No Limit
ES1503080-037	PC9 0.0-0.3A	EP003: Total Organic Carbon	----	0.02	%	0.54	0.56	4.5	0% - 20%
EP003: Total Organic Carbon (TOC) in Soil (QC Lot: 3830014)									
EM1501460-005	Anonymous	EP003: Total Organic Carbon	----	0.02	%	8.91	9.12	2.2	0% - 20%
ES1503512-022	Anonymous	EP003: Total Organic Carbon	----	0.02	%	0.50	0.51	0.0	0% - 20%
EP003: Total Organic Carbon (TOC) in Soil (QC Lot: 3830162)									
ES1503080-040	TRIPLICATE 4B	EP003: Total Organic Carbon	----	0.02	%	0.13	0.15	13.3	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3821455)									
ES1502902-001	Anonymous	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	3	4	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3821455) - continued									
ES1502902-001	Anonymous	EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	20	20	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	31	33	6.2	0% - 50%
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	8	9	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3821484)									
ES1503080-001	WB6 0.0-0.5A-A	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
ES1503080-031	WB15 0.0-0.5A	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3821094)									
ES1503080-005	WB6 0.3V	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
ES1503080-035	WB15 0.3V	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3821455)									
ES1502902-001	Anonymous	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	5	5	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	13	14	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	30	34	12.5	0% - 50%
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	12	15	20.6	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3821484)									
ES1503080-001	WB6 0.0-0.5A-A	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
ES1503080-031	WB15 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3834629)									
ES1503080-037	PC9 0.0-0.3A	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
EP080-SD: BTEXN (QC Lot: 3821094)									
ES1503080-005	WB6 0.3V	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
ES1503080-035	WB15 0.3V	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP080-SD: BTEXN (QC Lot: 3821094) - continued									
ES1503080-035	WB15 0.3V	EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP080-SD: BTEXN (QC Lot: 3834629)									
ES1503080-037	PC9 0.0-0.3A	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP090: Organotin Compounds (QC Lot: 3822912)									
ES1503080-001	WB6 0.0-0.5A-A	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
ES1503080-031	WB15 0.0-0.5A	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3821477)									
ES1503080-001	WB6 0.0-0.5A-A	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3821477) - continued									
ES1503080-031	WB15 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
EP131A: Organochlorine Pesticides (QC Lot: 3821478)									
ES1503080-001	WB6 0.0-0.5A-A	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP131A: Organochlorine Pesticides (QC Lot: 3821478) - continued									
ES1503080-001	WB6 0.0-0.5A-A	EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
ES1503080-031	WB15 0.0-0.5A	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 3821479)									
ES1503080-001	WB6 0.0-0.5A-A	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
ES1503080-031	WB15 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 3821479) - continued									
ES1503080-031	WB15 0.0-0.5A	EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3821483)									
ES1503080-001	WB6 0.0-0.5A-A	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit
ES1503080-031	WB15 0.0-0.5A	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3821483) - continued									
ES1503080-031	WB15 0.0-0.5A	EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020T: Total Metals by ICP-MS (QC Lot: 3826139)									
EM1501490-001	Anonymous	EG020B-T: Silver	7440-22-4	0.001	mg/L	<0.001	<0.001	0.0	No Limit
EG020T: Total Metals by ICP-MS (QC Lot: 3826144)									
EM1501663-001	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Antimony	7440-36-0	0.001	mg/L	0.046	0.045	3.4	0% - 20%
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	0.011	0.011	0.0	0% - 50%
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	0.002	0.002	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	0.004	0.004	0.0	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	0.003	0.003	0.0	No Limit
		EG020A-T: Manganese	7439-96-5	0.001	mg/L	0.908	0.895	1.4	0% - 20%
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	0.003	0.004	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3824333)									
EM1501530-015	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
ES1503024-004	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EK055G: Ammonia as N by Discrete Analyser (QC Lot: 3826048)									
ES1503000-059	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.01	0.0	No Limit
ES1503441-002	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	0.03	0.03	0.0	No Limit
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3821350)									
ES1502974-021	Anonymous	EK057G: Nitrite as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1503168-006	Anonymous	EK057G: Nitrite as N	----	0.01	mg/L	0.10	0.10	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3826047)									
ES1503000-059	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1503383-001	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	0.77	0.68	12.1	0% - 20%
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3826043)									
ES1503000-059	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	<0.1	<0.1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3826043) - continued									
ES1503383-002	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	<0.1	<0.1	0.0	No Limit
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3826044)									
ES1503000-059	Anonymous	EK067G: Total Phosphorus as P	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1503383-002	Anonymous	EK067G: Total Phosphorus as P	----	0.01	mg/L	0.06	0.06	0.0	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 3822400)									
ES1503352-018	Anonymous	EP066: Total Polychlorinated biphenyls	----	1	µg/L	<1	<1	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3822399)									
ES1503352-018	Anonymous	EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: 4.4`-DDE	72-55-9	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Endrin	72-20-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: 4.4`-DDD	72-54-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: 4.4`-DDT	50-29-3	2.0	µg/L	<2.0	<2.0	0.0	No Limit
		EP068: Methoxychlor	72-43-5	2.0	µg/L	<2.0	<2.0	0.0	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 3822399)									
ES1503352-018	Anonymous	EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Malathion	121-75-5	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 3822399) - continued									
ES1503352-018	Anonymous	EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Ethion	563-12-2	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP068: Monocrotophos	6923-22-4	2.0	µg/L	<2.0	<2.0	0.0	No Limit
		EP068: Parathion-methyl	298-00-0	2.0	µg/L	<2.0	<2.0	0.0	No Limit
		EP068: Parathion	56-38-2	2.0	µg/L	<2.0	<2.0	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3822402)									
ES1503352-018	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	0.0	No Limit
ES1503352-019	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3822402) - continued									
ES1503352-019	Anonymous	EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3822401)									
ES1503352-018	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
ES1503352-019	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3824867)									
ES1503447-003	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	1990	2040	2.4	0% - 20%
ES1503447-009	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	70	60	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3822401)									
ES1503352-018	Anonymous	EP071: >C10 - C16 Fraction	>C10_C16	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
ES1503352-019	Anonymous	EP071: >C10 - C16 Fraction	>C10_C16	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3824867)									
ES1503447-003	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	2100	2140	2.3	0% - 20%
ES1503447-009	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	70	70	0.0	No Limit
EP080: BTEXN (QC Lot: 3824867)									
ES1503447-003	Anonymous	EP080: Benzene	71-43-2	1	µg/L	229	232	1.4	0% - 20%
		EP080: Toluene	108-88-3	2	µg/L	470	479	2.0	0% - 20%
		EP080: Ethylbenzene	100-41-4	2	µg/L	50	50	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	220	227	3.2	0% - 20%
		EP080: ortho-Xylene	95-47-6	2	µg/L	93	95	1.9	0% - 50%
		EP080: Naphthalene	91-20-3	5	µg/L	8	7	0.0	No Limit
ES1503447-009	Anonymous	EP080: Benzene	71-43-2	1	µg/L	60	56	6.9	0% - 20%
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3829114)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	120	86	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	87.0	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3829113)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	----	----	----	----
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	109	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	106	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	120	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	110	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	114	84	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	102	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	125	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	118	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	115	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	2.10 mg/kg	131	64	148
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	119	87	131
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	118	83	137
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3829112)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.110 mg/kg	83.2	72	116
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3828334)								
EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	90.8	82	120
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3828335)								
EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	100	89	115
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3828825)								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	----	100 mg/kg	91.5	70	127
				<20	1000 mg/kg	89.0	64	114
				----	500 mg/kg	100	70	122
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3832645)								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	----	100 mg/kg	90.4	70	127
				<20	1000 mg/kg	87.2	64	114
				----	500 mg/kg	99.0	70	122
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3828826)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3828826) - continued								
EK067G: Total Phosphorus as P	----	2	mg/kg	----	44.2 mg/kg	87.4	64	124
				----	100 mg/kg	101	69	123
				<2	442 mg/kg	90.2	68	116
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3832646)								
EK067G: Total Phosphorus as P	----	2	mg/kg	----	100 mg/kg	95.0	69	123
				----	44.2 mg/kg	87.7	64	124
				<2	442 mg/kg	89.7	68	116
EK255A SD: Ammonia in Sediment (QCLot: 3822225)								
EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	<0.2	0.1 mg/kg	102	70	130
EK255A SD: Ammonia in Sediment (QCLot: 3822226)								
EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	<0.2	0.1 mg/kg	100	70	130
EP003: Total Organic Carbon (TOC) in Soil (QCLot: 3824875)								
EP003: Total Organic Carbon	----	0.02	%	<0.02	0.11 %	99.1	70	130
EP003: Total Organic Carbon (TOC) in Soil (QCLot: 3830014)								
EP003: Total Organic Carbon	----	0.02	%	<0.02	0.44 %	101	70	130
EP003: Total Organic Carbon (TOC) in Soil (QCLot: 3830162)								
EP003: Total Organic Carbon	----	0.02	%	<0.02	0.11 %	98.2	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3821455)								
EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	6.25 mg/kg	86.3	70	130
EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	8.75 mg/kg	99.4	74	138
EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	3.75 mg/kg	118	63	131
EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3821484)								
EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	6.25 mg/kg	98.4	70	130
EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	8.75 mg/kg	101	74	138
EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	3.75 mg/kg	92.3	63	131
EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821094)								
EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	6.2 mg/kg	103	61	133
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821455)								
EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	5 mg/kg	88.7	78	118
EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	7.5 mg/kg	93.1	84	118
EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	5 mg/kg	108	73	119
EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821484)								
EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	5 mg/kg	86.7	78	118

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821484) - continued								
EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	7.5 mg/kg	104	84	118
EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	5 mg/kg	101	73	119
EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3834629)								
EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	6.2 mg/kg	98.1	61	133
EP080-SD: BTEXN (QCLot: 3821094)								
EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	0.2 mg/kg	109	66	122
EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	0.2 mg/kg	109	69	122
EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.2 mg/kg	109	66	126
EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	0.4 mg/kg	111	59	129
EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.2 mg/kg	106	66	126
EP080-SD: BTEXN (QCLot: 3834629)								
EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	0.2 mg/kg	114	66	122
EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	0.2 mg/kg	112	69	122
EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.2 mg/kg	117	66	126
EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	0.4 mg/kg	122	59	129
EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.2 mg/kg	125	66	126
EP090: Organotin Compounds (QCLot: 3822912)								
EP090: Monobutyltin	78763-54-9	1.0	µgSn/kg	<1	1.25 µgSn/kg	41.3	36	128
EP090: Dibutyltin	1002-53-5	1.0	µgSn/kg	<1	1.25 µgSn/kg	46.1	42	132
EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	1.25 µgSn/kg	68.0	52	139
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3821477)								
EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	50 µg/kg	87.9	45	139
EP130: Carbophenothion	786-19-6	10	µg/kg	<10	50 µg/kg	84.0	47	117
EP130: Chlorfenvinphos (E)	18708-86-6	10	µg/kg	<10.0	5 µg/kg	110	48	156
EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	50 µg/kg	112	62	136
EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	50 µg/kg	86.8	57	137
EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	50 µg/kg	81.2	57	121
EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	50 µg/kg	94.6	20.4	142
EP130: Diazinon	333-41-5	10	µg/kg	<10	50 µg/kg	79.7	57	121
EP130: Dichlorvos	62-73-7	10	µg/kg	<10	50 µg/kg	77.6	47	115
EP130: Dimethoate	60-51-5	10	µg/kg	<10	50 µg/kg	98.1	55	133
EP130: Ethion	563-12-2	10	µg/kg	<10	50 µg/kg	96.5	54	130
EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	50 µg/kg	105	57	131
EP130: Fenthion	55-38-9	10	µg/kg	<10	50 µg/kg	84.5	38	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3821477) - continued								
EP130: Malathion	121-75-5	10	µg/kg	<10	50 µg/kg	110	62	138
EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	50 µg/kg	107	33	137
EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	50 µg/kg	104	50	148
EP130: Parathion	56-38-2	10	µg/kg	<10	50 µg/kg	97.0	64	140
EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	50 µg/kg	99.2	56	136
EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	50 µg/kg	89.7	50	132
EP130: Prothiofos	34643-46-4	10	µg/kg	<10	50 µg/kg	87.8	55	135
EP131A: Organochlorine Pesticides (QCLot: 3821478)								
EP131A: Aldrin	309-00-2	0.5	µg/kg	<0.50	5 µg/kg	75.5	38	150
EP131A: alpha-BHC	319-84-6	0.5	µg/kg	<0.50	5 µg/kg	84.4	17.6	156
EP131A: beta-BHC	319-85-7	0.5	µg/kg	<0.50	5 µg/kg	95.7	30.5	152
EP131A: delta-BHC	319-86-8	0.5	µg/kg	<0.50	5 µg/kg	63.1	37	151
EP131A: 4.4`-DDD	72-54-8	0.5	µg/kg	<0.50	5 µg/kg	85.7	25.9	150
EP131A: 4.4`-DDE	72-55-9	0.5	µg/kg	<0.50	5 µg/kg	80.3	35	129
EP131A: 4.4`-DDT	50-29-3	0.5	µg/kg	<0.50	5 µg/kg	96.9	23.4	163
EP131A: Sum of DDD + DDE + DDT	----	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Dieldrin	60-57-1	0.5	µg/kg	<0.50	5 µg/kg	78.3	30.2	140
EP131A: alpha-Endosulfan	959-98-8	0.5	µg/kg	<0.50	5 µg/kg	59.1	38	140
EP131A: beta-Endosulfan	33213-65-9	0.5	µg/kg	<0.50	5 µg/kg	93.1	32	152
EP131A: Endosulfan sulfate	1031-07-8	0.5	µg/kg	<0.50	5 µg/kg	113	36	162
EP131A: Endosulfan (sum)	115-29-7	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Endrin	72-20-8	0.5	µg/kg	<0.50	5 µg/kg	97.7	25.8	166
EP131A: Endrin aldehyde	7421-93-4	0.5	µg/kg	<0.50	5 µg/kg	69.6	20.1	116
EP131A: Endrin ketone	53494-70-5	0.5	µg/kg	<0.50	5 µg/kg	74.8	13.4	151
EP131A: Heptachlor	76-44-8	0.5	µg/kg	<0.50	5 µg/kg	109	39	173
EP131A: Heptachlor epoxide	1024-57-3	0.5	µg/kg	<0.50	5 µg/kg	89.3	34	148
EP131A: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/kg	<0.50	5 µg/kg	70.2	26.1	152
EP131A: gamma-BHC	58-89-9	0.5	µg/kg	<0.50	5 µg/kg	76.7	31.2	159
EP131A: Methoxychlor	72-43-5	0.5	µg/kg	<0.50	5 µg/kg	108	36	160
EP131A: cis-Chlordane	5103-71-9	0.5	µg/kg	<0.50	5 µg/kg	86.8	36	142
EP131A: trans-Chlordane	5103-74-2	0.5	µg/kg	<0.50	5 µg/kg	83.5	29.5	138
EP131A: Total Chlordane (sum)	----	0.5	µg/kg	<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3821479)								
EP131B: Total Polychlorinated biphenyls	----	5	µg/kg	<5.0	50 µg/kg	66.2	44	136
EP131B: Aroclor 1016	12674-11-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1221	11104-28-2	5	µg/kg	<5.0	----	----	----	----

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3821479) - continued								
EP131B: Aroclor 1232	11141-16-5	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1242	53469-21-9	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1248	12672-29-6	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1254	11097-69-1	5	µg/kg	<5.0	50 µg/kg	66.5	44	136
EP131B: Aroclor 1260	11096-82-5	5	µg/kg	<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3821483)								
EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	25 µg/kg	103	67	133
EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	25 µg/kg	111	63	135
EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	25 µg/kg	85.5	68	132
EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	25 µg/kg	103	67	133
EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	25 µg/kg	88.3	69	131
EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	25 µg/kg	123	66	138
EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	25 µg/kg	113	67	133
EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	25 µg/kg	116	64	130
EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	25 µg/kg	119	67	133
EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	25 µg/kg	117	65	133
EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	25 µg/kg	119	70	134
EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	25 µg/kg	104	63	133
EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	25 µg/kg	95.4	67	133
EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	25 µg/kg	84.7	64	130
EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	25 µg/kg	86.4	72	130
EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	25 µg/kg	89.4	70	132
EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	25 µg/kg	93.4	65	127
EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	25 µg/kg	99.1	67	135
EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	25 µg/kg	95.5	62	126
EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	25 µg/kg	86.9	66	134
EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 3826139)								
EG020B-T: Silver	7440-22-4	0.001	mg/L	<0.001	0.01 mg/L	91.4	70	130
EG020T: Total Metals by ICP-MS (QCLot: 3826144)								
EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	0.1 mg/L	99.3	90	114
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	96.6	94	116

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 3826144) - continued								
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	105	90	110
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	101	90	110
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	100	91	109
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	104	91	111
EG020A-T: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	97.8	91	111
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	103	91	111
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	97.3	91	109
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3824333)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.0100 mg/L	107	87	113
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3826048)								
EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	1.0 mg/L	96.2	86	112
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3821350)								
EK057G: Nitrite as N	----	0.01	mg/L	<0.01	0.5 mg/L	86.4	83	119
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3826047)								
EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	0.5 mg/L	104	87	119
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3826043)								
EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	<0.1	10 mg/L	89.7	66	114
				----	1.0 mg/L	97.5	66	126
				----	5 mg/L	105	66	119
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3826044)								
EK067G: Total Phosphorus as P	----	0.01	mg/L	----	0.442 mg/L	94.1	63	123
				----	1.0 mg/L	106	66	124
				<0.01	4.42 mg/L	94.3	67	117
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3822400)								
EP066: Total Polychlorinated biphenyls	----	1	µg/L	<1	10 µg/L	100	61.6	107
EP068A: Organochlorine Pesticides (OC) (QCLot: 3822399)								
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	5 µg/L	100	65	107
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	5 µg/L	93.2	51	119
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	5 µg/L	98.7	63	113
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	5 µg/L	89.6	62	112
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	5 µg/L	75.1	60	106
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	5 µg/L	92.5	58	108
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	5 µg/L	93.5	58	114
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	5 µg/L	74.4	59	111
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	5 µg/L	76.8	62	114
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	5 µg/L	90.9	64	114

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 3822399) - continued								
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	5 µg/L	88.2	62	114
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	5 µg/L	89.9	59	111
EP068: 4.4`-DDE	72-55-9	0.5	µg/L	<0.5	5 µg/L	85.2	63	111
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	5 µg/L	97.3	61	119
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	5 µg/L	93.9	71	119
EP068: 4.4`-DDD	72-54-8	0.5	µg/L	<0.5	5 µg/L	98.4	70	118
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	5 µg/L	72.2	62	112
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	5 µg/L	86.4	53	113
EP068: 4.4`-DDT	50-29-3	2.0	µg/L	<2.0	5 µg/L	79.7	52	120
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	5 µg/L	82.0	51	117
EP068: Methoxychlor	72-43-5	2.0	µg/L	<2.0	5 µg/L	96.2	53	127
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3822399)								
EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	5 µg/L	95.3	52	122
EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	5 µg/L	111	51	123
EP068: Monocrotophos	6923-22-4	0.5	µg/L	<2.0	5 µg/L	47.2	10	89.1
EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	5 µg/L	102	61	119
EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	5 µg/L	104	67	113
EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	5 µg/L	87.0	60	116
EP068: Parathion-methyl	298-00-0	2.0	µg/L	<2.0	5 µg/L	107	64	120
EP068: Malathion	121-75-5	0.5	µg/L	<0.5	5 µg/L	105	67	115
EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	5 µg/L	87.2	64	110
EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	5 µg/L	105	63	109
EP068: Parathion	56-38-2	2.0	µg/L	<2.0	5 µg/L	112	63	121
EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	5 µg/L	83.4	60	110
EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	5 µg/L	89.6	68	114
EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	5 µg/L	80.3	61	109
EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	5 µg/L	111	63	117
EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	5 µg/L	88.7	63	111
EP068: Ethion	563-12-2	0.5	µg/L	<0.5	5 µg/L	97.1	65	115
EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	5 µg/L	108	55	115
EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	5 µg/L	83.3	44	124
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3822402)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	<1.0	5 µg/L	70.0	58.6	119
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	<1.0	5 µg/L	88.2	63.6	114
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	<1.0	5 µg/L	77.7	62.2	113
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	<1.0	5 µg/L	87.4	63.9	115

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3822402) - continued								
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	<1.0	5 µg/L	92.5	62.6	116
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	<1.0	5 µg/L	92.6	64.3	116
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	<1.0	5 µg/L	103	63.6	118
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	<1.0	5 µg/L	102	63.1	118
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	<1.0	5 µg/L	96.5	64.1	117
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	<1.0	5 µg/L	95.9	62.5	116
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.2	µg/L	<1.0	5 µg/L	98.2	61.7	119
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	<1.0	5 µg/L	95.2	61.7	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	<0.5	5 µg/L	85.1	63.3	117
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.2	µg/L	<1.0	5 µg/L	74.3	59.9	118
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.2	µg/L	<1.0	5 µg/L	76.7	61.2	117
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.2	µg/L	<1.0	5 µg/L	72.6	59.1	118
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3822401)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	2000 µg/L	96.0	59	129
EP071: C15 - C28 Fraction	----	100	µg/L	<100	3000 µg/L	114	71	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	2000 µg/L	89.6	62	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3824867)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	96.3	75	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3822401)								
EP071: >C10 - C16 Fraction	>C10_C16	100	µg/L	<100	2500 µg/L	94.9	58.9	131
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	3500 µg/L	90.0	73.9	138
EP071: >C34 - C40 Fraction	----	50	µg/L	<100	1500 µg/L	98.5	67	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3824867)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	93.8	75	127
EP080: BTEXN (QCLot: 3824867)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	96.6	70	124
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	101	65	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	94.9	70	120
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	93.6	69	121
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	96.4	72	122
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	95.9	70	124
EP090: Organotin Compounds (QCLot: 3823152)								
EP090H: Monobutyltin	78763-54-9	2	ngSn/L	<5	50 ngSn/L	69.0	25	139
EP090H: Dibutyltin	1002-53-5	2	ngSn/L	<5	50 ngSn/L	50.1	50	114

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP090: Organotin Compounds (QCLot: 3823152) - continued								
EP090H: Tributyltin	56573-85-4	1	ngSn/L	<2	50 ngSn/L	39.5	39	120

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3829113)							
ES1503000-056	Anonymous	EG020-SD: Arsenic	7440-38-2	50 mg/kg	101	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	102	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	118	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	104	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	96.2	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	102	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	106	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3829112)							
ES1503000-051	Anonymous	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	96.6	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3828334)							
ES1503080-001	WB6 0.0-0.5A-A	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	96.8	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3828335)							
ES1503080-001	WB6 0.0-0.5A-A	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	110	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3828825)							
ES1502604-008	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	100	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3832645)							
ES1503080-025	WB14 0.0-0.5A	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	85.9	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3828826)							
ES1502604-008	Anonymous	EK067G: Total Phosphorus as P	----	100 mg/kg	96.7	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3832646)							
ES1503080-025	WB14 0.0-0.5A	EK067G: Total Phosphorus as P	----	100 mg/kg	75.6	70	130
EK255A SD: Ammonia in Sediment (QCLot: 3822225)							
ES1502850-041	Anonymous	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	# Not Determined	70	130
EK255A SD: Ammonia in Sediment (QCLot: 3822226)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EK255A SD: Ammonia in Sediment (QCLot: 3822226) - continued							
ES1503080-014	WB10 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	# Not Determined	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821094)							
ES1503080-005	WB6 0.3V	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	107	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821455)							
ES1502902-001	Anonymous	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	124	70	130
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	95.8	70	130
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	101	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821484)							
ES1503080-001	WB6 0.0-0.5A-A	EP071-SD: C10 - C14 Fraction	----	16 mg/kg	83.4	70	130
		EP071-SD: C15 - C28 Fraction	----	78.5 mg/kg	89.5	70	130
		EP071-SD: C29 - C36 Fraction	----	71.5 mg/kg	77.1	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3834629)							
ES1503080-037	PC9 0.0-0.3A	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	107	70	130
EP080-SD: BTEXN (QCLot: 3821094)							
ES1503080-005	WB6 0.3V	EP080-SD: Benzene	71-43-2	0.5 mg/kg	73.4	70	130
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	78.5	70	130
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	81.4	70	130
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	80.3	70	130
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	77.4	70	130
EP080-SD: BTEXN (QCLot: 3834629)							
ES1503080-037	PC9 0.0-0.3A	EP080-SD: Benzene	71-43-2	0.5 mg/kg	98.5	70	130
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	98.1	70	130
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	108	70	130
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	109	70	130
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	110	70	130
EP090: Organotin Compounds (QCLot: 3822912)							
ES1503080-002	WB6 0.5-1.0A	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	39.8	35	130
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	49.7	20	130
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	96.1	20	130
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3821477)							
ES1503080-001	WB6 0.0-0.5A-A	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	68.4	36	144
		EP130: Carbophenothion	786-19-6	50 µg/kg	73.4	38	120

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3821477) - continued							
ES1503080-001	WB6 0.0-0.5A-A	EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	79.2	49	157
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	77.1	53	145
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	76.1	60	140
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	69.7	56	126
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	75.1	9.7	148
		EP130: Diazinon	333-41-5	50 µg/kg	70.7	60	122
		EP130: Dichlorvos	62-73-7	50 µg/kg	76.7	33	123
		EP130: Dimethoate	60-51-5	50 µg/kg	72.0	36	142
		EP130: Ethion	563-12-2	50 µg/kg	69.8	48	136
		EP130: Fenamiphos	22224-92-6	50 µg/kg	71.8	42	136
		EP130: Fenthion	55-38-9	50 µg/kg	69.9	35	131
		EP130: Malathion	121-75-5	50 µg/kg	96.7	55	141
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	70.6	23.5	132
		EP130: Monocrotophos	6923-22-4	50 µg/kg	75.1	35	153
		EP130: Parathion	56-38-2	50 µg/kg	73.5	57	147
		EP130: Parathion-methyl	298-00-0	50 µg/kg	67.1	48	140
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	70.4	45	137
		EP130: Prothiofos	34643-46-4	50 µg/kg	68.9	51	137
EP131A: Organochlorine Pesticides (QCLot: 3821478)							
ES1503080-001	WB6 0.0-0.5A-A	EP131A: Aldrin	309-00-2	5 µg/kg	65.6	23.4	153
		EP131A: alpha-BHC	319-84-6	5 µg/kg	90.3	17.6	156
		EP131A: beta-BHC	319-85-7	5 µg/kg	91.6	24.9	153
		EP131A: delta-BHC	319-86-8	5 µg/kg	102	25.2	147
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	110	25.9	150
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	76.6	31.2	125
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	97.5	23.4	163
		EP131A: Dieldrin	60-57-1	5 µg/kg	86.2	30.2	140
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	66.5	28.8	135
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	86.0	22.6	141
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	106	16.1	156
		EP131A: Endrin	72-20-8	5 µg/kg	101	17.7	162
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	66.6	20.1	116
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	67.8	13.4	151
		EP131A: Heptachlor	76-44-8	5 µg/kg	95.2	23.8	170
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	88.9	28.3	140
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	78.0	17.7	144
		EP131A: gamma-BHC	58-89-9	5 µg/kg	77.8	21.8	158

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EP131A: Organochlorine Pesticides (QCLot: 3821478) - continued							
ES1503080-001	WB6 0.0-0.5A-A	EP131A: Methoxychlor	72-43-5	5 µg/kg	83.7	24.4	158
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	63.6	27.3	139
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	90.0	29.5	138
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3821479)							
ES1503080-001	WB6 0.0-0.5A-A	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	62.5	44	136
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	62.5	44	136
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3821483)							
ES1503080-001	WB6 0.0-0.5A-A	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	104	70	130
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	104	70	130
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	103	70	130
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	120	70	130
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	115	70	130
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	109	70	130
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	104	70	130
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	104	70	130
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	116	70	130
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	112	70	130
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	110	70	130
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	95.7	70	130
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	78.8	70	130
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	104	70	130
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	109	70	130
		EP132B-SD: Perylene	198-55-0	25 µg/kg	113	70	130
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	110	70	130
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	117	70	130
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	119	70	130
		EP132B-SD: Coronene	191-07-1	25 µg/kg	122	70	130

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 3826144)							
EM1501663-001	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	99.7	82	118
		EG020A-T: Cadmium	7440-43-9	0.25 mg/L	109	75	129
		EG020A-T: Chromium	7440-47-3	1 mg/L	100	80	118
		EG020A-T: Copper	7440-50-8	1 mg/L	96.6	81	115

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 3826144) - continued							
EM1501663-001	Anonymous	EG020A-T: Lead	7439-92-1	1 mg/L	101	83	121
		EG020A-T: Manganese	7439-96-5	1 mg/L	89.2	73	123
		EG020A-T: Nickel	7440-02-0	1 mg/L	97.3	80	118
		EG020A-T: Zinc	7440-66-6	1 mg/L	97.2	74	116
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3824333)							
EM1501572-001	Anonymous	EG035T: Mercury	7439-97-6	0.0100 mg/L	89.4	70	130
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3826048)							
ES1503000-059	Anonymous	EK055G: Ammonia as N	7664-41-7	1 mg/L	97.2	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3821350)							
ES1502974-021	Anonymous	EK057G: Nitrite as N	----	0.5 mg/L	98.3	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3826047)							
ES1503000-059	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.5 mg/L	103	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3826043)							
ES1503080-044	RINSATE 4	EK061G: Total Kjeldahl Nitrogen as N	----	5 mg/L	105	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3826044)							
ES1503080-044	RINSATE 4	EK067G: Total Phosphorus as P	----	1.0 mg/L	105	70	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3822400)							
ES1503352-018	Anonymous	EP066: Total Polychlorinated biphenyls	----	10 µg/L	95.7	70	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 3822399)							
ES1503352-018	Anonymous	EP068: gamma-BHC	58-89-9	5 µg/L	107	70	130
		EP068: Heptachlor	76-44-8	5 µg/L	89.8	70	130
		EP068: Aldrin	309-00-2	5 µg/L	95.9	70	130
		EP068: Dieldrin	60-57-1	5 µg/L	92.3	70	130
		EP068: Endrin	72-20-8	20 µg/L	92.1	70	130
		EP068: 4.4`-DDT	50-29-3	20 µg/L	75.2	70	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3822399)							
ES1503352-018	Anonymous	EP068: Diazinon	333-41-5	5 µg/L	112	70	130
		EP068: Chlorpyrifos-methyl	5598-13-0	5 µg/L	105	70	130
		EP068: Pirimphos-ethyl	23505-41-1	5 µg/L	102	70	130
		EP068: Bromophos-ethyl	4824-78-6	5 µg/L	103	70	130
		EP068: Prothiofos	34643-46-4	5 µg/L	97.2	70	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3822402)							
ES1503352-018	Anonymous	EP075(SIM): Acenaphthene	83-32-9	20 µg/L	80.8	70	130
		EP075(SIM): Pyrene	129-00-0	20 µg/L	83.3	70	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3822401)							
ES1503352-018	Anonymous	EP071: C10 - C14 Fraction	----	200 µg/L	101	74	150
		EP071: C15 - C28 Fraction	----	300 µg/L	102	77	153
		EP071: C29 - C36 Fraction	----	200 µg/L	105	67	153
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3824867)							
ES1503447-003	Anonymous	EP080: C6 - C9 Fraction	----	1625 µg/L	116	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3822401)							
ES1503352-018	Anonymous	EP071: >C10 - C16 Fraction	>C10_C16	250 µg/L	99.3	74	150
		EP071: >C16 - C34 Fraction	----	350 µg/L	99.5	77	153
		EP071: >C34 - C40 Fraction	----	150 µg/L	102	67	153
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3824867)							
ES1503447-003	Anonymous	EP080: C6 - C10 Fraction	C6_C10	1875 µg/L	119	70	130
EP080: BTEXN (QCLot: 3824867)							
ES1503447-003	Anonymous	EP080: Benzene	71-43-2	125 µg/L	83.5	70	130
		EP080: Toluene	108-88-3	125 µg/L	97.1	70	130
		EP080: Ethylbenzene	100-41-4	125 µg/L	104	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	125 µg/L	104	70	130
		EP080: ortho-Xylene	95-47-6	125 µg/L	108	70	130
		EP080: Naphthalene	91-20-3	125 µg/L	101	70	130

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

The quality control term Matrix Spike (MS) and Matrix Spike Duplicate (MSD) refers to intralaboratory split samples spiked with a representative set of target analytes. The purpose of these QC parameters are to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821094)										
ES1503080-005	WB6 0.3V	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	107	----	70	130	----	----
EP080-SD: BTEXN (QCLot: 3821094)										
ES1503080-005	WB6 0.3V	EP080-SD: Benzene	71-43-2	0.5 mg/kg	73.4	----	70	130	----	----
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	78.5	----	70	130	----	----
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	81.4	----	70	130	----	----
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	80.3	----	70	130	----	----
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	77.4	----	70	130	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821455)										
ES1502902-001	Anonymous	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	124	----	70	130	----	----
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	95.8	----	70	130	----	----
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	101	----	70	130	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3821477)										
ES1503080-001	WB6 0.0-0.5A-A	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	68.4	----	36	144	----	----
		EP130: Carbophenothion	786-19-6	50 µg/kg	73.4	----	38	120	----	----
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	79.2	----	49	157	----	----
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	77.1	----	53	145	----	----
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	76.1	----	60	140	----	----
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	69.7	----	56	126	----	----
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	75.1	----	9.7	148	----	----
		EP130: Diazinon	333-41-5	50 µg/kg	70.7	----	60	122	----	----
		EP130: Dichlorvos	62-73-7	50 µg/kg	76.7	----	33	123	----	----
		EP130: Dimethoate	60-51-5	50 µg/kg	72.0	----	36	142	----	----
		EP130: Ethion	563-12-2	50 µg/kg	69.8	----	48	136	----	----
		EP130: Fenamiphos	22224-92-6	50 µg/kg	71.8	----	42	136	----	----
		EP130: Fenthion	55-38-9	50 µg/kg	69.9	----	35	131	----	----
		EP130: Malathion	121-75-5	50 µg/kg	96.7	----	55	141	----	----
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	70.6	----	23.5	132	----	----
		EP130: Monocrotophos	6923-22-4	50 µg/kg	75.1	----	35	153	----	----
		EP130: Parathion	56-38-2	50 µg/kg	73.5	----	57	147	----	----
		EP130: Parathion-methyl	298-00-0	50 µg/kg	67.1	----	48	140	----	----
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	70.4	----	45	137	----	----
		EP130: Prothiofos	34643-46-4	50 µg/kg	68.9	----	51	137	----	----
EP131A: Organochlorine Pesticides (QCLot: 3821478)										
ES1503080-001	WB6 0.0-0.5A-A	EP131A: Aldrin	309-00-2	5 µg/kg	65.6	----	23.4	153	----	----
		EP131A: alpha-BHC	319-84-6	5 µg/kg	90.3	----	17.6	156	----	----
		EP131A: beta-BHC	319-85-7	5 µg/kg	91.6	----	24.9	153	----	----
		EP131A: delta-BHC	319-86-8	5 µg/kg	102	----	25.2	147	----	----
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	110	----	25.9	150	----	----
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	76.6	----	31.2	125	----	----
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	97.5	----	23.4	163	----	----
		EP131A: Dieldrin	60-57-1	5 µg/kg	86.2	----	30.2	140	----	----
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	66.5	----	28.8	135	----	----
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	86.0	----	22.6	141	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP131A: Organochlorine Pesticides (QCLot: 3821478) - continued										
ES1503080-001	WB6 0.0-0.5A-A	EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	106	----	16.1	156	----	----
		EP131A: Endrin	72-20-8	5 µg/kg	101	----	17.7	162	----	----
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	66.6	----	20.1	116	----	----
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	67.8	----	13.4	151	----	----
		EP131A: Heptachlor	76-44-8	5 µg/kg	95.2	----	23.8	170	----	----
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	88.9	----	28.3	140	----	----
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	78.0	----	17.7	144	----	----
		EP131A: gamma-BHC	58-89-9	5 µg/kg	77.8	----	21.8	158	----	----
		EP131A: Methoxychlor	72-43-5	5 µg/kg	83.7	----	24.4	158	----	----
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	63.6	----	27.3	139	----	----
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	90.0	----	29.5	138	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3821479)										
ES1503080-001	WB6 0.0-0.5A-A	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	62.5	----	44	136	----	----
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	62.5	----	44	136	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3821483)										
ES1503080-001	WB6 0.0-0.5A-A	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	104	----	70	130	----	----
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	104	----	70	130	----	----
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	103	----	70	130	----	----
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	120	----	70	130	----	----
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	115	----	70	130	----	----
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	109	----	70	130	----	----
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	104	----	70	130	----	----
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	104	----	70	130	----	----
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	116	----	70	130	----	----
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	112	----	70	130	----	----
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	110	----	70	130	----	----
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	95.7	----	70	130	----	----
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	78.8	----	70	130	----	----
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	104	----	70	130	----	----
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	109	----	70	130	----	----
		EP132B-SD: Perylene	198-55-0	25 µg/kg	113	----	70	130	----	----
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	110	----	70	130	----	----
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	117	----	70	130	----	----
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	119	----	70	130	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3821483) - continued										
ES1503080-001	WB6 0.0-0.5A-A	EP132B-SD: Coronene	191-07-1	25 µg/kg	122	----	70	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821484)										
ES1503080-001	WB6 0.0-0.5A-A	EP071-SD: C10 - C14 Fraction	----	16 mg/kg	83.4	----	70	130	----	----
		EP071-SD: C15 - C28 Fraction	----	78.5 mg/kg	89.5	----	70	130	----	----
		EP071-SD: C29 - C36 Fraction	----	71.5 mg/kg	77.1	----	70	130	----	----
EK255A SD: Ammonia in Sediment (QCLot: 3822225)										
ES1502850-041	Anonymous	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	# Not Determined	----	70	130	----	----
EK255A SD: Ammonia in Sediment (QCLot: 3822226)										
ES1503080-014	WB10 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	# Not Determined	----	70	130	----	----
EP090: Organotin Compounds (QCLot: 3822912)										
ES1503080-002	WB6 0.5-1.0A	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	39.8	----	35	130	----	----
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	49.7	----	20	130	----	----
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	96.1	----	20	130	----	----
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3828334)										
ES1503080-001	WB6 0.0-0.5A-A	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	96.8	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3828335)										
ES1503080-001	WB6 0.0-0.5A-A	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	110	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3828825)										
ES1502604-008	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	100	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3828826)										
ES1502604-008	Anonymous	EK067G: Total Phosphorus as P	----	100 mg/kg	96.7	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3829112)										
ES1503000-051	Anonymous	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	96.6	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3829113)										
ES1503000-056	Anonymous	EG020-SD: Arsenic	7440-38-2	50 mg/kg	101	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	102	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	118	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	104	----	70	130	----	----
		EG020-SD: Lead	7439-92-1	250 mg/kg	96.2	----	70	130	----	----
		EG020-SD: Nickel	7440-02-0	50 mg/kg	102	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	106	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3832645)										

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3832645) - continued										
ES1503080-025	WB14 0.0-0.5A	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	85.9	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3832646)										
ES1503080-025	WB14 0.0-0.5A	EK067G: Total Phosphorus as P	----	100 mg/kg	75.6	----	70	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3834629)										
ES1503080-037	PC9 0.0-0.3A	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	107	----	70	130	----	----
EP080-SD: BTEXN (QCLot: 3834629)										
ES1503080-037	PC9 0.0-0.3A	EP080-SD: Benzene	71-43-2	0.5 mg/kg	98.5	----	70	130	----	----
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	98.1	----	70	130	----	----
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	108	----	70	130	----	----
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	109	----	70	130	----	----
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	110	----	70	130	----	----

Sub-Matrix: **WATER**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3821350)										
ES1502974-021	Anonymous	EK057G: Nitrite as N	----	0.5 mg/L	98.3	----	70	130	----	----
EP068A: Organochlorine Pesticides (OC) (QCLot: 3822399)										
ES1503352-018	Anonymous	EP068: gamma-BHC	58-89-9	5 µg/L	107	----	70	130	----	----
		EP068: Heptachlor	76-44-8	5 µg/L	89.8	----	70	130	----	----
		EP068: Aldrin	309-00-2	5 µg/L	95.9	----	70	130	----	----
		EP068: Dieldrin	60-57-1	5 µg/L	92.3	----	70	130	----	----
		EP068: Endrin	72-20-8	20 µg/L	92.1	----	70	130	----	----
		EP068: 4.4`-DDT	50-29-3	20 µg/L	75.2	----	70	130	----	----
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3822399)										
ES1503352-018	Anonymous	EP068: Diazinon	333-41-5	5 µg/L	112	----	70	130	----	----
		EP068: Chlorpyrifos-methyl	5598-13-0	5 µg/L	105	----	70	130	----	----
		EP068: Pirimphos-ethyl	23505-41-1	5 µg/L	102	----	70	130	----	----
		EP068: Bromophos-ethyl	4824-78-6	5 µg/L	103	----	70	130	----	----
		EP068: Prothiofos	34643-46-4	5 µg/L	97.2	----	70	130	----	----
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3822400)										
ES1503352-018	Anonymous	EP066: Total Polychlorinated biphenyls	----	10 µg/L	95.7	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3822401)										
ES1503352-018	Anonymous	EP071: C10 - C14 Fraction	----	200 µg/L	101	----	74	150	----	----

Sub-Matrix: **WATER**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3822401) - continued										
ES1503352-018	Anonymous	EP071: C15 - C28 Fraction	----	300 µg/L	102	----	77	153	----	----
		EP071: C29 - C36 Fraction	----	200 µg/L	105	----	67	153	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3822401)										
ES1503352-018	Anonymous	EP071: >C10 - C16 Fraction	>C10_C16	250 µg/L	99.3	----	74	150	----	----
		EP071: >C16 - C34 Fraction	----	350 µg/L	99.5	----	77	153	----	----
		EP071: >C34 - C40 Fraction	----	150 µg/L	102	----	67	153	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3822402)										
ES1503352-018	Anonymous	EP075(SIM): Acenaphthene	83-32-9	20 µg/L	80.8	----	70	130	----	----
		EP075(SIM): Pyrene	129-00-0	20 µg/L	83.3	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3824333)										
EM1501572-001	Anonymous	EG035T: Mercury	7439-97-6	0.0100 mg/L	89.4	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3824867)										
ES1503447-003	Anonymous	EP080: C6 - C9 Fraction	----	1625 µg/L	116	----	70	130	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3824867)										
ES1503447-003	Anonymous	EP080: C6 - C10 Fraction	C6_C10	1875 µg/L	119	----	70	130	----	----
EP080: BTEXN (QCLot: 3824867)										
ES1503447-003	Anonymous	EP080: Benzene	71-43-2	125 µg/L	83.5	----	70	130	----	----
		EP080: Toluene	108-88-3	125 µg/L	97.1	----	70	130	----	----
		EP080: Ethylbenzene	100-41-4	125 µg/L	104	----	70	130	----	----
		EP080: meta- & para-Xylene	108-38-3 106-42-3	125 µg/L	104	----	70	130	----	----
		EP080: ortho-Xylene	95-47-6	125 µg/L	108	----	70	130	----	----
		EP080: Naphthalene	91-20-3	125 µg/L	101	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3826043)										
ES1503080-044	RINSATE 4	EK061G: Total Kjeldahl Nitrogen as N	----	5 mg/L	105	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3826044)										
ES1503080-044	RINSATE 4	EK067G: Total Phosphorus as P	----	1.0 mg/L	105	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3826047)										
ES1503000-059	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.5 mg/L	103	----	70	130	----	----
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3826048)										
ES1503000-059	Anonymous	EK055G: Ammonia as N	7664-41-7	1 mg/L	97.2	----	70	130	----	----
EG020T: Total Metals by ICP-MS (QCLot: 3826144)										
EM1501663-001	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	99.7	----	82	118	----	----
		EG020A-T: Cadmium	7440-43-9	0.25 mg/L	109	----	75	129	----	----

Sub-Matrix: **WATER**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EG020T: Total Metals by ICP-MS (QCLot: 3826144) - continued										
EM1501663-001	Anonymous	EG020A-T: Chromium	7440-47-3	1 mg/L	100	----	80	118	----	----
		EG020A-T: Copper	7440-50-8	1 mg/L	96.6	----	81	115	----	----
		EG020A-T: Lead	7439-92-1	1 mg/L	101	----	83	121	----	----
		EG020A-T: Manganese	7439-96-5	1 mg/L	89.2	----	73	123	----	----
		EG020A-T: Nickel	7440-02-0	1 mg/L	97.3	----	80	118	----	----
		EG020A-T: Zinc	7440-66-6	1 mg/L	97.2	----	74	116	----	----

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1503080**	Page	: 1 of 19
Client	: AURECON AUSTRALASIA PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 11-FEB-2015
Sampler	: GK	Issue Date	: 28-FEB-2015
Order number	: 245553		
		No. of samples received	: 44
Quote number	: SY/1021/14 V2	No. of samples analysed	: 43

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with recommended holding times (USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content								
Soil Glass Jar - Unpreserved (EA055-103)								
WB6 0.0-0.5A-A,	WB6 0.5-1.0A,	**09-FEB-2015**	**----**	----	----	**17-FEB-2015**	23-FEB-2015	✓
WB6 0.3V,	WB6 0.7V,							
WB7 0.0-0.5A-B,	WB7 0.5-1.0A,							
WB7 0.3V,	WB7 0.7V,							
WB10 0.5-1.0A,	WB10 0.0-0.5A,							
WB10 0.3V,	WB10 0.7V,							
WB11 0.0-0.5A,	WB11 0.5-1.0A,							
WB11 0.3V,	WB11 0.7V,							
WB14 0.0-0.5A,	WB14 0.5-1.0A,							
WB14 0.3V,	WB14 0.7V,							
WB15 0.0-0.5A,	WB15 0.5-1.0A,							
WB15 0.3V,	WB15 0.7V,							
PC9 0.0-0.3A,	TRIPLICATE 4A,							
TRIPLICATE 4B								
EA150: Particle Sizing								
Snap Lock Bag (EA150H)								
WB6 0.0-0.5B,	WB6 0.5-1.0B,	**09-FEB-2015**	**---**	08-AUG-2015	----	**25-FEB-2015**	08-AUG-2015	✓
WB7 0.0-0.5B,	WB7 0.5-1.0B,							
WB10 0.0-0.5B,	WB10 0.5-1.0B,							
WB11 0.0-0.5B,	WB11 0.5-1.0B,							
WB14 0.0-0.5B,	WB14 0.5-1.0B,							
WB15 0.0-0.5B,	WB15 0.5-1.0B,							
TRIPLICATE 4A, B,	TRIPLICATE 4B, B							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA150: Soil Classification based on Particle Size								
Snap Lock Bag (EA150H)								
WB6 0.0-0.5B,	WB6 0.5-1.0B,	**09-FEB-2015**	**---**	08-AUG-2015	----	**25-FEB-2015**	08-AUG-2015	✓
WB7 0.0-0.5B,	WB7 0.5-1.0B,							
WB10 0.0-0.5B,	WB10 0.5-1.0B,							
WB11 0.0-0.5B,	WB11 0.5-1.0B,							
WB14 0.0-0.5B,	WB14 0.5-1.0B,							
WB15 0.0-0.5B,	WB15 0.5-1.0B,							
TRIPLICATE 4A, B,	TRIPLICATE 4B, B							
EA152: Soil Particle Density								
Snap Lock Bag (EA152)								
WB6 0.0-0.5B,	WB6 0.5-1.0B,	**09-FEB-2015**	**---**	08-AUG-2015	----	**27-FEB-2015**	08-AUG-2015	✓
WB7 0.0-0.5B,	WB7 0.5-1.0B,							
WB10 0.0-0.5B,	WB10 0.5-1.0B,							
WB11 0.0-0.5B,	WB11 0.5-1.0B,							
WB14 0.0-0.5B,	WB14 0.5-1.0B,							
WB15 0.0-0.5B,	WB15 0.5-1.0B,							
TRIPLICATE 4A, B,	TRIPLICATE 4B, B							
EG005-SD: Total Metals in Sediments by ICP-AES								
Soil Glass Jar - Unpreserved (EG005-SD)								
WB6 0.0-0.5A-A,	WB6 0.5-1.0A,	**09-FEB-2015**	**18-FEB-2015**	08-AUG-2015	✓	**19-FEB-2015**	08-AUG-2015	✓
WB7 0.0-0.5A-B,	WB7 0.5-1.0A,							
WB10 0.5-1.0A,	WB10 0.0-0.5A,							
WB11 0.0-0.5A,	WB11 0.5-1.0A,							
WB14 0.0-0.5A,	WB14 0.5-1.0A,							
WB15 0.0-0.5A,	WB15 0.5-1.0A,							
PC9 0.0-0.3A,	TRIPLICATE 4A,							
TRIPLICATE 4B								
EG020-SD: Total Metals in Sediments by ICPMS								
Soil Glass Jar - Unpreserved (EG020-SD)								
WB6 0.0-0.5A-A,	WB6 0.5-1.0A,	**09-FEB-2015**	**18-FEB-2015**	08-AUG-2015	✓	**20-FEB-2015**	08-AUG-2015	✓
WB7 0.0-0.5A-B,	WB7 0.5-1.0A,							
WB10 0.5-1.0A,	WB10 0.0-0.5A,							
WB11 0.0-0.5A,	WB11 0.5-1.0A,							
WB14 0.0-0.5A,	WB14 0.5-1.0A,							
WB15 0.0-0.5A,	WB15 0.5-1.0A,							
PC9 0.0-0.3A,	TRIPLICATE 4A,							
TRIPLICATE 4B								

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T-LL)							
WB6 0.0-0.5A-A, WB6 0.5-1.0A, WB7 0.0-0.5A-B, WB7 0.5-1.0A, WB10 0.5-1.0A, WB10 0.0-0.5A, WB11 0.0-0.5A, WB11 0.5-1.0A, WB14 0.0-0.5A, WB14 0.5-1.0A, WB15 0.0-0.5A, WB15 0.5-1.0A, PC9 0.0-0.3A, TRIPLICATE 4A, TRIPLICATE 4B	**09-FEB-2015**	**18-FEB-2015**	09-MAR-2015	✓	**20-FEB-2015**	09-MAR-2015	✓
EK057G: Nitrite as N by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK057G)							
WB6 0.0-0.5A-A, WB6 0.5-1.0A, WB7 0.0-0.5A-B, WB7 0.5-1.0A, WB10 0.5-1.0A, WB10 0.0-0.5A, WB11 0.0-0.5A, WB11 0.5-1.0A, WB14 0.0-0.5A, WB14 0.5-1.0A, WB15 0.0-0.5A, WB15 0.5-1.0A, PC9 0.0-0.3A, TRIPLICATE 4A, TRIPLICATE 4B	**09-FEB-2015**	**18-FEB-2015**	08-AUG-2015	✓	**18-FEB-2015**	08-AUG-2015	✓
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK059G)							
WB6 0.0-0.5A-A, WB6 0.5-1.0A, WB7 0.0-0.5A-B, WB7 0.5-1.0A, WB10 0.5-1.0A, WB10 0.0-0.5A, WB11 0.0-0.5A, WB11 0.5-1.0A, WB14 0.0-0.5A, WB14 0.5-1.0A, WB15 0.0-0.5A, WB15 0.5-1.0A, PC9 0.0-0.3A, TRIPLICATE 4A, TRIPLICATE 4B	**09-FEB-2015**	**18-FEB-2015**	08-AUG-2015	✓	**18-FEB-2015**	08-AUG-2015	✓
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser							
Soil Glass Jar - Unpreserved (EK061G)							
WB6 0.0-0.5A-A, WB6 0.5-1.0A, WB7 0.0-0.5A-B, WB7 0.5-1.0A, WB10 0.5-1.0A, WB10 0.0-0.5A, WB11 0.0-0.5A, WB11 0.5-1.0A	**09-FEB-2015**	**19-FEB-2015**	08-AUG-2015	✓	**19-FEB-2015**	08-AUG-2015	✓
Soil Glass Jar - Unpreserved (EK061G)							
WB14 0.0-0.5A, WB14 0.5-1.0A, WB15 0.0-0.5A, WB15 0.5-1.0A, PC9 0.0-0.3A, TRIPLICATE 4A, TRIPLICATE 4B	**09-FEB-2015**	**22-FEB-2015**	08-AUG-2015	✓	**22-FEB-2015**	08-AUG-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK067G: Total Phosphorus as P by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK067G)							
WB6 0.0-0.5A-A, WB6 0.5-1.0A, WB7 0.0-0.5A-B, WB7 0.5-1.0A, WB10 0.5-1.0A, WB10 0.0-0.5A, WB11 0.0-0.5A, WB11 0.5-1.0A	**09-FEB-2015**	**19-FEB-2015**	08-AUG-2015	✓	**19-FEB-2015**	08-AUG-2015	✓
Soil Glass Jar - Unpreserved (EK067G)							
WB14 0.0-0.5A, WB14 0.5-1.0A, WB15 0.0-0.5A, WB15 0.5-1.0A, PC9 0.0-0.3A, TRIPLICATE 4A, TRIPLICATE 4B	**09-FEB-2015**	**22-FEB-2015**	08-AUG-2015	✓	**22-FEB-2015**	08-AUG-2015	✓
EK255A SD Ammonia in Sediment							
Soil Glass Jar - Unpreserved (EK255A SD)							
WB6 0.0-0.5A-A, WB6 0.5-1.0A, WB7 0.0-0.5A-B, WB7 0.5-1.0A, WB10 0.5-1.0A, WB10 0.0-0.5A, WB11 0.0-0.5A, WB11 0.5-1.0A, WB14 0.0-0.5A, WB14 0.5-1.0A, WB15 0.0-0.5A, WB15 0.5-1.0A, PC9 0.0-0.3A, TRIPLICATE 4A, TRIPLICATE 4B	**09-FEB-2015**	**----**	----	----	**13-FEB-2015**	08-AUG-2015	✓
EP003: Total Organic Carbon (TOC) in Soil							
Pulp Bag (EP003)							
WB6 0.5-1.0A, WB7 0.5-1.0A, WB10 0.5-1.0A, WB10 0.0-0.5A, WB11 0.0-0.5A, WB11 0.5-1.0A, WB14 0.0-0.5A, WB14 0.5-1.0A, WB15 0.0-0.5A, WB15 0.5-1.0A, PC9 0.0-0.3A, TRIPLICATE 4A	**09-FEB-2015**	**16-FEB-2015**	09-MAR-2015	✓	**16-FEB-2015**	09-MAR-2015	✓
Pulp Bag (EP003)							
WB6 0.0-0.5A-A, WB7 0.0-0.5A-B, TRIPLICATE 4B	**09-FEB-2015**	**19-FEB-2015**	09-MAR-2015	✓	**19-FEB-2015**	09-MAR-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013							
Soil Glass Jar - Unpreserved (EP071-SD)							
TRIP BLANK	**09-FEB-2015**	**13-FEB-2015**	23-FEB-2015	✓	**16-FEB-2015**	25-MAR-2015	✓
Soil Glass Jar - Unpreserved (EP071-SD)							
WB6 0.0-0.5A-A, WB6 0.5-1.0A, WB7 0.0-0.5A-B, WB7 0.5-1.0A, WB10 0.5-1.0A, WB10 0.0-0.5A, WB11 0.0-0.5A, WB11 0.5-1.0A, WB14 0.0-0.5A, WB14 0.5-1.0A, WB15 0.0-0.5A, WB15 0.5-1.0A, PC9 0.0-0.3A, TRIPLICATE 4A, TRIPLICATE 4B	**09-FEB-2015**	**13-FEB-2015**	23-FEB-2015	✓	**20-FEB-2015**	25-MAR-2015	✓
EP080-SD: BTEXN							
Soil Glass Jar - Unpreserved (EP080-SD)							
WB6 0.3V, WB6 0.7V, WB7 0.3V, WB7 0.7V, WB10 0.3V, WB10 0.7V, WB11 0.3V, WB11 0.7V, WB14 0.3V, WB14 0.7V, WB15 0.3V, WB15 0.7V, TRIP BLANK	**09-FEB-2015**	**20-FEB-2015**	23-FEB-2015	✓	**20-FEB-2015**	23-FEB-2015	✓
Soil Glass Jar - Unpreserved (EP080-SD)							
PC9 0.0-0.3A	**09-FEB-2015**	**24-FEB-2015**	23-FEB-2015	×	**24-FEB-2015**	23-FEB-2015	×
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080-SD)							
WB6 0.3V, WB6 0.7V, WB7 0.3V, WB7 0.7V, WB10 0.3V, WB10 0.7V, WB11 0.3V, WB11 0.7V, WB14 0.3V, WB14 0.7V, WB15 0.3V, WB15 0.7V, TRIP BLANK	**09-FEB-2015**	**20-FEB-2015**	23-FEB-2015	✓	**20-FEB-2015**	23-FEB-2015	✓
Soil Glass Jar - Unpreserved (EP080-SD)							
PC9 0.0-0.3A	**09-FEB-2015**	**24-FEB-2015**	23-FEB-2015	×	**24-FEB-2015**	23-FEB-2015	×

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP090: Organotin Compounds							
Soil Glass Jar - Unpreserved (EP090)							
WB6 0.0-0.5A-A, WB6 0.5-1.0A, WB7 0.0-0.5A-B, WB7 0.5-1.0A, WB10 0.5-1.0A, WB10 0.0-0.5A, WB11 0.0-0.5A, WB11 0.5-1.0A, WB14 0.0-0.5A, WB14 0.5-1.0A, WB15 0.0-0.5A, WB15 0.5-1.0A, PC9 0.0-0.3A, TRIPLICATE 4A, TRIPLICATE 4B	**09-FEB-2015**	**16-FEB-2015**	23-FEB-2015	✓	**19-FEB-2015**	28-MAR-2015	✓
EP130A: Organophosphorus Pesticides (Ultra-trace)							
Soil Glass Jar - Unpreserved (EP130)							
WB6 0.0-0.5A-A, WB6 0.5-1.0A, WB7 0.0-0.5A-B, WB7 0.5-1.0A, WB10 0.5-1.0A, WB10 0.0-0.5A, WB11 0.0-0.5A, WB11 0.5-1.0A, WB14 0.0-0.5A, WB14 0.5-1.0A, WB15 0.0-0.5A, WB15 0.5-1.0A, PC9 0.0-0.3A, TRIPLICATE 4A, TRIPLICATE 4B	**09-FEB-2015**	**13-FEB-2015**	23-FEB-2015	✓	**24-FEB-2015**	25-MAR-2015	✓
EP131A: Organochlorine Pesticides							
Soil Glass Jar - Unpreserved (EP131A)							
WB6 0.0-0.5A-A, WB6 0.5-1.0A, WB7 0.0-0.5A-B, WB7 0.5-1.0A, WB10 0.5-1.0A, WB10 0.0-0.5A, WB11 0.0-0.5A, WB11 0.5-1.0A, WB14 0.0-0.5A, WB14 0.5-1.0A, WB15 0.0-0.5A, WB15 0.5-1.0A, PC9 0.0-0.3A, TRIPLICATE 4A, TRIPLICATE 4B	**09-FEB-2015**	**13-FEB-2015**	23-FEB-2015	✓	**24-FEB-2015**	25-MAR-2015	✓
EP131B: Polychlorinated Biphenyls (as Aroclors)							
Soil Glass Jar - Unpreserved (EP131B)							
WB6 0.0-0.5A-A, WB6 0.5-1.0A, WB7 0.0-0.5A-B, WB7 0.5-1.0A, WB10 0.5-1.0A, WB10 0.0-0.5A, WB11 0.0-0.5A, WB11 0.5-1.0A, WB14 0.0-0.5A, WB14 0.5-1.0A, WB15 0.0-0.5A, WB15 0.5-1.0A, PC9 0.0-0.3A, TRIPLICATE 4A, TRIPLICATE 4B	**09-FEB-2015**	**13-FEB-2015**	23-FEB-2015	✓	**24-FEB-2015**	25-MAR-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP132B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP132B-SD)							
WB6 0.0-0.5A-A, WB6 0.5-1.0A, WB7 0.0-0.5A-B, WB7 0.5-1.0A, WB10 0.5-1.0A, WB10 0.0-0.5A, WB11 0.0-0.5A, WB11 0.5-1.0A, WB14 0.0-0.5A, WB14 0.5-1.0A, WB15 0.0-0.5A, WB15 0.5-1.0A, PC9 0.0-0.3A, TRIPLICATE 4A, TRIPLICATE 4B	**09-FEB-2015**	**13-FEB-2015**	23-FEB-2015	✓	**20-FEB-2015**	25-MAR-2015	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG020A-T)							
RINSATE 4	**09-FEB-2015**	**17-FEB-2015**	08-AUG-2015	✓	**17-FEB-2015**	08-AUG-2015	✓
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG020B-T)							
RINSATE 4	**09-FEB-2015**	**17-FEB-2015**	08-AUG-2015	✓	**17-FEB-2015**	08-AUG-2015	✓
EG035T: Total Recoverable Mercury by FIMS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG035T)							
RINSATE 4	**09-FEB-2015**	**----**	----	----	**16-FEB-2015**	09-MAR-2015	✓
EK055G: Ammonia as N by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK055G)							
RINSATE 4	**09-FEB-2015**	**---**	09-MAR-2015	----	**17-FEB-2015**	09-MAR-2015	✓
EK057G: Nitrite as N by Discrete Analyser							
Clear Plastic Bottle - Natural (EK057G)							
RINSATE 4	**09-FEB-2015**	**---**	11-FEB-2015	----	**12-FEB-2015**	11-FEB-2015	✗
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK059G)							
RINSATE 4	**09-FEB-2015**	**---**	09-MAR-2015	----	**17-FEB-2015**	09-MAR-2015	✓
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK061G)							
RINSATE 4	**09-FEB-2015**	**17-FEB-2015**	09-MAR-2015	✓	**17-FEB-2015**	09-MAR-2015	✓
EK067G: Total Phosphorus as P by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK067G)							
RINSATE 4	**09-FEB-2015**	**17-FEB-2015**	09-MAR-2015	✓	**17-FEB-2015**	09-MAR-2015	✓
EP066: Polychlorinated Biphenyls (PCB)							
Amber Glass Bottle - Unpreserved (EP066)							
RINSATE 4	**09-FEB-2015**	**16-FEB-2015**	16-FEB-2015	✓	**19-FEB-2015**	29-MAR-2015	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP068A: Organochlorine Pesticides (OC)							
Amber Glass Bottle - Unpreserved (EP068)							
RINSATE 4	**09-FEB-2015**	**16-FEB-2015**	16-FEB-2015	✓	**19-FEB-2015**	29-MAR-2015	✓
EP068B: Organophosphorus Pesticides (OP)							
Amber Glass Bottle - Unpreserved (EP068)							
RINSATE 4	**09-FEB-2015**	**16-FEB-2015**	16-FEB-2015	✓	**19-FEB-2015**	29-MAR-2015	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071)							
RINSATE 4	**09-FEB-2015**	**16-FEB-2015**	16-FEB-2015	✓	**18-FEB-2015**	29-MAR-2015	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
RINSATE 4	**09-FEB-2015**	**16-FEB-2015**	16-FEB-2015	✓	**18-FEB-2015**	29-MAR-2015	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
RINSATE 4	**09-FEB-2015**	**16-FEB-2015**	23-FEB-2015	✓	**16-FEB-2015**	23-FEB-2015	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber VOC Vial - Sulfuric Acid (EP080)							
RINSATE 4	**09-FEB-2015**	**16-FEB-2015**	23-FEB-2015	✓	**16-FEB-2015**	23-FEB-2015	✓
EP090: Organotin Compounds							
Amber Glass Bottle - Unpreserved (EP090H)							
RINSATE 4	**09-FEB-2015**	**---**	16-FEB-2015	----	**16-FEB-2015**	16-FEB-2015	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Ammonia in Sediments	EK255A SD	4	38	**10.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Moisture Content	EA055-103	4	38	**10.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	2	18	**11.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	2	15	**13.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	2	15	**13.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	2	14	**14.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	2	15	**13.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	2	15	**13.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	4	41	**9.8**	**9.5**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	5	26	**19.2**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	4	39	**10.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	3	23	**13.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	3	14	**21.4**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Ammonia in Sediments	EK255A SD	2	38	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	1	14	**7.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	6	41	**14.6**	**14.3**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	3	26	**11.5**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	6	39	**15.4**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	2	23	**8.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	2	14	**14.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Method Blanks (MB)							
Ammonia in Sediments	EK255A SD	2	38	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	1	14	**7.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	2	41	**4.9**	**4.8**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	3	26	**11.5**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	2	39	**5.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	2	23	**8.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	2	14	**14.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia in Sediments	EK255A SD	2	38	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	1	14	**7.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	2	41	**4.9**	**4.8**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	2	39	**5.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	2	23	**8.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	2	14	**14.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Ammonia as N by Discrete analyser	EK055G	2	18	**11.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP) - Continued							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	9	**11.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	7	**14.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	7	**14.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	7	**14.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Ammonia as N by Discrete analyser	EK055G	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Compounds (Soluble)	EP090H	1	2	**50.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	7	**14.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	3	20	**15.0**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	7	**14.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	7	**14.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	3	20	**15.0**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Ammonia as N by Discrete analyser	EK055G	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Compounds (Soluble)	EP090H	1	2	**50.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	7	**14.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	7	**14.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	7	**14.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Matrix Spikes (MS)							
Ammonia as N by Discrete analyser	EK055G	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	7	**14.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	7	**14.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055-103	SOIL	In-house. A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Particle Size Analysis by Hydrometer	EA150H	SOIL	Particle Size Analysis by Hydrometer according to AS1289.3.6.3 - 2003
Soil Particle Density	* EA152	SOIL	Soil Particle Density by AS 1289.3.5.1-2006 : Methods of testing soils for engineering purposes - Soil classification tests - Determination of the soil particle density of a soil - Standard method A modification of the AS 1289.3.5.1 method may apply when testing dispersed soils also tested by AS1289.3.6.3. This modification uses the dispersion solution from AS1289.3.6.3 in place of water for density determinations
Total Fe and Al in Sediments by ICPAES	EG005-SD	SOIL	In house: Referenced to APHA 21st ed., 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3). LORs per NODG
Total Metals in Sediments by ICPMS	EG020-SD	SOIL	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector. Analyte list and LORs per NODG.
Total Mercury by FIMS (Low Level)	EG035T-LL	SOIL	In house: Referenced to AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Nitrite as N - Soluble by Discrete Analyser	EK057G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3- B. Nitrite in a water extract is determined by direct colourimetry by Discrete Analyser.
Nitrate as N - Soluble by Discrete Analyser	EK058G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3--F. Nitrate in the 1:5 soil:water extract is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results.
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3- F. Combined oxidised Nitrogen (NO2+NO3) in a water extract is determined by Chemical Reduction, and direct colourimetry by Discrete Analyser.
TKN as N By Discrete Analyser	EK061G	SOIL	In house: Referenced to APHA 21st ed., 4500-Norg-D Soil samples are digested using Kjeldahl digestion followed by determination by Discrete Analyser.
Total Nitrogen as N (TKN + NOx) By Discrete Analyser	EK062G	SOIL	In house: Referenced to APHA 21st ed., 4500 Norg/NO3- Total Nitrogen is determined as the sum of TKN and Oxidised Nitrrogen, each determined seperately as N.
Total Phosporus By Discrete Analyser	EK067G	SOIL	In house: Referenced to APHA 21st ed., 4500 P-B&F This procedure involves sulfuric acid digestion and quantification using Discrete Analyser.
Ammonia in Sediments	EK255A SD	SOIL	Rayment and Higginson (1992) Method 7C1 and 7C2. This method measures exchangeable ammonium which is defined by the amount of ammonium released by shaking sediment with an un-buffered 2M potassium chloride solution.

Analytical Methods	Method	Matrix	Method Descriptions
Total Organic Carbon	EP003	SOIL	In-house C-IR17. Dried and pulverised sample is reacted with acid to remove inorganic Carbonates, then combusted in a LECO furnace in the presence of strong oxidants / catalysts. The evolved (Organic) Carbon (as CO2) is automaticaly measured by infra-red detector.
TPH - Semivolatile Fraction	EP071-SD	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 504)
TRH Volatiles/BTEX in Sediments	EP080-SD	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve.
Organotin Analysis	EP090	SOIL	(USEPA SW 846 - 8270D) Prepared sample extracts are analysed by GC/MS coupled with high volume injection, and quanitified against an established calibration curve.
Organophosphorus Pesticides (Ultra-trace)	EP130	SOIL	USEPA Method 3640 (GPC cleanup), 8141 (GC/FPD - Capillary Column) This technique is compliant with NEPM (2013) Schedule B(3) (Method 505)
Organochlorine Pesticides (Ultra-trace)	EP131A	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (2013) Schedule B(3) (Method 504)
PCB's (Ultra-trace)	EP131B	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (2013) Schedule B(3) (Method 504)
PAHs in Sediments by GCMS(SIM)	EP132B-SD	SOIL	USEPA 8270 GCMS Capillary column, SIM mode using large volume programmed temperature vaporisation injection.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Metals by ICP-MS - Suite B	EG020B-T	WATER	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Mercury by FIMS	EG035T	WATER	In house: Referenced to AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Ammonia as N by Discrete analyser	EK055G	WATER	In house: Referenced to APHA 21st ed., 4500-NH3 G Ammonia is determined by direct colorimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Nitrite as N by Discrete Analyser	EK057G	WATER	In house: Referenced to APHA 21st ed., 4500-NO2- B. Nitrite is determined by direct colourimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Nitrate as N by Discrete Analyser	EK058G	WATER	In house: Referenced to APHA 21st ed., 4500-NO3- F. Nitrate is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results. This method is compliant with NEPM (2013) Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	WATER	In house: Referenced to APHA 21st ed., 4500-NO3- F. Combined oxidised Nitrogen (NO2+NO3) is determined by Chemical Reduction and direct colourimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	WATER	In house: Referenced to APHA 21st ed., 4500-Norg D (In house). An aliquot of sample is digested using a high temperature Kjeldahl digestion to convert nitrogenous compounds to ammonia. Ammonia is determined colorimetrically by discrete analyser. This method is compliant with NEPM (2013) Schedule B(3)
Total Nitrogen as N (TKN + Nox) By Discrete Analyser	EK062G	WATER	In house: Referenced to APHA 21st ed., 4500-Norg / 4500-NO3-. This method is compliant with NEPM (2013) Schedule B(3)
Total Phosphorus as P By Discrete Analyser	EK067G	WATER	In house: Referenced to APHA 21st ed., 4500-P H, Jirka et al (1976), Zhang et al (2006). This procedure involves sulphuric acid digestion of a sample aliquot to break phosphorus down to orthophosphate. The orthophosphate reacts with ammonium molybdate and antimony potassium tartrate to form a complex which is then reduced and its concentration measured at 880nm using discrete analyser. This method is compliant with NEPM (2013) Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Pesticides by GCMS	EP068	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
Organotin Compounds (Soluble)	EP090H	WATER	(USEPA SW 846 - 8270D, ALS QWI-ORG/EP090) Sample extracts (ALS QWI-ORG/035) are analysed by GC/MS coupled with high volume injection (10-50µL). Quantitation is achieved using internal standard and average response factor quantitation techniques against an established five-point curve. Butyltin results are reported in either "as tin" units eg. ng Sn/L or "ng TBT+/L". The analytical standards are prepared in "as tin" units. Sample results are converted to TBT+ results as required.

Preparation Methods	Method	Matrix	Method Descriptions
TKN/TP Digestion	EK061/EK067	SOIL	APHA 21st ed., 4500 Norg- D; APHA 21st ed., 4500 P - H. Macro Kjeldahl digestion.
1:5 solid / water leach for soluble analytes	EN34	SOIL	10 g of soil is mixed with 50 mL of distilled water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids/ Sample Cleanup	ORG17A-UTP	SOIL	In-house, Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. Samples are extracted, concentrated (by KD) and exchanged into an appropriate solvent for GPC and florisil cleanup as required.

Preparation Methods	Method	Matrix	Method Descriptions
Tumbler Extraction of Solids for LVI (Non-concentrating)	ORG17D	SOIL	In house: 10g of sample, Na2SO4 and surrogate are extracted with 50mL 1:1 DCM/Acetone by end over end tumbling. An aliquot is concentrated by nitrogen blowdown to a reduced volume for analysis if required.
Organotin Sample Preparation	ORG35	SOIL	In house. 20g sample is spiked with surrogate and leached in a methanol:acetic acid:UHP water mix and vacuum filtered. Reagents and solvents are added to the sample and the mixture tumbled. The butyltin compounds are simultaneously derivatised and extracted. The extract is further extracted with petroleum ether. The resultant extracts are combined and concentrated for analysis.
TKN/TP Digestion	EK061/EK067	WATER	APHA 21st ed., 4500 Norg - D; APHA 21st ed., 4500 P - H. This method is compliant with NEPM (2013) Schedule B(3)
Digestion for Total Recoverable Metals	EN25	WATER	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (2013) Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (2013) Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Organotin Sample Preparation	ORG34H	WATER	(IN HOUSE, ALS QWI-ORG/35) A specified volume (determined by the detection limit requirement) of sample is spiked with surrogate, acidified and vacuum filtered. Reagents and solvent are added to the sample and the mixture tumbled for 20 minutes. The butyltin compounds is derivitisated, extracted and the subtitution reaction is completed. The extracts is transferred to a separatory funnel and further extracted two times using petroleum ether. The resultant extracts are combined and concentrated to the desired volume for analysis.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW 846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EK255A SD: Ammonia in Sediment	ES1503080-014	WB10 0.0-0.5A	**Ammonia as N**	7664-41-7	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EK255A SD: Ammonia in Sediment	ES1502850-041	Anonymous	**Ammonia as N**	7664-41-7	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Duplicate outliers occur.**
- **For all matrices, no Laboratory Control outliers occur.**

Regular Sample Surrogates

- **For all regular sample matrices, no surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

Matrix: **SOIL**

Method / Container / Client Sample ID(s)	Extraction / Preparation: Date extracted	Extraction / Preparation: Due for extraction	Extraction / Preparation: Days overdue	Analysis: Date analysed	Analysis: Due for analysis	Analysis: Days overdue
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons						
Soil Glass Jar - Unpreserved						
PC9 0.0-0.3A	24-FEB-2015	23-FEB-2015	**1**	24-FEB-2015	23-FEB-2015	**1**
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons						
Soil Glass Jar - Unpreserved						
PC9 0.0-0.3A	24-FEB-2015	23-FEB-2015	**1**	24-FEB-2015	23-FEB-2015	**1**
EP080-SD: BTEXN						
Soil Glass Jar - Unpreserved						
PC9 0.0-0.3A	24-FEB-2015	23-FEB-2015	**1**	24-FEB-2015	23-FEB-2015	**1**

Matrix: **WATER**

Method / Container / Client Sample ID(s)	Extraction / Preparation: Date extracted	Extraction / Preparation: Due for extraction	Extraction / Preparation: Days overdue	Analysis: Date analysed	Analysis: Due for analysis	Analysis: Days overdue

Matrix: **WATER**

Method / Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EK057G: Nitrite as N by Discrete Analyser						
Clear Plastic Bottle - Natural						
RINSATE 4	----	----	----	12-FEB-2015	11-FEB-2015	**1**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

ALS Environmental

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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes / No / N/A; Free ice / frozen ice bricks present upon receipt? Yes / No / N/A; Random Sample Temperature on Receipt: °C; Other comments:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: (1) 2 3 4 5 6 7	
ORDER NUMBER: 245553		OF: 1 2 3 4 (5) 6 7	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	Kelly Schafer	KSchafer	Dan
DATE/TIME: 10 February 2015	DATE/TIME: 10 February 2015 1730	DATE/TIME: 11-2-15 1600	DATE/TIME: 12/2 0940

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	BH9 0.0-0.45 A	10/02/2015	S	Glass Jar (250 ml)	2	1								
2	BH9 0.0-0.45 B	10/02/2015	S	Bag (White label)	1		1							
3	BH9 0.3V	10/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

150ml Jars sent direct to Brisbane for TOC/TBT

~~Subcon~~ / Forward Lab / Split WO
~~Lab~~ / Analysis: Brisbane / TBT
Organised By / Date: (20)
Relinquished By / Date: Newcastle / PSD
Connote / Courier: 2 5 8 6 2 - 1 3
WO No:
Attach By PO / Internal Sheet:

Environmental Division
Sydney
Work Order
ES1503240

Telephone : +61-2-8784 8555

ALS Environmental

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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 245553	**COC SEQUENCE NUMBER (Circle)** COC: 1 (2) 3 4 5 6 7	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland — **CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 (5) 6 7	Other comment:	

SAMPLER: Georgina Kerr — **SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:** Georgina Kerr	**RECEIVED BY:** Kelly Schafer	**RELINQUISHED BY:** KSchafer	**RECEIVED BY:** Dan
COC emailed to ALS? (YES / NO) — **EDD FORMAT (or default):**	DATE/TIME: 10 February 2015	DATE/TIME: 10 February 2015 1730	DATE/TIME: 11.2.15 1600	DATE/TIME: 12/2 0900
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com				
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com				

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
4	BH11 0.0-0.05 A	10/02/2015	S	Glass Jar (250 ml)	2	1								
5	BH11 0.0-0.05 B	10/02/2015	S	Bag (White label)	1		1							
6	BH11 0.0V	10/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Environmental

ALS Laboratory: please tick →

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☐MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
☐MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
☐MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
☐NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
☐NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
☐PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
☐SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
☐TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townesville.environmental@alsglobal.com
☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround		Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 (3) 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 (5) 6 7	Other comments:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*	KSchafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		10 February 2015	10 February 2015 1730	11-2-15 1600

RECEIVED BY:
Paul
DATE/TIME: 12/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
7	BH20 0.0-0.4A	10/02/2015	S	Glass Jar (250 ml)	2	1								
8	BH20 0.0-0.4B	10/02/2015	S	Bag (White label)	1		1							
9	BH20 0.3V	10/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
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NOWRA 4/13 Geary Place North Nowra NSW 2541
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Ph: 08 9209 7655 E: samples.perth@alsglobal.com
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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY: (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 (4) 5 6 7	Random Sample Temperature on Receipt: C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 (5) 6 7	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 10 February 2015	DATE/TIME: 10 February 2015 1730
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: KSchafer	RECEIVED BY: Dan
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:		DATE/TIME: 11-2-15 1600	DATE/TIME: 12/2 0900

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
10	PC8 0.0-0.5A	10/02/2015	S	Glass Jar (250 ml)	2	1								
11	PC8 0.5-1.0A	10/02/2015	S	Glass Jar (250 ml)	2	1								
12	PC8 0.0-0.5B	10/02/2015	S	Bag (White label)	1		1							
13	PC8 0.5-1.0B	10/02/2015	S	Bag (White label)	1		1							
14	PC8 0.3V	10/02/2015	S	Glass Jar (250 ml)	1			1						
15	PC8 0.7V	10/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS: ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround		Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free Ice / Frozen Ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		10 February 2015	10 February 2015 1730

RELINQUISHED BY:	RECEIVED BY:
K Schafer	Dan
DATE/TIME: 11.2.15 1600	DATE/TIME: 12/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
16	Triplicate 5A	10/02/2015	S	Glass Jar (250 ml)	2	1								
17	Triplicate 5B	10/02/2015	S	Glass Jar (250 ml)	2	1								
18	Duplicate 3A	10/02/2015	S	Glass Jar (250 ml)	2	1								
	~~Duplicate 3B~~	~~10/02/2015~~	~~S~~	~~Glass Jar (250 ml)~~	~~2~~	~~1~~								~~Held at Eurofins for analysis~~
19	Trip Blank 6	10/02/2015	S	Pre-filled glass jar	1	1								
20	Rinsate 5	10/02/2015	w	Bottle	8	1								
				TOTAL	17	6								

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1503240**	Page	: 1 of 33
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553		
C-O-C number	: ----	Date Samples Received	: 12-FEB-2015
Sampler	: GK	Issue Date	: 28-FEB-2015
Site	: ----		
		No. of samples received	: 20
Quote number	: SY/1021/14 V2	No. of samples analysed	: 20

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.**

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Ashesh Patel	Inorganic Chemist	Sydney Inorganics
Dianne Blane	Laboratory Coordinator (2IC)	Newcastle - Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
		Sydney Organics
Ryan Story	2IC Organic Instrument Chemist	Brisbane Organics
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils
Shobhna Chandra	Metals Coordinator	Sydney Inorganics
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics

Analytical Results

Sub-Matrix: **SEDIMENT** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH9 0.0-0.45 A	BH9 0.0-0.45 B	BH9 0.3V	BH11 0.0-0.5 A	BH11 0.0-0.5 B
				Client sampling date / time	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00
					ES1503240-001	ES1503240-002	ES1503240-003	ES1503240-004	ES1503240-005
EA150: Particle Sizing									
+75µm	----	1	%		----	**4**	----	----	**96**
+150µm	----	1	%		----	**3**	----	----	**96**
+300µm	----	1	%		----	**2**	----	----	**90**
+425µm	----	1	%		----	<1	----	----	**64**
+600µm	----	1	%		----	<1	----	----	**37**
+1180µm	----	1	%		----	<1	----	----	**19**
+2.36mm	----	1	%		----	<1	----	----	**11**
+4.75mm	----	1	%		----	<1	----	----	**6**
+9.5mm	----	1	%		----	<1	----	----	**2**
+19.0mm	----	1	%		----	<1	----	----	<1
+37.5mm	----	1	%		----	<1	----	----	<1
+75.0mm	----	1	%		----	<1	----	----	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**22.6**	----	**23.4**	**25.3**	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	**54**	----	----	**4**
Silt (2-60 µm)	----	1	%		----	**37**	----	----	<1
Sand (0.06-2.00 mm)	----	1	%		----	**9**	----	----	**82**
Gravel (>2mm)	----	1	%		----	<1	----	----	**14**
Cobbles (>6cm)	----	1	%		----	<1	----	----	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	**2.73**	----	----	**2.68**
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**13300**	----	----	**3450**	----
Iron	7439-89-6	50	mg/kg		**13600**	----	----	**7490**	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	----	----	<0.50	----
Arsenic	7440-38-2	1.00	mg/kg		**6.15**	----	----	**7.72**	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	----	----	<0.1	----
Chromium	7440-47-3	1.0	mg/kg		**25.7**	----	----	**5.2**	----
Copper	7440-50-8	1.0	mg/kg		**21.8**	----	----	**4.6**	----
Cobalt	7440-48-4	0.5	mg/kg		**3.7**	----	----	**6.5**	----
Lead	7439-92-1	1.0	mg/kg		**7.8**	----	----	**1.9**	----

Analytical Results

Sub-Matrix: **SEDIMENT** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH9 0.0-0.45 A	BH9 0.0-0.45 B	BH9 0.3V	BH11 0.0-0.5 A	BH11 0.0-0.5 B
				Client sampling date / time	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00
					ES1503240-001	ES1503240-002	ES1503240-003	ES1503240-004	ES1503240-005
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		**50**	----	----	**403**	----
Nickel	7440-02-0	1.0	mg/kg		**6.5**	----	----	**3.7**	----
Selenium	7782-49-2	0.1	mg/kg		**0.8**	----	----	**0.2**	----
Silver	7440-22-4	0.1	mg/kg		<0.1	----	----	<0.1	----
Vanadium	7440-62-2	2.0	mg/kg		**61.0**	----	----	**22.4**	----
Zinc	7440-66-6	1.0	mg/kg		**30.1**	----	----	**11.6**	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		**0.05**	----	----	<0.01	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	<0.1	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		**0.1**	----	----	<0.1	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		**0.1**	----	----	<0.1	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		**180**	----	----	**60**	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ **Total Nitrogen as N**	----	20	mg/kg		**180**	----	----	**60**	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		**467**	----	----	**169**	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		**3.6**	----	----	**1.8**	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		**0.07**	----	----	**0.27**	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	----	----	<3	----
>C16 - C34 Fraction	----	3	mg/kg		<3	----	----	<3	----
>C34 - C40 Fraction	----	5	mg/kg		<5	----	----	<5	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	----	----	<3	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	<3	----	----
C10 - C14 Fraction	----	3	mg/kg		<3	----	----	<3	----
C15 - C28 Fraction	----	3	mg/kg		<3	----	----	<3	----

Analytical Results

Sub-Matrix: **SEDIMENT** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH9 0.0-0.45 A	BH9 0.0-0.45 B	BH9 0.3V	BH11 0.0-0.5 A	BH11 0.0-0.5 B
				Client sampling date / time	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00
					ES1503240-001	ES1503240-002	ES1503240-003	ES1503240-004	ES1503240-005
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	----	----	<5	----
^ **C10 - C36 Fraction (sum)**	----	3	mg/kg		<3	----	----	<3	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	<3	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	<0.2	----	----
Toluene	108-88-3	0.2	mg/kg		----	----	<0.2	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	<0.2	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	<0.2	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	<0.2	----	----
^ **Total Xylenes**	1330-20-7	0.5	mg/kg		----	----	<0.5	----	----
^ **Sum of BTEX**	----	0.2	mg/kg		----	----	<0.2	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	----	----	<1	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	----	----	<1	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	----	----	<0.5	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	----	----	<10	----
Carbophenothion	786-19-6	10	µg/kg		<10	----	----	<10	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	----	----	<10.0	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	----	----	<10	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	----	----	<10	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	----	----	<10	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	----	----	<10	----
Diazinon	333-41-5	10	µg/kg		<10	----	----	<10	----
Dichlorvos	62-73-7	10	µg/kg		<10	----	----	<10	----
Dimethoate	60-51-5	10	µg/kg		<10	----	----	<10	----
Ethion	563-12-2	10	µg/kg		<10	----	----	<10	----
Fenamiphos	22224-92-6	10	µg/kg		<10	----	----	<10	----
Fenthion	55-38-9	10	µg/kg		<10	----	----	<10	----
Malathion	121-75-5	10	µg/kg		<10	----	----	<10	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	----	----	<10	----
Monocrotophos	6923-22-4	10	µg/kg		<10	----	----	<10	----

Analytical Results

Sub-Matrix: **SEDIMENT** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH9 0.0-0.45 A	BH9 0.0-0.45 B	BH9 0.3V	BH11 0.0-0.5 A	BH11 0.0-0.5 B
				Client sampling date / time	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00
					ES1503240-001	ES1503240-002	ES1503240-003	ES1503240-004	ES1503240-005
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	----	----	<10	----
Parathion-methyl	298-00-0	10	µg/kg		<10	----	----	<10	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	----	----	<10	----
Prothiofos	34643-46-4	10	µg/kg		<10	----	----	<10	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	----	----	<0.50	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	----	----	<0.50	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	----	----	<0.50	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	----	----	<0.50	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	----	----	<0.50	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	----	----	<0.50	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	----	----	<0.50	----
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		<0.50	----	----	<0.50	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	----	----	<0.50	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	----	----	<0.50	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	----	----	<0.50	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	----	----	<0.50	----
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		<0.50	----	----	<0.50	----
Endrin	72-20-8	0.50	µg/kg		<0.50	----	----	<0.50	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	----	----	<0.50	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	----	----	<0.50	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	----	----	<0.50	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	----	----	<0.50	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	----	----	<0.50	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	----	----	<0.25	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	----	----	<0.50	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	----	----	<0.25	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	----	----	<0.25	----
^ **Total Chlordane (sum)**	----	0.25	µg/kg		<0.25	----	----	<0.25	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	----	----	<0.50	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	----	----	<5.0	----

Analytical Results

Sub-Matrix: **SEDIMENT** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH9 0.0-0.45 A	BH9 0.0-0.45 B	BH9 0.3V	BH11 0.0-0.5 A	BH11 0.0-0.5 B
				Client sampling date / time	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00
					ES1503240-001	ES1503240-002	ES1503240-003	ES1503240-004	ES1503240-005
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	----	----	<5.0	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	----	----	<5	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	----	----	<5	----
Acenaphthylene	208-96-8	4	µg/kg		<4	----	----	<4	----
Acenaphthene	83-32-9	4	µg/kg		<4	----	----	<4	----
Fluorene	86-73-7	4	µg/kg		<4	----	----	<4	----
Phenanthrene	85-01-8	4	µg/kg		<4	----	----	<4	----
Anthracene	120-12-7	4	µg/kg		<4	----	----	<4	----
Fluoranthene	206-44-0	4	µg/kg		<4	----	----	<4	----
Pyrene	129-00-0	4	µg/kg		<4	----	----	<4	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	----	----	<4	----
Chrysene	218-01-9	4	µg/kg		<4	----	----	<4	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	----	----	<4	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	----	----	<4	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	----	----	<4	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	----	----	<4	----
Perylene	198-55-0	4	µg/kg		<4	----	----	<4	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	----	----	<4	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	----	----	<4	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	----	----	<4	----
Coronene	191-07-1	5	µg/kg		<5	----	----	<5	----
^ **Sum of PAHs**	----	4	µg/kg		<4	----	----	<4	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	**103**	----	----
Toluene-D8	2037-26-5	0.1	%		----	----	**113**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	**104**	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**91.9**	----	----	**97.5**	----

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Client sample ID	BH9 0.0-0.45 A	BH9 0.0-0.45 B	BH9 0.3V	BH11 0.0-0.5 A	BH11 0.0-0.5 B
				Client sampling date / time	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503240-001	ES1503240-002	ES1503240-003	ES1503240-004	ES1503240-005
EP130S: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%		**83.4**	----	----	**87.9**	----
EP131S: OC Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.1	%		**60.6**	----	----	**62.7**	----
EP131T: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**87.5**	----	----	**87.5**	----
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**101**	----	----	**106**	----
Anthracene-d10	1719-06-8	0.1	%		**116**	----	----	**114**	----
4-Terphenyl-d14	1718-51-0	0.1	%		**116**	----	----	**118**	----

Analytical Results

Sub-Matrix: **SEDIMENT** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH11 0.0V	BH20 0.0-0.4 A	BH20 0.0-0.4 B	BH20 0.3V	PC8 0.0-0.5 A
				Client sampling date / time	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00
					ES1503240-006	ES1503240-007	ES1503240-008	ES1503240-009	ES1503240-010
EA150: Particle Sizing									
+75µm	----	1	%		----	----	**93**	----	----
+150µm	----	1	%		----	----	**92**	----	----
+300µm	----	1	%		----	----	**90**	----	----
+425µm	----	1	%		----	----	**87**	----	----
+600µm	----	1	%		----	----	**82**	----	----
+1180µm	----	1	%		----	----	**74**	----	----
+2.36mm	----	1	%		----	----	**68**	----	----
+4.75mm	----	1	%		----	----	**58**	----	----
+9.5mm	----	1	%		----	----	**45**	----	----
+19.0mm	----	1	%		----	----	**31**	----	----
+37.5mm	----	1	%		----	----	<1	----	----
+75.0mm	----	1	%		----	----	<1	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**24.3**	**12.9**	----	**20.0**	**28.6**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	**5**	----	----
Silt (2-60 µm)	----	1	%		----	----	**2**	----	----
Sand (0.06-2.00 mm)	----	1	%		----	----	**24**	----	----
Gravel (>2mm)	----	1	%		----	----	**69**	----	----
Cobbles (>6cm)	----	1	%		----	----	<1	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	**2.72**	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	**4880**	----	----	**7600**
Iron	7439-89-6	50	mg/kg		----	**17000**	----	----	**12400**
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	<0.50	----	----	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	**7.26**	----	----	**10.4**
Cadmium	7440-43-9	0.1	mg/kg		----	<0.1	----	----	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	**7.4**	----	----	**15.6**
Copper	7440-50-8	1.0	mg/kg		----	**6.4**	----	----	**7.4**
Cobalt	7440-48-4	0.5	mg/kg		----	**5.0**	----	----	**7.4**
Lead	7439-92-1	1.0	mg/kg		----	**2.7**	----	----	**4.6**

Analytical Results

Sub-Matrix: **SEDIMENT** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH11 0.0V	BH20 0.0-0.4 A	BH20 0.0-0.4 B	BH20 0.3V	PC8 0.0-0.5 A
				Client sampling date / time	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00
					ES1503240-006	ES1503240-007	ES1503240-008	ES1503240-009	ES1503240-010
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	**170**	----	----	**298**
Nickel	7440-02-0	1.0	mg/kg		----	**5.6**	----	----	**6.5**
Selenium	7782-49-2	0.1	mg/kg		----	**0.3**	----	----	**0.6**
Silver	7440-22-4	0.1	mg/kg		----	<0.1	----	----	**0.9**
Vanadium	7440-62-2	2.0	mg/kg		----	**32.2**	----	----	**27.7**
Zinc	7440-66-6	1.0	mg/kg		----	**19.0**	----	----	**22.5**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	<0.01	----	----	**0.02**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	<0.1	----	----	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	----	----	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	----	----	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	**90**	----	----	**260**
EK062: Total Nitrogen as N (TKN + NOx)									
^ **Total Nitrogen as N**	----	20	mg/kg		----	**90**	----	----	**260**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	**381**	----	----	**167**
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	**0.9**	----	----	**1.5**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	**0.07**	----	----	**0.38**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	<3	----	----	<3
>C16 - C34 Fraction	----	3	mg/kg		----	<3	----	----	<3
>C34 - C40 Fraction	----	5	mg/kg		----	<5	----	----	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	<3	----	----	<3
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	----	----	<3	----
C10 - C14 Fraction	----	3	mg/kg		----	<3	----	----	**4**
C15 - C28 Fraction	----	3	mg/kg		----	<3	----	----	<3

Analytical Results

Sub-Matrix: **SEDIMENT** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH11 0.0V	BH20 0.0-0.4 A	BH20 0.0-0.4 B	BH20 0.3V	PC8 0.0-0.5 A
				Client sampling date / time	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00
					ES1503240-006	ES1503240-007	ES1503240-008	ES1503240-009	ES1503240-010
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	<5	----	----	<5
^ **C10 - C36 Fraction (sum)**	----	3	mg/kg		----	<3	----	----	**4**
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	----	----	<3	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	<0.2	----
Toluene	108-88-3	0.2	mg/kg		<0.2	----	----	<0.2	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	----	----	<0.2	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	----	----	<0.2	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	----	----	<0.2	----
^ **Total Xylenes**	1330-20-7	0.5	mg/kg		<0.5	----	----	<0.5	----
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	----	----	<0.2	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	<1	----	----	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	<1	----	----	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	<0.5	----	----	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	<10	----	----	<10
Carbophenothion	786-19-6	10	µg/kg		----	<10	----	----	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	<10.0	----	----	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	<10	----	----	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	<10	----	----	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	<10	----	----	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	<10	----	----	<10
Diazinon	333-41-5	10	µg/kg		----	<10	----	----	<10
Dichlorvos	62-73-7	10	µg/kg		----	<10	----	----	<10
Dimethoate	60-51-5	10	µg/kg		----	<10	----	----	<10
Ethion	563-12-2	10	µg/kg		----	<10	----	----	<10
Fenamiphos	22224-92-6	10	µg/kg		----	<10	----	----	<10
Fenthion	55-38-9	10	µg/kg		----	<10	----	----	<10
Malathion	121-75-5	10	µg/kg		----	<10	----	----	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	<10	----	----	<10
Monocrotophos	6923-22-4	10	µg/kg		----	<10	----	----	<10

Analytical Results

Sub-Matrix: **SEDIMENT** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH11 0.0V	BH20 0.0-0.4 A	BH20 0.0-0.4 B	BH20 0.3V	PC8 0.0-0.5 A
				Client sampling date / time	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00
					ES1503240-006	ES1503240-007	ES1503240-008	ES1503240-009	ES1503240-010
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	<10	----	----	<10
Parathion-methyl	298-00-0	10	µg/kg		----	<10	----	----	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	<10	----	----	<10
Prothiofos	34643-46-4	10	µg/kg		----	<10	----	----	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	<0.50	----	----	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	<0.50	----	----	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	<0.50	----	----	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	<0.50	----	----	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	<0.50	----	----	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	<0.50	----	----	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	<0.50	----	----	<0.50
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	<0.50	----	----	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	<0.50	----	----	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	<0.50	----	----	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	<0.50	----	----	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	<0.50	----	----	<0.50
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	<0.50	----	----	<0.50
Endrin	72-20-8	0.50	µg/kg		----	<0.50	----	----	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	<0.50	----	----	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	<0.50	----	----	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	<0.50	----	----	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	<0.50	----	----	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	<0.50	----	----	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	<0.25	----	----	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	<0.50	----	----	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	<0.25	----	----	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	<0.25	----	----	<0.25
^ **Total Chlordane (sum)**	----	0.25	µg/kg		----	<0.25	----	----	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	<0.50	----	----	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	<5.0	----	----	<5.0

Analytical Results

Sub-Matrix: **SEDIMENT** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH11 0.0V	BH20 0.0-0.4 A	BH20 0.0-0.4 B	BH20 0.3V	PC8 0.0-0.5 A
				Client sampling date / time	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00
					ES1503240-006	ES1503240-007	ES1503240-008	ES1503240-009	ES1503240-010
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	<5.0	----	----	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	<5	----	----	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	<5	----	----	<5
Acenaphthylene	208-96-8	4	µg/kg		----	<4	----	----	<4
Acenaphthene	83-32-9	4	µg/kg		----	<4	----	----	<4
Fluorene	86-73-7	4	µg/kg		----	<4	----	----	<4
Phenanthrene	85-01-8	4	µg/kg		----	<4	----	----	<4
Anthracene	120-12-7	4	µg/kg		----	<4	----	----	<4
Fluoranthene	206-44-0	4	µg/kg		----	<4	----	----	<4
Pyrene	129-00-0	4	µg/kg		----	<4	----	----	<4
Benz(a)anthracene	56-55-3	4	µg/kg		----	<4	----	----	<4
Chrysene	218-01-9	4	µg/kg		----	<4	----	----	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	<4	----	----	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	<4	----	----	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		----	<4	----	----	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		----	<4	----	----	<4
Perylene	198-55-0	4	µg/kg		----	<4	----	----	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	<4	----	----	**5**
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	<4	----	----	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	<4	----	----	**4**
Coronene	191-07-1	5	µg/kg		----	<5	----	----	<5
^ **Sum of PAHs**	----	4	µg/kg		----	<4	----	----	**9**
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**117**	----	----	**101**	----
Toluene-D8	2037-26-5	0.1	%		**101**	----	----	**120**	----
4-Bromofluorobenzene	460-00-4	0.1	%		**97.4**	----	----	**107**	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	**92.4**	----	----	**79.1**

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Client sample ID	BH11 0.0V	BH20 0.0-0.4 A	BH20 0.0-0.4 B	BH20 0.3V	PC8 0.0-0.5 A
				Client sampling date / time	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503240-006	ES1503240-007	ES1503240-008	ES1503240-009	ES1503240-010
EP130S: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%		----	**90.4**	----	----	**70.2**
EP131S: OC Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.1	%		----	**75.1**	----	----	**95.3**
EP131T: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	**62.5**	----	----	**75.0**
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		----	**102**	----	----	**113**
Anthracene-d10	1719-06-8	0.1	%		----	**108**	----	----	**119**
4-Terphenyl-d14	1718-51-0	0.1	%		----	**117**	----	----	**118**

Analytical Results

Sub-Matrix: **SEDIMENT** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	PC8 0.5-1.0 A	PC8 0.0-0.5 B	PC8 0.5-1.0 B	PC8 0.3V	PC8 0.7V
				Client sampling date / time	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00
					ES1503240-011	ES1503240-012	ES1503240-013	ES1503240-014	ES1503240-015
EA150: Particle Sizing									
+75µm	----	1	%		----	**67**	**48**	----	----
+150µm	----	1	%		----	**4**	**4**	----	----
+300µm	----	1	%		----	**1**	**1**	----	----
+425µm	----	1	%		----	**1**	<1	----	----
+600µm	----	1	%		----	<1	<1	----	----
+1180µm	----	1	%		----	<1	<1	----	----
+2.36mm	----	1	%		----	<1	<1	----	----
+4.75mm	----	1	%		----	<1	<1	----	----
+9.5mm	----	1	%		----	<1	<1	----	----
+19.0mm	----	1	%		----	<1	<1	----	----
+37.5mm	----	1	%		----	<1	<1	----	----
+75.0mm	----	1	%		----	<1	<1	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**29.1**	----	----	**29.4**	**35.0**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	**13**	**23**	----	----
Silt (2-60 µm)	----	1	%		----	**11**	**19**	----	----
Sand (0.06-2.00 mm)	----	1	%		----	**76**	**58**	----	----
Gravel (>2mm)	----	1	%		----	<1	<1	----	----
Cobbles (>6cm)	----	1	%		----	<1	<1	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	**2.71**	**2.69**	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**7900**	----	----	----	----
Iron	7439-89-6	50	mg/kg		**13800**	----	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	----	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		**10.4**	----	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	----	----	----	----
Chromium	7440-47-3	1.0	mg/kg		**16.1**	----	----	----	----
Copper	7440-50-8	1.0	mg/kg		**8.3**	----	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		**7.5**	----	----	----	----
Lead	7439-92-1	1.0	mg/kg		**5.1**	----	----	----	----

Analytical Results

Sub-Matrix: **SEDIMENT** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	PC8 0.5-1.0 A	PC8 0.0-0.5 B	PC8 0.5-1.0 B	PC8 0.3V	PC8 0.7V
				Client sampling date / time	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00
					ES1503240-011	ES1503240-012	ES1503240-013	ES1503240-014	ES1503240-015
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		**336**	----	----	----	----
Nickel	7440-02-0	1.0	mg/kg		**7.3**	----	----	----	----
Selenium	7782-49-2	0.1	mg/kg		**0.6**	----	----	----	----
Silver	7440-22-4	0.1	mg/kg		**0.2**	----	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		**30.1**	----	----	----	----
Zinc	7440-66-6	1.0	mg/kg		**23.4**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		**0.01**	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		**450**	----	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ **Total Nitrogen as N**	----	20	mg/kg		**450**	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		**222**	----	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		**3.1**	----	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		**0.64**	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	----	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		**4**	----	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	----	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		**4**	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	<3	<3
C10 - C14 Fraction	----	3	mg/kg		**4**	----	----	----	----
C15 - C28 Fraction	----	3	mg/kg		<3	----	----	----	----

Analytical Results

Sub-Matrix: **SEDIMENT** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	PC8 0.5-1.0 A	PC8 0.0-0.5 B	PC8 0.5-1.0 B	PC8 0.3V	PC8 0.7V
				Client sampling date / time	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00
					ES1503240-011	ES1503240-012	ES1503240-013	ES1503240-014	ES1503240-015
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	3	mg/kg		**4**	----	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	<3	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	<0.2	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	<0.2	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	<0.2	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	<0.2	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	<0.2	<0.2
^ **Total Xylenes**	1330-20-7	0.5	mg/kg		----	----	----	<0.5	<0.5
^ **Sum of BTEX**	----	0.2	mg/kg		----	----	----	<0.2	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	----	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	----	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	----	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	----	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	----	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	----	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	----	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	----	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	----	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	----	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	----	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	----	----	----	----
Ethion	563-12-2	10	µg/kg		<10	----	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	----	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	----	----	----	----
Malathion	121-75-5	10	µg/kg		<10	----	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	----	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	----	----	----	----

Analytical Results

Sub-Matrix: **SEDIMENT** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	PC8 0.5-1.0 A	PC8 0.0-0.5 B	PC8 0.5-1.0 B	PC8 0.3V	PC8 0.7V
				Client sampling date / time	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00
					ES1503240-011	ES1503240-012	ES1503240-013	ES1503240-014	ES1503240-015
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	----	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	----	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	----	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	----	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	----	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	----	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	----	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	----	----	----	----
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		<0.50	----	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	----	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	----	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	----	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	----	----	----	----
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		<0.50	----	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	----	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	----	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	----	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	----	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	----	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	----	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	----	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	----	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	----	----	----	----
^ **Total Chlordane (sum)**	----	0.25	µg/kg		<0.25	----	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	----	----	----	----

Analytical Results

Sub-Matrix: **SEDIMENT** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	PC8 0.5-1.0 A	PC8 0.0-0.5 B	PC8 0.5-1.0 B	PC8 0.3V	PC8 0.7V
				Client sampling date / time	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00
					ES1503240-011	ES1503240-012	ES1503240-013	ES1503240-014	ES1503240-015
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	----	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	----	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	----	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	----	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	----	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	----	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	----	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	----	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	----	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	----	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	----	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	----	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	----	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	----	----	----	----
Perylene	198-55-0	4	µg/kg		<4	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	----	----	----	----
Coronene	191-07-1	5	µg/kg		<5	----	----	----	----
^ **Sum of PAHs**	----	4	µg/kg		<4	----	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	**95.6**	**93.0**
Toluene-D8	2037-26-5	0.1	%		----	----	----	**111**	**106**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	**99.2**	**93.9**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**85.9**	----	----	----	----

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Client sample ID	PC8 0.5-1.0 A	PC8 0.0-0.5 B	PC8 0.5-1.0 B	PC8 0.3V	PC8 0.7V
				Client sampling date / time	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503240-011	ES1503240-012	ES1503240-013	ES1503240-014	ES1503240-015
EP130S: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%		**95.4**	----	----	----	----
EP131S: OC Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.1	%		**84.0**	----	----	----	----
EP131T: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**62.5**	----	----	----	----
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**105**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%		**116**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%		**118**	----	----	----	----

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Client sample ID	Triplicate 5A	Triplicate 5B	Duplicate 3A	----	----
				Client sampling date / time	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	----	----
Compound	CAS Number	LOR	Unit		ES1503240-016	ES1503240-017	ES1503240-018	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		23.5	23.1	24.9	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		13500	12600	5840	----	----
Iron	7439-89-6	50	mg/kg		22500	14800	11700	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	<0.50	----	----
Arsenic	7440-38-2	1.00	mg/kg		16.4	5.88	9.08	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	<0.1	----	----
Chromium	7440-47-3	1.0	mg/kg		19.5	24.3	10.9	----	----
Copper	7440-50-8	1.0	mg/kg		22.0	30.7	5.8	----	----
Cobalt	7440-48-4	0.5	mg/kg		7.8	3.5	5.2	----	----
Lead	7439-92-1	1.0	mg/kg		7.0	7.1	3.0	----	----
Manganese	7439-96-5	10	mg/kg		107	62	216	----	----
Nickel	7440-02-0	1.0	mg/kg		11.0	5.7	5.8	----	----
Selenium	7782-49-2	0.1	mg/kg		0.8	0.8	0.5	----	----
Silver	7440-22-4	0.1	mg/kg		0.2	0.1	<0.1	----	----
Vanadium	7440-62-2	2.0	mg/kg		62.2	70.1	31.3	----	----
Zinc	7440-66-6	1.0	mg/kg		39.3	25.5	16.7	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		0.04	0.03	<0.01	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	<0.1	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	<0.1	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		170	140	140	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		170	140	140	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		250	162	218	----	----
EK255A SD Ammonia in Sediment									

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Client sample ID	Triplicate 5A	Triplicate 5B	Duplicate 3A	----	----
				Client sampling date / time	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	----	----
Compound	CAS Number	LOR	Unit		ES1503240-016	ES1503240-017	ES1503240-018	----	----
EK255A SD Ammonia in Sediment - Continued									
Ammonia as N	7664-41-7	0.2	mg/kg		1.2	1.2	2.4	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		0.12	0.09	0.15	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	<3	<3	----	----
>C16 - C34 Fraction	----	3	mg/kg		<3	<3	<3	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	<5	<5	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	<3	<3	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C10 - C14 Fraction	----	3	mg/kg		<3	<3	4	----	----
C15 - C28 Fraction	----	3	mg/kg		<3	<3	<3	----	----
C29 - C36 Fraction	----	5	mg/kg		<5	<5	<5	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		<3	<3	4	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	<1	<1	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	<1	<1	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	<0.5	<0.5	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	<10	<10	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	<10	<10	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	<10.0	<10.0	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	<10	<10	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	<10	<10	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	<10	<10	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	<10	<10	----	----
Diazinon	333-41-5	10	µg/kg		<10	<10	<10	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	<10	<10	----	----
Dimethoate	60-51-5	10	µg/kg		<10	<10	<10	----	----
Ethion	563-12-2	10	µg/kg		<10	<10	<10	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	<10	<10	----	----
Fenthion	55-38-9	10	µg/kg		<10	<10	<10	----	----
Malathion	121-75-5	10	µg/kg		<10	<10	<10	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	<10	<10	----	----

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Client sample ID	Triplicate 5A	Triplicate 5B	Duplicate 3A	----	----
				Client sampling date / time	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	----	----
Compound	CAS Number	LOR	Unit		ES1503240-016	ES1503240-017	ES1503240-018	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Monocrotophos	6923-22-4	10	µg/kg		<10	<10	<10	----	----
Parathion	56-38-2	10	µg/kg		<10	<10	<10	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	<10	<10	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	<10	<10	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	<10	<10	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	<0.25	<0.25	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	<0.25	<0.25	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	<0.25	<0.25	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	<0.25	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	<5.0	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	<5.0	<5.0	----	----

Analytical Results

Sub-Matrix: **SEDIMENT** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	Triplicate 5A	Triplicate 5B	Duplicate 3A	----	----
				Client sampling date / time	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	----	----
					ES1503240-016	**ES1503240-017**	**ES1503240-018**	**----**	**----**
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	<5.0	<5.0	----	----
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	<5.0	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	<5.0	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	<5.0	<5.0	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	<5.0	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	<5.0	<5.0	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	<5	<5	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	<5	<5	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	<4	<4	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	<4	<4	----	----
Fluorene	86-73-7	4	µg/kg		<4	<4	<4	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	<4	<4	----	----
Anthracene	120-12-7	4	µg/kg		<4	<4	<4	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	<4	<4	----	----
Pyrene	129-00-0	4	µg/kg		<4	<4	<4	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	<4	<4	----	----
Chrysene	218-01-9	4	µg/kg		<4	<4	<4	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	<4	<4	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	<4	<4	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	<4	<4	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	<4	<4	----	----
Perylene	198-55-0	4	µg/kg		<4	<4	<4	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	<4	<4	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	<4	<4	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	<4	<4	----	----
Coronene	191-07-1	5	µg/kg		<5	<5	<5	----	----
^ **Sum of PAHs**	----	4	µg/kg		<4	<4	<4	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**98.6**	**65.8**	**103**	----	----
EP130S: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%		**85.7**	**67.5**	**76.2**	----	----
EP131S: OC Pesticide Surrogate									

Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)			Client sample ID	Triplicate 5A	Triplicate 5B	Duplicate 3A	----	----
			Client sampling date / time	10-FEB-2015 15:00	10-FEB-2015 15:00	10-FEB-2015 15:00	----	----
Compound	CAS Number	LOR	Unit	ES1503240-016	ES1503240-017	ES1503240-018	----	----
EP131S: OC Pesticide Surrogate - Continued								
Dibromo-DDE	21655-73-2	0.1	%	64.6	86.4	63.7	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	50.0	75.0	62.5	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	91.5	91.1	96.0	----	----
Anthracene-d10	1719-06-8	0.1	%	118	92.7	88.8	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	120	95.3	92.2	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	Trip Blank 6	----	----	----	----
			Client sampling date / time	10-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1503240-019	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013								
>C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	----	----	----	----
>C16 - C34 Fraction	----	3	mg/kg	<3	----	----	----	----
>C34 - C40 Fraction	----	5	mg/kg	<5	----	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	3	mg/kg	<3	----	----	----	----
C10 - C14 Fraction	----	3	mg/kg	<3	----	----	----	----
C15 - C28 Fraction	----	3	mg/kg	<3	----	----	----	----
C29 - C36 Fraction	----	5	mg/kg	<5	----	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons								
C6 - C10 Fraction	C6_C10	3	mg/kg	<3	----	----	----	----
EP080-SD: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	----	----	----	----
Toluene	108-88-3	0.2	mg/kg	<0.2	----	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	----	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	----	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg	<0.2	----	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	115	----	----	----	----
Toluene-D8	2037-26-5	0.1	%	98.4	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	87.0	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	Rinsate 5	----	----	----	----
				Client sampling date / time	10-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1503240-020	----	----	----	----
EG020T: Total Metals by ICP-MS									
Antimony	7440-36-0	0.001	mg/L		<0.001	----	----	----	----
Arsenic	7440-38-2	0.001	mg/L		<0.001	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	----	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	----	----	----	----
Manganese	7439-96-5	0.001	mg/L		<0.001	----	----	----	----
Nickel	7440-02-0	0.001	mg/L		<0.001	----	----	----	----
Silver	7440-22-4	0.001	mg/L		<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L		<0.005	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	----	----	----	----
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		<0.01	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	----	0.01	mg/L		<0.01	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		<0.01	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		<0.01	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L		<0.1	----	----	----	----
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser									
^ Total Nitrogen as N	----	0.1	mg/L		<0.1	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		<0.01	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	1	µg/L		<1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.5	µg/L		<0.5	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L		<0.5	----	----	----	----
beta-BHC	319-85-7	0.5	µg/L		<0.5	----	----	----	----
gamma-BHC	58-89-9	0.5	µg/L		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	Rinsate 5	----	----	----	----
				Client sampling date / time	10-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1503240-020	----	----	----	----
EP068A: Organochlorine Pesticides (OC) - Continued									
delta-BHC	319-86-8	0.5	µg/L		<0.5	----	----	----	----
Heptachlor	76-44-8	0.5	µg/L		<0.5	----	----	----	----
Aldrin	309-00-2	0.5	µg/L		<0.5	----	----	----	----
Heptachlor epoxide	1024-57-3	0.5	µg/L		<0.5	----	----	----	----
trans-Chlordane	5103-74-2	0.5	µg/L		<0.5	----	----	----	----
alpha-Endosulfan	959-98-8	0.5	µg/L		<0.5	----	----	----	----
cis-Chlordane	5103-71-9	0.5	µg/L		<0.5	----	----	----	----
Dieldrin	60-57-1	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDE	72-55-9	0.5	µg/L		<0.5	----	----	----	----
Endrin	72-20-8	0.5	µg/L		<0.5	----	----	----	----
beta-Endosulfan	33213-65-9	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDD	72-54-8	0.5	µg/L		<0.5	----	----	----	----
Endrin aldehyde	7421-93-4	0.5	µg/L		<0.5	----	----	----	----
Endosulfan sulfate	1031-07-8	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDT	50-29-3	2.0	µg/L		<2.0	----	----	----	----
Endrin ketone	53494-70-5	0.5	µg/L		<0.5	----	----	----	----
Methoxychlor	72-43-5	2.0	µg/L		<2.0	----	----	----	----
^ Total Chlordane (sum)	----	0.5	µg/L		<0.5	----	----	----	----
^ Sum of DDD + DDE + DDT	----	0.5	µg/L		<0.5	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L		<0.5	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.5	µg/L		<0.5	----	----	----	----
Demeton-S-methyl	919-86-8	0.5	µg/L		<0.5	----	----	----	----
Monocrotophos	6923-22-4	2.0	µg/L		<2.0	----	----	----	----
Dimethoate	60-51-5	0.5	µg/L		<0.5	----	----	----	----
Diazinon	333-41-5	0.5	µg/L		<0.5	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L		<0.5	----	----	----	----
Parathion-methyl	298-00-0	2.0	µg/L		<2.0	----	----	----	----
Malathion	121-75-5	0.5	µg/L		<0.5	----	----	----	----
Fenthion	55-38-9	0.5	µg/L		<0.5	----	----	----	----
Chlorpyrifos	2921-88-2	0.5	µg/L		<0.5	----	----	----	----
Parathion	56-38-2	2.0	µg/L		<2.0	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	µg/L		<0.5	----	----	----	----
Chlorfenvinphos	470-90-6	0.5	µg/L		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	Rinsate 5	----	----	----	----
				Client sampling date / time	10-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1503240-020	----	----	----	----
EP068B: Organophosphorus Pesticides (OP) - Continued									
Bromophos-ethyl	4824-78-6	0.5	µg/L		<0.5	----	----	----	----
Fenamiphos	22224-92-6	0.5	µg/L		<0.5	----	----	----	----
Prothiofos	34643-46-4	0.5	µg/L		<0.5	----	----	----	----
Ethion	563-12-2	0.5	µg/L		<0.5	----	----	----	----
Carbophenothion	786-19-6	0.5	µg/L		<0.5	----	----	----	----
Azinphos Methyl	86-50-0	0.5	µg/L		<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L		<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L		<1.0	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L		<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L		<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L		<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L		<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	Rinsate 5	----	----	----	----
				Client sampling date / time	10-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1503240-020	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L		<20	----	----	----	----
>C10 - C16 Fraction	>C10_C16	100	µg/L		<100	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L		<100	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L		<100	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L		<100	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L		<100	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	----	----	----	----
Toluene	108-88-3	2	µg/L		<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	----	----	----	----
^ **Total Xylenes**	1330-20-7	2	µg/L		<2	----	----	----	----
^ **Sum of BTEX**	----	1	µg/L		<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	----	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	5	ngSn/L		<5	----	----	----	----
Dibutyltin	1002-53-5	5	ngSn/L		<5	----	----	----	----
Tributyltin	56573-85-4	2	ngSn/L		<2	----	----	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**79.6**	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.1	%		**68.5**	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%		**73.3**	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%		**32.3**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%		**46.8**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%		**38.7**	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**56.4**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%		**70.4**	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	Rinsate 5	----	----	----	----
				Client sampling date / time	10-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1503240-020	----	----	----	----
EP075(SIM)T: PAH Surrogates - Continued									
4-Terphenyl-d14	1718-51-0	0.1	%		62.3	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		112	----	----	----	----
Toluene-D8	2037-26-5	0.1	%		101	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		98.1	----	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		57.8	----	----	----	----

Surrogate Control Limits

Sub-Matrix: SEDIMENT		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP080-SD: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	67	137
Toluene-D8	2037-26-5	74	134
4-Bromofluorobenzene	460-00-4	73	137
EP090S: Organotin Surrogate			
Tripropyltin	----	35	130
EP130S: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	14.4	102
EP131S: OC Pesticide Surrogate			
Dibromo-DDE	21655-73-2	10	119
EP131T: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	10	106
EP132T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	55	135
Anthracene-d10	1719-06-8	70	136
4-Terphenyl-d14	1718-51-0	57	127

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP080-SD: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	67	137
Toluene-D8	2037-26-5	74	134
4-Bromofluorobenzene	460-00-4	73	137

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	28.5	129
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	30	120
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	26.8	129
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10.0	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27.4	113

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP075(SIM)T: PAH Surrogates - Continued			
4-Terphenyl-d14	1718-51-0	32	112
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128
EP090S: Organotin Surrogate			
Tripropyltin	----	8.2	108

QUALITY CONTROL REPORT

Work Order	: **ES1503240**	Page	: 1 of 27
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 12-FEB-2015
Sampler	: GK	Issue Date	: 28-FEB-2015
Order number	: 245553		
		No. of samples received	: 20
Quote number	: SY/1021/14 V2	No. of samples analysed	: 20

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Ashesh Patel	Inorganic Chemist	Sydney Inorganics
Dianne Blane	Laboratory Coordinator (2IC)	Newcastle - Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
		Sydney Organics
Ryan Story	2IC Organic Instrument Chemist	Brisbane Organics
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils
Shobhna Chandra	Metals Coordinator	Sydney Inorganics
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA055: Moisture Content (QC Lot: 3826841)									
ES1503080-035	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	26.0	26.9	3.4	0% - 20%
ES1503240-006	BH11 0.0V	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	24.3	23.2	4.6	0% - 20%
EA055: Moisture Content (QC Lot: 3826842)									
ES1503240-018	Duplicate 3A	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	24.9	28.2	12.4	0% - 20%
ES1503496-014	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	15.8	14.7	6.9	0% - 50%
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3829114)									
ES1503000-051	Anonymous	EG005-SD: Aluminium	7429-90-5	50	mg/kg	13000	12800	1.7	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	18500	18500	0.07	0% - 20%
ES1503080-020	Anonymous	EG005-SD: Aluminium	7429-90-5	50	mg/kg	4430	4320	2.6	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	12500	12400	1.3	0% - 20%
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3829117)									
ES1503240-007	BH20 0.0-0.4 A	EG005-SD: Aluminium	7429-90-5	50	mg/kg	4880	4380	10.8	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	17000	15900	6.4	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3829113)									
ES1503000-051	Anonymous	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	1.0	1.0	0.0	0% - 50%
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	0.5	0.4	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	6.5	7.1	8.6	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	19.8	19.4	1.7	0% - 50%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	25.0	23.8	5.2	0% - 20%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	9.4	9.5	0.0	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	6.7	7.1	5.9	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	23.1	23.1	0.0	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	6.98	7.49	7.0	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	105	145	32.0	0% - 50%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	50.4	49.8	1.0	0% - 20%
ES1503080-020	Anonymous	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.3	0.3	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	8.6	8.4	2.9	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	9.0	9.1	0.0	No Limit
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	3.4	3.3	0.0	No Limit
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	3.2	3.2	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3829113) - continued									
ES1503080-020	Anonymous	EG020-SD: Nickel	7440-02-0	1.0	mg/kg	5.2	5.1	2.6	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	14.7	14.1	3.8	0% - 50%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	25.3	25.2	0.5	0% - 20%
		EG020-SD: Manganese	7439-96-5	10	mg/kg	1530	1500	2.1	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	35.2	33.8	4.3	0% - 50%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3829116)									
ES1503240-007	BH20 0.0-0.4 A	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.3	0.3	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	5.0	4.0	22.3	No Limit
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	7.4	9.4	24.2	No Limit
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	6.4	5.7	11.4	No Limit
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	2.7	2.5	6.7	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	5.6	5.2	9.1	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	19.0	16.3	15.2	0% - 50%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	7.26	6.96	4.1	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	170	150	12.9	0% - 50%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	32.2	31.7	1.7	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3829112)									
ES1503000-051	Anonymous	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	0.03	0.03	0.0	No Limit
ES1503080-020	Anonymous	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3829115)									
ES1503240-007	BH20 0.0-0.4 A	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3828334)									
ES1503080-001	Anonymous	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1503080-026	Anonymous	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3828337)									
ES1503240-010	PC8 0.0-0.5 A	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3828335)									
ES1503080-001	Anonymous	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1503080-026	Anonymous	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	0.2	0.2	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3828338)									
ES1503240-010	PC8 0.0-0.5 A	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3832645)									
ES1503080-025	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	60	60	0.0	No Limit
ES1503240-007	BH20 0.0-0.4 A	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	90	90	0.0	No Limit
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3832646)									
ES1503080-025	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	245	247	0.8	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3832646) - continued									
ES1503240-007	BH20 0.0-0.4 A	EK067G: Total Phosphorus as P	----	2	mg/kg	381	345	10.1	0% - 20%
EK255A SD: Ammonia in Sediment (QC Lot: 3822226)									
ES1503080-014	Anonymous	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	2.9	2.9	0.0	0% - 50%
ES1503240-001	BH9 0.0-0.45 A	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	3.6	3.5	0.0	0% - 50%
EP003: Total Organic Carbon (TOC) in Soil (QC Lot: 3826537)									
EM1501378-001	Anonymous	EP003: Total Organic Carbon	----	0.02	%	0.13	0.12	0.0	No Limit
ES1503240-007	BH20 0.0-0.4 A	EP003: Total Organic Carbon	----	0.02	%	0.07	0.07	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3821455)									
ES1502902-001	Anonymous	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	3	4	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	20	20	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	31	33	6.2	0% - 50%
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	8	9	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3821513)									
ES1503240-001	BH9 0.0-0.45 A	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3821327)									
ES1502902-005	Anonymous	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3821455)									
ES1502902-001	Anonymous	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	5	5	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	13	14	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	30	34	12.5	0% - 50%
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	12	15	20.6	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3821513)									
ES1503240-001	BH9 0.0-0.45 A	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
EP080-SD: BTEXN (QC Lot: 3821327)									
ES1502902-005	Anonymous	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP090: Organotin Compounds (QC Lot: 3822628)									
ES1503240-001	BH9 0.0-0.45 A	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP090: Organotin Compounds (QC Lot: 3822628) - continued									
ES1503240-001	BH9 0.0-0.45 A	EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3821509)									
ES1503240-001	BH9 0.0-0.45 A	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
EP131A: Organochlorine Pesticides (QC Lot: 3821510)									
ES1503240-001	BH9 0.0-0.45 A	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP131A: Organochlorine Pesticides (QC Lot: 3821510) - continued									
ES1503240-001	BH9 0.0-0.45 A	EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 3821511)									
ES1503240-001	BH9 0.0-0.45 A	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3821512)									
ES1503240-001	BH9 0.0-0.45 A	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG020T: Total Metals by ICP-MS (QC Lot: 3827919)									
ES1503240-020	Rinsate 5	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Manganese	7439-96-5	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.0	No Limit
EW1500552-006	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Manganese	7439-96-5	0.001	mg/L	0.026	0.027	0.0	0% - 20%
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	0.008	0.008	0.0	No Limit
EG020T: Total Metals by ICP-MS (QC Lot: 3827920)									
ES1503240-020	Rinsate 5	EG020B-T: Silver	7440-22-4	0.001	mg/L	<0.001	<0.001	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3831394)									
ES1503240-020	Rinsate 5	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
ES1503646-001	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.0001	0.0	No Limit
EK055G: Ammonia as N by Discrete Analyser (QC Lot: 3826777)									
ES1503240-020	Rinsate 5	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.02	0.0	No Limit
ES1503373-001	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	0.02	<0.01	0.0	No Limit
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3821664)									
ES1503244-001	Anonymous	EK057G: Nitrite as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1503381-001	Anonymous	EK057G: Nitrite as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3826776)									
ES1503240-020	Rinsate 5	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1503373-001	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	0.02	0.02	0.0	No Limit
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3826772)									
ES1503240-020	Rinsate 5	EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	<0.1	<0.1	0.0	No Limit
ES1503373-002	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	0.8	0.7	0.0	No Limit
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3826773)									
ES1503240-020	Rinsate 5	EK067G: Total Phosphorus as P	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1503373-002	Anonymous	EK067G: Total Phosphorus as P	----	0.01	mg/L	0.10	0.09	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3826223)									

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3826223) - continued									
ES1503613-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
ES1503614-002	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3826223)									
ES1503613-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
ES1503614-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 3826223)									
ES1503613-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
ES1503614-002	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3829114)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	120	86	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	87.0	70	130
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3829117)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	122	86	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	90.9	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3829113)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	----	----	----	----
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	109	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	106	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	120	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	110	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	114	84	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	102	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	125	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	118	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	115	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	2.10 mg/kg	131	64	148
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	119	87	131
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	118	83	137
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3829116)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	----	----	----	----
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	107	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	106	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	119	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	111	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	113	84	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	107	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	123	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	116	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	110	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	2.10 mg/kg	116	64	148
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	116	87	131

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3829116) - continued								
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	116	83	137
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3829112)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.110 mg/kg	83.2	72	116
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3829115)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.110 mg/kg	81.8	72	116
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3828334)								
EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	90.8	82	120
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3828337)								
EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	98.2	82	120
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3828335)								
EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	100	89	115
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3828338)								
EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	108	89	115
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3832645)								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	<20	1000 mg/kg	87.2	64	114
				----	100 mg/kg	90.4	70	127
				----	500 mg/kg	99.0	70	122
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3832646)								
EK067G: Total Phosphorus as P	----	2	mg/kg	----	100 mg/kg	95.0	69	123
				<2	442 mg/kg	89.7	68	116
				----	44.2 mg/kg	87.7	64	124
EK255A SD: Ammonia in Sediment (QCLot: 3822226)								
EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	<0.2	0.1 mg/kg	100	70	130
EP003: Total Organic Carbon (TOC) in Soil (QCLot: 3826537)								
EP003: Total Organic Carbon	----	0.02	%	<0.02	0.11 %	98.2	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3821455)								
EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	6.25 mg/kg	86.3	70	130
EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	8.75 mg/kg	99.4	74	138
EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	3.75 mg/kg	118	63	131
EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3821513)								
EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	6.25 mg/kg	98.5	70	130
EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	8.75 mg/kg	101	74	138
EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	3.25 mg/kg	109	63	131
EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821327)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821327) - continued								
EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	6.2 mg/kg	88.7	61	133
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821455)								
EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	5 mg/kg	88.7	78	118
EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	7.5 mg/kg	93.1	84	118
EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	5 mg/kg	108	73	119
EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821513)								
EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	5 mg/kg	99.4	78	118
EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	7.5 mg/kg	99.7	84	118
EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	5 mg/kg	102	73	119
EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD: BTEXN (QCLot: 3821327)								
EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	0.2 mg/kg	89.3	66	122
EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	0.2 mg/kg	97.1	69	122
EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.2 mg/kg	99.6	66	126
EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	0.4 mg/kg	99.2	59	129
EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.2 mg/kg	99.7	66	126
EP090: Organotin Compounds (QCLot: 3822628)								
EP090: Monobutyltin	78763-54-9	1.0	µgSn/kg	<1	1.25 µgSn/kg	99.1	36	128
EP090: Dibutyltin	1002-53-5	1.0	µgSn/kg	<1	1.25 µgSn/kg	88.0	42	132
EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	1.25 µgSn/kg	89.2	52	139
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3821509)								
EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	50 µg/kg	73.3	45	139
EP130: Carbophenothion	786-19-6	10	µg/kg	<10	50 µg/kg	77.1	47	117
EP130: Chlorfenvinphos (E)	18708-86-6	10	µg/kg	<10.0	5 µg/kg	80.4	48	156
EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	50 µg/kg	85.4	62	136
EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	50 µg/kg	76.5	57	137
EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	50 µg/kg	74.4	57	121
EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	50 µg/kg	77.4	20.4	142
EP130: Diazinon	333-41-5	10	µg/kg	<10	50 µg/kg	69.4	57	121
EP130: Dichlorvos	62-73-7	10	µg/kg	<10	50 µg/kg	69.6	47	115
EP130: Dimethoate	60-51-5	10	µg/kg	<10	50 µg/kg	83.5	55	133
EP130: Ethion	563-12-2	10	µg/kg	<10	50 µg/kg	80.2	54	130
EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	50 µg/kg	76.2	57	131
EP130: Fenthion	55-38-9	10	µg/kg	<10	50 µg/kg	72.5	38	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3821509) - continued								
EP130: Malathion	121-75-5	10	µg/kg	<10	50 µg/kg	77.4	62	138
EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	50 µg/kg	116	33	137
EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	50 µg/kg	96.6	50	148
EP130: Parathion	56-38-2	10	µg/kg	<10	50 µg/kg	81.9	64	140
EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	50 µg/kg	87.0	56	136
EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	50 µg/kg	75.5	50	132
EP130: Prothiofos	34643-46-4	10	µg/kg	<10	50 µg/kg	74.9	55	135
EP131A: Organochlorine Pesticides (QCLot: 3821510)								
EP131A: Aldrin	309-00-2	0.5	µg/kg	<0.50	5 µg/kg	51.4	38	150
EP131A: alpha-BHC	319-84-6	0.5	µg/kg	<0.50	5 µg/kg	64.7	17.6	156
EP131A: beta-BHC	319-85-7	0.5	µg/kg	<0.50	5 µg/kg	62.5	30.5	152
EP131A: delta-BHC	319-86-8	0.5	µg/kg	<0.50	5 µg/kg	73.9	37	151
EP131A: 4.4`-DDD	72-54-8	0.5	µg/kg	<0.50	5 µg/kg	96.0	25.9	150
EP131A: 4.4`-DDE	72-55-9	0.5	µg/kg	<0.50	5 µg/kg	64.6	35	129
EP131A: 4.4`-DDT	50-29-3	0.5	µg/kg	<0.50	5 µg/kg	70.1	23.4	163
EP131A: Sum of DDD + DDE + DDT	----	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Dieldrin	60-57-1	0.5	µg/kg	<0.50	5 µg/kg	57.0	30.2	140
EP131A: alpha-Endosulfan	959-98-8	0.5	µg/kg	<0.50	5 µg/kg	54.2	38	140
EP131A: beta-Endosulfan	33213-65-9	0.5	µg/kg	<0.50	5 µg/kg	56.3	32	152
EP131A: Endosulfan sulfate	1031-07-8	0.5	µg/kg	<0.50	5 µg/kg	68.1	36	162
EP131A: Endosulfan (sum)	115-29-7	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Endrin	72-20-8	0.5	µg/kg	<0.50	5 µg/kg	72.1	25.8	166
EP131A: Endrin aldehyde	7421-93-4	0.5	µg/kg	<0.50	5 µg/kg	52.3	20.1	116
EP131A: Endrin ketone	53494-70-5	0.5	µg/kg	<0.50	5 µg/kg	49.7	13.4	151
EP131A: Heptachlor	76-44-8	0.5	µg/kg	<0.50	5 µg/kg	77.1	39	173
EP131A: Heptachlor epoxide	1024-57-3	0.5	µg/kg	<0.50	5 µg/kg	57.1	34	148
EP131A: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/kg	<0.50	5 µg/kg	51.1	26.1	152
EP131A: gamma-BHC	58-89-9	0.5	µg/kg	<0.50	5 µg/kg	60.8	31.2	159
EP131A: Methoxychlor	72-43-5	0.5	µg/kg	<0.50	5 µg/kg	99.9	36	160
EP131A: cis-Chlordane	5103-71-9	0.5	µg/kg	<0.50	5 µg/kg	55.5	36	142
EP131A: trans-Chlordane	5103-74-2	0.5	µg/kg	<0.50	5 µg/kg	57.5	29.5	138
EP131A: Total Chlordane (sum)	----	0.5	µg/kg	<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3821511)								
EP131B: Total Polychlorinated biphenyls	----	5	µg/kg	<5.0	50 µg/kg	78.0	44	136
EP131B: Aroclor 1016	12674-11-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1221	11104-28-2	5	µg/kg	<5.0	----	----	----	----

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3821511) - continued								
EP131B: Aroclor 1232	11141-16-5	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1242	53469-21-9	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1248	12672-29-6	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1254	11097-69-1	5	µg/kg	<5.0	50 µg/kg	78.0	44	136
EP131B: Aroclor 1260	11096-82-5	5	µg/kg	<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3821512)								
EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	25 µg/kg	109	67	133
EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	25 µg/kg	99.8	63	135
EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	25 µg/kg	107	68	132
EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	25 µg/kg	118	67	133
EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	25 µg/kg	110	69	131
EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	25 µg/kg	110	66	138
EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	25 µg/kg	105	67	133
EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	25 µg/kg	105	64	130
EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	25 µg/kg	122	67	133
EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	25 µg/kg	114	65	133
EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	25 µg/kg	114	70	134
EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	25 µg/kg	99.0	63	133
EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	25 µg/kg	109	67	133
EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	25 µg/kg	110	64	130
EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	25 µg/kg	108	72	130
EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	25 µg/kg	97.2	70	132
EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	25 µg/kg	116	65	127
EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	25 µg/kg	117	67	135
EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	25 µg/kg	113	62	126
EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	25 µg/kg	113	66	134
EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 3827919)								
EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	----	----	----	----
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	92.0	79	121
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	96.5	83	113
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	97.0	84	116
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	94.3	83	117

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 3827919) - continued								
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	95.9	84	116
EG020A-T: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	97.7	85	115
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	95.0	84	116
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	95.6	77	117
EG020T: Total Metals by ICP-MS (QCLot: 3827920)								
EG020B-T: Silver	7440-22-4	0.001	mg/L	<0.001	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3831394)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	94.7	77	115
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3826777)								
EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	1.0 mg/L	100	86	112
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3821664)								
EK057G: Nitrite as N	----	0.01	mg/L	<0.01	0.5 mg/L	92.6	83	119
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3826776)								
EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	0.5 mg/L	101	87	119
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3826772)								
EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	<0.1	10 mg/L	81.4	66	114
				----	5 mg/L	102	66	119
				----	1.0 mg/L	93.5	66	126
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3826773)								
EK067G: Total Phosphorus as P	----	0.01	mg/L	----	0.442 mg/L	92.0	63	123
				----	1.0 mg/L	102	66	124
				<0.01	4.42 mg/L	85.3	67	117
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3826339)								
EP066: Total Polychlorinated biphenyls	----	1	µg/L	<1	10 µg/L	80.1	61.6	107
EP068A: Organochlorine Pesticides (OC) (QCLot: 3826338)								
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	5 µg/L	86.9	65	107
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	5 µg/L	85.9	51	119
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	5 µg/L	92.6	63	113
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	5 µg/L	96.9	62	112
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	5 µg/L	87.5	60	106
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	5 µg/L	89.2	58	108
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	5 µg/L	78.8	58	114
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	5 µg/L	68.7	59	111
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	5 µg/L	76.2	62	114
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	5 µg/L	95.0	64	114
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	5 µg/L	71.4	62	114

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 3826338) - continued								
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	5 µg/L	78.5	59	111
EP068: 4.4`-DDE	72-55-9	0.5	µg/L	<0.5	5 µg/L	76.3	63	111
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	5 µg/L	81.2	61	119
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	5 µg/L	80.8	71	119
EP068: 4.4`-DDD	72-54-8	0.5	µg/L	<0.5	5 µg/L	88.0	70	118
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	5 µg/L	95.0	62	112
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	5 µg/L	74.8	53	113
EP068: 4.4`-DDT	50-29-3	2.0	µg/L	<2.0	5 µg/L	84.7	52	120
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	5 µg/L	90.0	51	117
EP068: Methoxychlor	72-43-5	2.0	µg/L	<2.0	5 µg/L	86.4	53	127
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3826338)								
EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	5 µg/L	85.7	52	122
EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	5 µg/L	89.5	51	123
EP068: Monocrotophos	6923-22-4	0.5	µg/L	<2.0	5 µg/L	33.6	10	89.1
EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	5 µg/L	87.2	61	119
EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	5 µg/L	93.7	67	113
EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	5 µg/L	69.6	60	116
EP068: Parathion-methyl	298-00-0	2.0	µg/L	<2.0	5 µg/L	99.3	64	120
EP068: Malathion	121-75-5	0.5	µg/L	<0.5	5 µg/L	70.2	67	115
EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	5 µg/L	71.8	64	110
EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	5 µg/L	78.0	63	109
EP068: Parathion	56-38-2	2.0	µg/L	<2.0	5 µg/L	78.8	63	121
EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	5 µg/L	91.9	60	110
EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	5 µg/L	76.3	68	114
EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	5 µg/L	67.2	61	109
EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	5 µg/L	76.0	63	117
EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	5 µg/L	76.9	63	111
EP068: Ethion	563-12-2	0.5	µg/L	<0.5	5 µg/L	72.6	65	115
EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	5 µg/L	78.5	55	115
EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	5 µg/L	94.7	44	124
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3826341)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	<1.0	5 µg/L	65.1	58.6	119
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	<1.0	5 µg/L	76.1	63.6	114
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	<1.0	5 µg/L	66.7	62.2	113
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	<1.0	5 µg/L	76.3	63.9	115
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	<1.0	5 µg/L	75.9	62.6	116

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3826341) - continued								
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	<1.0	5 µg/L	80.2	64.3	116
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	<1.0	5 µg/L	85.7	63.6	118
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	<1.0	5 µg/L	82.5	63.1	118
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	<1.0	5 µg/L	77.0	64.1	117
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	<1.0	5 µg/L	83.8	62.5	116
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.2	µg/L	<1.0	5 µg/L	69.9	61.7	119
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	<1.0	5 µg/L	81.6	61.7	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	<0.5	5 µg/L	77.7	63.3	117
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.2	µg/L	<1.0	5 µg/L	67.9	59.9	118
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.2	µg/L	<1.0	5 µg/L	68.2	61.2	117
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.2	µg/L	<1.0	5 µg/L	75.6	59.1	118
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3826223)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	92.2	75	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3826340)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	2000 µg/L	99.4	59	129
EP071: C15 - C28 Fraction	----	100	µg/L	<100	3000 µg/L	97.8	71	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	2000 µg/L	91.5	62	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3826223)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	91.8	75	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3826340)								
EP071: >C10 - C16 Fraction	>C10_C16	100	µg/L	<100	2500 µg/L	126	58.9	131
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	3500 µg/L	94.6	73.9	138
EP071: >C34 - C40 Fraction	----	50	µg/L	<100	1500 µg/L	102	67	127
EP080: BTEXN (QCLot: 3826223)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	98.6	70	124
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	97.0	65	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	93.5	70	120
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	91.5	69	121
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	97.2	72	122
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	96.3	70	124
EP090: Organotin Compounds (QCLot: 3823152)								
EP090H: Monobutyltin	78763-54-9	2	ngSn/L	<5	50 ngSn/L	69.0	25	139
EP090H: Dibutyltin	1002-53-5	2	ngSn/L	<5	50 ngSn/L	50.1	50	114
EP090H: Tributyltin	56573-85-4	1	ngSn/L	<2	50 ngSn/L	39.5	39	120

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3829113)							
ES1503000-056	Anonymous	EG020-SD: Arsenic	7440-38-2	50 mg/kg	101	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	102	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	118	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	104	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	96.2	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	102	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	106	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3829116)							
ES1503240-010	PC8 0.0-0.5 A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	98.8	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	102	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	111	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	104	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	97.8	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	101	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	102	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3829112)							
ES1503000-051	Anonymous	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	96.6	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3829115)							
ES1503240-007	BH20 0.0-0.4 A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	114	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3828334)							
ES1503080-001	Anonymous	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	96.8	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3828337)							
ES1503240-010	PC8 0.0-0.5 A	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	100	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3828335)							
ES1503080-001	Anonymous	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	110	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3828338)							
ES1503240-010	PC8 0.0-0.5 A	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	117	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3832645)							
ES1503080-025	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	85.9	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3832646)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3832646) - continued							
ES1503080-025	Anonymous	EK067G: Total Phosphorus as P	----	100 mg/kg	75.6	70	130
EK255A SD: Ammonia in Sediment (QCLot: 3822226)							
ES1503080-014	Anonymous	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	# Not Determined	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821327)							
ES1502902-005	Anonymous	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	103	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821455)							
ES1502902-001	Anonymous	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	124	70	130
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	95.8	70	130
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	101	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821513)							
ES1503240-001	BH9 0.0-0.45 A	EP071-SD: C10 - C14 Fraction	----	16 mg/kg	108	70	130
		EP071-SD: C15 - C28 Fraction	----	78.5 mg/kg	113	70	130
		EP071-SD: C29 - C36 Fraction	----	71.5 mg/kg	94.8	70	130
EP080-SD: BTEXN (QCLot: 3821327)							
ES1502902-005	Anonymous	EP080-SD: Benzene	71-43-2	0.5 mg/kg	73.8	70	130
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	81.0	70	130
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	81.1	70	130
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	81.1	70	130
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	81.1	70	130
EP090: Organotin Compounds (QCLot: 3822628)							
ES1503240-004	BH11 0.0-0.5 A	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	82.9	35	130
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	87.6	20	130
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	83.4	20	130
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3821509)							
ES1503240-001	BH9 0.0-0.45 A	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	70.0	36	144
		EP130: Carbophenothion	786-19-6	50 µg/kg	73.2	38	120
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	77.4	49	157
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	83.7	53	145
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	72.0	60	140
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	68.9	56	126
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	68.4	9.7	148
		EP130: Diazinon	333-41-5	50 µg/kg	72.3	60	122
		EP130: Dichlorvos	62-73-7	50 µg/kg	76.6	33	123

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3821509) - continued							
ES1503240-001	BH9 0.0-0.45 A	EP130: Dimethoate	60-51-5	50 µg/kg	78.8	36	142
		EP130: Ethion	563-12-2	50 µg/kg	79.3	48	136
		EP130: Fenamiphos	22224-92-6	50 µg/kg	73.7	42	136
		EP130: Fenthion	55-38-9	50 µg/kg	67.1	35	131
		EP130: Malathion	121-75-5	50 µg/kg	73.2	55	141
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	98.3	23.5	132
		EP130: Monocrotophos	6923-22-4	50 µg/kg	95.8	35	153
		EP130: Parathion	56-38-2	50 µg/kg	78.2	57	147
		EP130: Parathion-methyl	298-00-0	50 µg/kg	82.9	48	140
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	72.4	45	137
		EP130: Prothiofos	34643-46-4	50 µg/kg	72.3	51	137
EP131A: Organochlorine Pesticides (QCLot: 3821510)							
ES1503240-001	BH9 0.0-0.45 A	EP131A: Aldrin	309-00-2	5 µg/kg	40.8	23.4	153
		EP131A: alpha-BHC	319-84-6	5 µg/kg	45.9	17.6	156
		EP131A: beta-BHC	319-85-7	5 µg/kg	58.7	24.9	153
		EP131A: delta-BHC	319-86-8	5 µg/kg	72.6	25.2	147
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	94.9	25.9	150
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	64.3	31.2	125
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	75.9	23.4	163
		EP131A: Dieldrin	60-57-1	5 µg/kg	57.0	30.2	140
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	47.8	28.8	135
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	68.1	22.6	141
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	78.6	16.1	156
		EP131A: Endrin	72-20-8	5 µg/kg	76.8	17.7	162
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	46.6	20.1	116
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	57.5	13.4	151
		EP131A: Heptachlor	76-44-8	5 µg/kg	60.7	23.8	170
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	53.2	28.3	140
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	38.9	17.7	144
		EP131A: gamma-BHC	58-89-9	5 µg/kg	43.5	21.8	158
		EP131A: Methoxychlor	72-43-5	5 µg/kg	134	24.4	158
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	56.3	27.3	139
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	57.0	29.5	138
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3821511)							
ES1503240-001	BH9 0.0-0.45 A	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	63.8	44	136
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	63.8	44	136

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Matrix Spike (MS) Report: Recovery Limits (%) Low	Matrix Spike (MS) Report: Recovery Limits (%) High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3821512)							
ES1503240-001	BH9 0.0-0.45 A	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	103	70	130
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	95.5	70	130
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	107	70	130
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	116	70	130
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	106	70	130
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	96.0	70	130
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	96.1	70	130
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	92.7	70	130
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	119	70	130
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	111	70	130
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	113	70	130
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	89.3	70	130
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	89.6	70	130
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	108	70	130
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	109	70	130
		EP132B-SD: Perylene	198-55-0	25 µg/kg	109	70	130
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	113	70	130
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	118	70	130
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	114	70	130
		EP132B-SD: Coronene	191-07-1	25 µg/kg	121	70	130

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Matrix Spike (MS) Report: Recovery Limits (%) Low	Matrix Spike (MS) Report: Recovery Limits (%) High
EG020T: Total Metals by ICP-MS (QCLot: 3827919)							
ES1503754-001	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	102	70	130
		EG020A-T: Cadmium	7440-43-9	0.250 mg/L	105	70	130
		EG020A-T: Chromium	7440-47-3	1 mg/L	109	70	130
		EG020A-T: Copper	7440-50-8	1 mg/L	102	70	130
		EG020A-T: Lead	7439-92-1	1 mg/L	108	70	130
		EG020A-T: Manganese	7439-96-5	1 mg/L	109	70	130
		EG020A-T: Nickel	7440-02-0	1 mg/L	100	70	130
		EG020A-T: Zinc	7440-66-6	1 mg/L	106	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3831394)							
ES1503408-001	Anonymous	EG035T: Mercury	7439-97-6	0.010 mg/L	86.7	70	130
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3826777)							

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3826777) - continued							
ES1503240-020	Rinsate 5	EK055G: Ammonia as N	7664-41-7	1 mg/L	111	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3821664)							
ES1503244-001	Anonymous	EK057G: Nitrite as N	----	0.5 mg/L	78.7	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3826776)							
ES1503240-020	Rinsate 5	EK059G: Nitrite + Nitrate as N	----	0.5 mg/L	108	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3826772)							
ES1503373-001	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	5 mg/L	96.9	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3826773)							
ES1503373-001	Anonymous	EK067G: Total Phosphorus as P	----	1.0 mg/L	97.4	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3826223)							
ES1503613-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	110	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3826223)							
ES1503613-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	109	70	130
EP080: BTEXN (QCLot: 3826223)							
ES1503613-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	106	70	130
		EP080: Toluene	108-88-3	25 µg/L	93.1	70	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	94.9	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	95.0	70	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	97.9	70	130
		EP080: Naphthalene	91-20-3	25 µg/L	102	70	130

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

The quality control term Matrix Spike (MS) and Matrix Spike Duplicate (MSD) refers to intralaboratory split samples spiked with a representative set of target analytes. The purpose of these QC parameters are to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821327)										
ES1502902-005	Anonymous	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	103	----	70	130	----	----
EP080-SD: BTEXN (QCLot: 3821327)										
ES1502902-005	Anonymous	EP080-SD: Benzene	71-43-2	0.5 mg/kg	73.8	----	70	130	----	----
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	81.0	----	70	130	----	----
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	81.1	----	70	130	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP080-SD: BTEXN (QCLot: 3821327) - continued										
ES1502902-005	Anonymous	EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	81.1	----	70	130	----	----
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	81.1	----	70	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821455)										
ES1502902-001	Anonymous	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	124	----	70	130	----	----
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	95.8	----	70	130	----	----
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	101	----	70	130	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3821509)										
ES1503240-001	BH9 0.0-0.45 A	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	70.0	----	36	144	----	----
		EP130: Carbophenothion	786-19-6	50 µg/kg	73.2	----	38	120	----	----
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	77.4	----	49	157	----	----
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	83.7	----	53	145	----	----
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	72.0	----	60	140	----	----
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	68.9	----	56	126	----	----
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	68.4	----	9.7	148	----	----
		EP130: Diazinon	333-41-5	50 µg/kg	72.3	----	60	122	----	----
		EP130: Dichlorvos	62-73-7	50 µg/kg	76.6	----	33	123	----	----
		EP130: Dimethoate	60-51-5	50 µg/kg	78.8	----	36	142	----	----
		EP130: Ethion	563-12-2	50 µg/kg	79.3	----	48	136	----	----
		EP130: Fenamiphos	22224-92-6	50 µg/kg	73.7	----	42	136	----	----
		EP130: Fenthion	55-38-9	50 µg/kg	67.1	----	35	131	----	----
		EP130: Malathion	121-75-5	50 µg/kg	73.2	----	55	141	----	----
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	98.3	----	23.5	132	----	----
		EP130: Monocrotophos	6923-22-4	50 µg/kg	95.8	----	35	153	----	----
		EP130: Parathion	56-38-2	50 µg/kg	78.2	----	57	147	----	----
		EP130: Parathion-methyl	298-00-0	50 µg/kg	82.9	----	48	140	----	----
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	72.4	----	45	137	----	----
		EP130: Prothiofos	34643-46-4	50 µg/kg	72.3	----	51	137	----	----
EP131A: Organochlorine Pesticides (QCLot: 3821510)										
ES1503240-001	BH9 0.0-0.45 A	EP131A: Aldrin	309-00-2	5 µg/kg	40.8	----	23.4	153	----	----
		EP131A: alpha-BHC	319-84-6	5 µg/kg	45.9	----	17.6	156	----	----
		EP131A: beta-BHC	319-85-7	5 µg/kg	58.7	----	24.9	153	----	----
		EP131A: delta-BHC	319-86-8	5 µg/kg	72.6	----	25.2	147	----	----
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	94.9	----	25.9	150	----	----
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	64.3	----	31.2	125	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP131A: Organochlorine Pesticides (QCLot: 3821510) - continued										
ES1503240-001	BH9 0.0-0.45 A	EP131A: 4.4`-DDT	50-29-3	5 µg/kg	75.9	----	23.4	163	----	----
		EP131A: Dieldrin	60-57-1	5 µg/kg	57.0	----	30.2	140	----	----
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	47.8	----	28.8	135	----	----
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	68.1	----	22.6	141	----	----
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	78.6	----	16.1	156	----	----
		EP131A: Endrin	72-20-8	5 µg/kg	76.8	----	17.7	162	----	----
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	46.6	----	20.1	116	----	----
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	57.5	----	13.4	151	----	----
		EP131A: Heptachlor	76-44-8	5 µg/kg	60.7	----	23.8	170	----	----
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	53.2	----	28.3	140	----	----
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	38.9	----	17.7	144	----	----
		EP131A: gamma-BHC	58-89-9	5 µg/kg	43.5	----	21.8	158	----	----
		EP131A: Methoxychlor	72-43-5	5 µg/kg	134	----	24.4	158	----	----
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	56.3	----	27.3	139	----	----
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	57.0	----	29.5	138	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3821511)										
ES1503240-001	BH9 0.0-0.45 A	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	63.8	----	44	136	----	----
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	63.8	----	44	136	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3821512)										
ES1503240-001	BH9 0.0-0.45 A	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	103	----	70	130	----	----
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	95.5	----	70	130	----	----
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	107	----	70	130	----	----
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	116	----	70	130	----	----
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	106	----	70	130	----	----
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	96.0	----	70	130	----	----
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	96.1	----	70	130	----	----
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	92.7	----	70	130	----	----
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	119	----	70	130	----	----
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	111	----	70	130	----	----
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	113	----	70	130	----	----
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	89.3	----	70	130	----	----
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	89.6	----	70	130	----	----
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	108	----	70	130	----	----
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	109	----	70	130	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3821512) - continued										
ES1503240-001	BH9 0.0-0.45 A	EP132B-SD: Perylene	198-55-0	25 µg/kg	109	----	70	130	----	----
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	113	----	70	130	----	----
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	118	----	70	130	----	----
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	114	----	70	130	----	----
		EP132B-SD: Coronene	191-07-1	25 µg/kg	121	----	70	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3821513)										
ES1503240-001	BH9 0.0-0.45 A	EP071-SD: C10 - C14 Fraction	----	16 mg/kg	108	----	70	130	----	----
		EP071-SD: C15 - C28 Fraction	----	78.5 mg/kg	113	----	70	130	----	----
		EP071-SD: C29 - C36 Fraction	----	71.5 mg/kg	94.8	----	70	130	----	----
EK255A SD: Ammonia in Sediment (QCLot: 3822226)										
ES1503080-014	Anonymous	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	# Not Determined	----	70	130	----	----
EP090: Organotin Compounds (QCLot: 3822628)										
ES1503240-004	BH11 0.0-0.5 A	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	82.9	----	35	130	----	----
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	87.6	----	20	130	----	----
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	83.4	----	20	130	----	----
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3828334)										
ES1503080-001	Anonymous	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	96.8	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3828335)										
ES1503080-001	Anonymous	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	110	----	70	130	----	----
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3828337)										
ES1503240-010	PC8 0.0-0.5 A	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	100	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3828338)										
ES1503240-010	PC8 0.0-0.5 A	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	117	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3829112)										
ES1503000-051	Anonymous	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	96.6	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3829113)										
ES1503000-056	Anonymous	EG020-SD: Arsenic	7440-38-2	50 mg/kg	101	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	102	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	118	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	104	----	70	130	----	----
		EG020-SD: Lead	7439-92-1	250 mg/kg	96.2	----	70	130	----	----
		EG020-SD: Nickel	7440-02-0	50 mg/kg	102	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	106	----	70	130	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3829115)										
ES1503240-007	BH20 0.0-0.4 A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	114	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3829116)										
ES1503240-010	PC8 0.0-0.5 A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	98.8	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	102	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	111	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	104	----	70	130	----	----
		EG020-SD: Lead	7439-92-1	250 mg/kg	97.8	----	70	130	----	----
		EG020-SD: Nickel	7440-02-0	50 mg/kg	101	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	102	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3832645)										
ES1503080-025	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	85.9	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3832646)										
ES1503080-025	Anonymous	EK067G: Total Phosphorus as P	----	100 mg/kg	75.6	----	70	130	----	----

Sub-Matrix: **WATER**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3821664)										
ES1503244-001	Anonymous	EK057G: Nitrite as N	----	0.5 mg/L	78.7	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3826223)										
ES1503613-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	110	----	70	130	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3826223)										
ES1503613-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	109	----	70	130	----	----
EP080: BTEXN (QCLot: 3826223)										
ES1503613-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	106	----	70	130	----	----
		EP080: Toluene	108-88-3	25 µg/L	93.1	----	70	130	----	----
		EP080: Ethylbenzene	100-41-4	25 µg/L	94.9	----	70	130	----	----
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	95.0	----	70	130	----	----
		EP080: ortho-Xylene	95-47-6	25 µg/L	97.9	----	70	130	----	----
		EP080: Naphthalene	91-20-3	25 µg/L	102	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3826772)										
ES1503373-001	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	5 mg/L	96.9	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3826773)										
ES1503373-001	Anonymous	EK067G: Total Phosphorus as P	----	1.0 mg/L	97.4	----	70	130	----	----

Sub-Matrix: **WATER**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3826776)										
ES1503240-020	Rinsate 5	EK059G: Nitrite + Nitrate as N	----	0.5 mg/L	108	----	70	130	----	----
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3826777)										
ES1503240-020	Rinsate 5	EK055G: Ammonia as N	7664-41-7	1 mg/L	111	----	70	130	----	----
EG020T: Total Metals by ICP-MS (QCLot: 3827919)										
ES1503754-001	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	102	----	70	130	----	----
		EG020A-T: Cadmium	7440-43-9	0.250 mg/L	105	----	70	130	----	----
		EG020A-T: Chromium	7440-47-3	1 mg/L	109	----	70	130	----	----
		EG020A-T: Copper	7440-50-8	1 mg/L	102	----	70	130	----	----
		EG020A-T: Lead	7439-92-1	1 mg/L	108	----	70	130	----	----
		EG020A-T: Manganese	7439-96-5	1 mg/L	109	----	70	130	----	----
		EG020A-T: Nickel	7440-02-0	1 mg/L	100	----	70	130	----	----
		EG020A-T: Zinc	7440-66-6	1 mg/L	106	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3831394)										
ES1503408-001	Anonymous	EG035T: Mercury	7439-97-6	0.010 mg/L	86.7	----	70	130	----	----

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1503240**	Page	: 1 of 15
Client	: AURECON AUSTRALASIA PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 12-FEB-2015
Sampler	: GK	Issue Date	: 28-FEB-2015
Order number	: 245553		
		No. of samples received	: 20
Quote number	: SY/1021/14 V2	No. of samples analysed	: 20

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with recommended holding times (USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content							
Soil Glass Jar - Unpreserved (EA055-103)							
BH9 0.0-0.45 A, BH9 0.3V, BH11 0.0-0.5 A, BH11 0.0V, BH20 0.0-0.4 A, BH20 0.3V, PC8 0.0-0.5 A, PC8 0.5-1.0 A, PC8 0.3V, PC8 0.7V, Triplicate 5A, Triplicate 5B, Duplicate 3A	**10-FEB-2015**	**----**	----	----	**17-FEB-2015**	24-FEB-2015	✓
EA150: Particle Sizing							
Snap Lock Bag (EA150H)							
BH9 0.0-0.45 B, BH11 0.0-0.5 B, BH20 0.0-0.4 B, PC8 0.0-0.5 B, PC8 0.5-1.0 B	**10-FEB-2015**	**---**	09-AUG-2015	----	**26-FEB-2015**	09-AUG-2015	✓
EA150: Soil Classification based on Particle Size							
Snap Lock Bag (EA150H)							
BH9 0.0-0.45 B, BH11 0.0-0.5 B, BH20 0.0-0.4 B, PC8 0.0-0.5 B, PC8 0.5-1.0 B	**10-FEB-2015**	**---**	09-AUG-2015	----	**26-FEB-2015**	09-AUG-2015	✓
EA152: Soil Particle Density							
Snap Lock Bag (EA152)							
BH9 0.0-0.45 B, BH11 0.0-0.5 B, BH20 0.0-0.4 B, PC8 0.0-0.5 B, PC8 0.5-1.0 B	**10-FEB-2015**	**---**	09-AUG-2015	----	**27-FEB-2015**	09-AUG-2015	✓
EG005-SD: Total Metals in Sediments by ICP-AES							
Soil Glass Jar - Unpreserved (EG005-SD)							
BH9 0.0-0.45 A, BH11 0.0-0.5 A, BH20 0.0-0.4 A, PC8 0.0-0.5 A, PC8 0.5-1.0 A, Triplicate 5A, Triplicate 5B, Duplicate 3A	**10-FEB-2015**	**18-FEB-2015**	09-AUG-2015	✓	**19-FEB-2015**	09-AUG-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020-SD: Total Metals in Sediments by ICPMS								
Soil Glass Jar - Unpreserved (EG020-SD)								
BH9 0.0-0.45 A,	BH11 0.0-0.5 A,	**10-FEB-2015**	**18-FEB-2015**	09-AUG-2015	✓	**20-FEB-2015**	09-AUG-2015	✓
BH20 0.0-0.4 A,	PC8 0.0-0.5 A,							
PC8 0.5-1.0 A,	Triplicate 5A,							
Triplicate 5B,	Duplicate 3A							
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T-LL)								
BH9 0.0-0.45 A,	BH11 0.0-0.5 A,	**10-FEB-2015**	**18-FEB-2015**	10-MAR-2015	✓	**20-FEB-2015**	10-MAR-2015	✓
BH20 0.0-0.4 A,	PC8 0.0-0.5 A,							
PC8 0.5-1.0 A,	Triplicate 5A,							
Triplicate 5B,	Duplicate 3A							
EK057G: Nitrite as N by Discrete Analyser								
Soil Glass Jar - Unpreserved (EK057G)								
BH9 0.0-0.45 A,	BH11 0.0-0.5 A,	**10-FEB-2015**	**18-FEB-2015**	09-AUG-2015	✓	**18-FEB-2015**	09-AUG-2015	✓
BH20 0.0-0.4 A								
Soil Glass Jar - Unpreserved (EK057G)								
PC8 0.0-0.5 A,	PC8 0.5-1.0 A,	**10-FEB-2015**	**19-FEB-2015**	09-AUG-2015	✓	**19-FEB-2015**	09-AUG-2015	✓
Triplicate 5A,	Triplicate 5B,							
Duplicate 3A								
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser								
Soil Glass Jar - Unpreserved (EK059G)								
BH9 0.0-0.45 A,	BH11 0.0-0.5 A,	**10-FEB-2015**	**18-FEB-2015**	09-AUG-2015	✓	**18-FEB-2015**	09-AUG-2015	✓
BH20 0.0-0.4 A								
Soil Glass Jar - Unpreserved (EK059G)								
PC8 0.0-0.5 A,	PC8 0.5-1.0 A,	**10-FEB-2015**	**19-FEB-2015**	09-AUG-2015	✓	**19-FEB-2015**	09-AUG-2015	✓
Triplicate 5A,	Triplicate 5B,							
Duplicate 3A								
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser								
Soil Glass Jar - Unpreserved (EK061G)								
BH9 0.0-0.45 A,	BH11 0.0-0.5 A,	**10-FEB-2015**	**22-FEB-2015**	09-AUG-2015	✓	**22-FEB-2015**	09-AUG-2015	✓
BH20 0.0-0.4 A,	PC8 0.0-0.5 A,							
PC8 0.5-1.0 A,	Triplicate 5A,							
Triplicate 5B,	Duplicate 3A							
EK067G: Total Phosphorus as P by Discrete Analyser								
Soil Glass Jar - Unpreserved (EK067G)								
BH9 0.0-0.45 A,	BH11 0.0-0.5 A,	**10-FEB-2015**	**22-FEB-2015**	09-AUG-2015	✓	**22-FEB-2015**	09-AUG-2015	✓
BH20 0.0-0.4 A,	PC8 0.0-0.5 A,							
PC8 0.5-1.0 A,	Triplicate 5A,							
Triplicate 5B,	Duplicate 3A							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK255A SD Ammonia in Sediment								
Soil Glass Jar - Unpreserved (EK255A SD)								
BH9 0.0-0.45 A,	BH11 0.0-0.5 A,	**10-FEB-2015**	**----**	----	----	**13-FEB-2015**	09-AUG-2015	✓
BH20 0.0-0.4 A,	PC8 0.0-0.5 A,							
PC8 0.5-1.0 A,	Triplicate 5A,							
Triplicate 5B,	Duplicate 3A							
EP003: Total Organic Carbon (TOC) in Soil								
Pulp Bag (EP003)								
BH9 0.0-0.45 A,	BH11 0.0-0.5 A,	**10-FEB-2015**	**17-FEB-2015**	10-MAR-2015	✓	**17-FEB-2015**	10-MAR-2015	✓
BH20 0.0-0.4 A,	PC8 0.0-0.5 A,							
PC8 0.5-1.0 A,	Triplicate 5A,							
Triplicate 5B,	Duplicate 3A							
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP071-SD)								
Trip Blank 6		**10-FEB-2015**	**13-FEB-2015**	24-FEB-2015	✓	**16-FEB-2015**	25-MAR-2015	✓
Soil Glass Jar - Unpreserved (EP071-SD)								
BH9 0.0-0.45 A,	BH11 0.0-0.5 A,	**10-FEB-2015**	**13-FEB-2015**	24-FEB-2015	✓	**20-FEB-2015**	25-MAR-2015	✓
BH20 0.0-0.4 A,	PC8 0.0-0.5 A,							
PC8 0.5-1.0 A,	Triplicate 5A,							
Triplicate 5B,	Duplicate 3A							
EP080-SD: BTEXN								
Soil Glass Jar - Unpreserved (EP080-SD)								
BH9 0.3V,	BH11 0.0V,	**10-FEB-2015**	**13-FEB-2015**	24-FEB-2015	✓	**15-FEB-2015**	24-FEB-2015	✓
BH20 0.3V,	PC8 0.3V,							
PC8 0.7V,	Trip Blank 6							
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080-SD)								
BH9 0.3V,	BH11 0.0V,	**10-FEB-2015**	**13-FEB-2015**	24-FEB-2015	✓	**15-FEB-2015**	24-FEB-2015	✓
BH20 0.3V,	PC8 0.3V,							
PC8 0.7V,	Trip Blank 6							
EP090: Organotin Compounds								
Soil Glass Jar - Unpreserved (EP090)								
BH9 0.0-0.45 A,	BH11 0.0-0.5 A,	**10-FEB-2015**	**19-FEB-2015**	24-FEB-2015	✓	**20-FEB-2015**	31-MAR-2015	✓
BH20 0.0-0.4 A,	PC8 0.0-0.5 A,							
PC8 0.5-1.0 A,	Triplicate 5A,							
Triplicate 5B,	Duplicate 3A							
EP130A: Organophosphorus Pesticides (Ultra-trace)								
Soil Glass Jar - Unpreserved (EP130)								
BH9 0.0-0.45 A,	BH11 0.0-0.5 A,	**10-FEB-2015**	**13-FEB-2015**	24-FEB-2015	✓	**20-FEB-2015**	25-MAR-2015	✓
BH20 0.0-0.4 A,	PC8 0.0-0.5 A,							
PC8 0.5-1.0 A,	Triplicate 5A,							
Triplicate 5B,	Duplicate 3A							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP131A: Organochlorine Pesticides							
Soil Glass Jar - Unpreserved (EP131A)							
BH9 0.0-0.45 A, BH11 0.0-0.5 A, BH20 0.0-0.4 A, PC8 0.0-0.5 A, PC8 0.5-1.0 A, Triplicate 5A, Triplicate 5B, Duplicate 3A	**10-FEB-2015**	**13-FEB-2015**	24-FEB-2015	✓	**20-FEB-2015**	25-MAR-2015	✓
EP131B: Polychlorinated Biphenyls (as Aroclors)							
Soil Glass Jar - Unpreserved (EP131B)							
BH9 0.0-0.45 A, BH11 0.0-0.5 A, BH20 0.0-0.4 A, PC8 0.0-0.5 A, PC8 0.5-1.0 A, Triplicate 5A, Triplicate 5B, Duplicate 3A	**10-FEB-2015**	**13-FEB-2015**	24-FEB-2015	✓	**20-FEB-2015**	25-MAR-2015	✓
EP132B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP132B-SD)							
BH9 0.0-0.45 A, BH11 0.0-0.5 A, BH20 0.0-0.4 A, PC8 0.0-0.5 A, PC8 0.5-1.0 A, Triplicate 5A, Triplicate 5B, Duplicate 3A	**10-FEB-2015**	**13-FEB-2015**	24-FEB-2015	✓	**20-FEB-2015**	25-MAR-2015	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG020A-T)							
Rinsate 5	**10-FEB-2015**	**18-FEB-2015**	09-AUG-2015	✓	**18-FEB-2015**	09-AUG-2015	✓
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG020B-T)							
Rinsate 5	**10-FEB-2015**	**18-FEB-2015**	09-AUG-2015	✓	**18-FEB-2015**	09-AUG-2015	✓
EG035T: Total Recoverable Mercury by FIMS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG035T)							
Rinsate 5	**10-FEB-2015**	**----**	----	----	**23-FEB-2015**	10-MAR-2015	✓
EK055G: Ammonia as N by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK055G)							
Rinsate 5	**10-FEB-2015**	**---**	10-MAR-2015	----	**17-FEB-2015**	10-MAR-2015	✓
EK057G: Nitrite as N by Discrete Analyser							
Clear Plastic Bottle - Natural (EK057G)							
Rinsate 5	**10-FEB-2015**	**---**	12-FEB-2015	----	**12-FEB-2015**	12-FEB-2015	✓
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK059G)							
Rinsate 5	**10-FEB-2015**	**---**	10-MAR-2015	----	**17-FEB-2015**	10-MAR-2015	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK061G)							
Rinsate 5	**10-FEB-2015**	**17-FEB-2015**	10-MAR-2015	✓	**17-FEB-2015**	10-MAR-2015	✓
EK067G: Total Phosphorus as P by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK067G)							
Rinsate 5	**10-FEB-2015**	**17-FEB-2015**	10-MAR-2015	✓	**17-FEB-2015**	10-MAR-2015	✓
EP066: Polychlorinated Biphenyls (PCB)							
Amber Glass Bottle - Unpreserved (EP066)							
Rinsate 5	**10-FEB-2015**	**17-FEB-2015**	17-FEB-2015	✓	**18-FEB-2015**	29-MAR-2015	✓
EP068A: Organochlorine Pesticides (OC)							
Amber Glass Bottle - Unpreserved (EP068)							
Rinsate 5	**10-FEB-2015**	**17-FEB-2015**	17-FEB-2015	✓	**18-FEB-2015**	29-MAR-2015	✓
EP068B: Organophosphorus Pesticides (OP)							
Amber Glass Bottle - Unpreserved (EP068)							
Rinsate 5	**10-FEB-2015**	**17-FEB-2015**	17-FEB-2015	✓	**18-FEB-2015**	29-MAR-2015	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
Rinsate 5	**10-FEB-2015**	**17-FEB-2015**	17-FEB-2015	✓	**17-FEB-2015**	29-MAR-2015	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
Rinsate 5	**10-FEB-2015**	**17-FEB-2015**	17-FEB-2015	✓	**18-FEB-2015**	29-MAR-2015	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
Rinsate 5	**10-FEB-2015**	**18-FEB-2015**	24-FEB-2015	✓	**18-FEB-2015**	24-FEB-2015	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber VOC Vial - Sulfuric Acid (EP080)							
Rinsate 5	**10-FEB-2015**	**18-FEB-2015**	24-FEB-2015	✓	**18-FEB-2015**	24-FEB-2015	✓
EP090: Organotin Compounds							
Amber Glass Bottle - Unpreserved (EP090H)							
Rinsate 5	**10-FEB-2015**	---	17-FEB-2015	----	**16-FEB-2015**	17-FEB-2015	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Ammonia in Sediments	EK255A SD	2	18	11.1	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Moisture Content	EA055-103	4	37	10.8	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	3	25	12.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	3	23	13.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	8	12.5	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	8	12.5	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	1	8	12.5	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	8	12.5	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	8	12.5	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	2	20	10.0	9.5	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	3	26	11.5	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	3	26	11.5	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	3	26	11.5	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	2	16	12.5	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	2	19	10.5	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	2	16	12.5	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	1	10	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Ammonia in Sediments	EK255A SD	1	18	5.6	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	2	25	8.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	2	23	8.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	8	12.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	8	12.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	1	8	12.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	8	12.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	8	12.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	3	20	15.0	14.3	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	26	7.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	26	7.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	26	7.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	1	16	6.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	3	19	15.8	15.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	2	16	12.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	1	10	10.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Method Blanks (MB)							
Ammonia in Sediments	EK255A SD	1	18	5.6	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	2	25	8.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	2	23	8.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	8	12.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	8	12.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	1	8	12.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	8	12.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	8	12.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	1	20	5.0	4.8	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	26	7.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	26	7.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	26	7.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	1	16	6.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	1	19	5.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	2	16	12.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	1	10	10.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia in Sediments	EK255A SD	1	18	5.6	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	2	25	8.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	2	23	8.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	8	12.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	8	12.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	1	8	12.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	8	12.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	8	12.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	1	20	5.0	4.8	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	26	7.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	26	7.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	1	19	5.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	2	16	12.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	1	10	10.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Ammonia as N by Discrete analyser	EK055G	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	2	15	13.3	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP) - Continued							
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	12	**16.7**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	2	19	**10.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	1	**100.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	2	19	**10.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Ammonia as N by Discrete analyser	EK055G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Compounds (Soluble)	EP090H	1	2	**50.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	6	**16.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	2	**50.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	3	20	**15.0**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	12	**8.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	1	**100.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	3	19	**15.8**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	10	**10.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Ammonia as N by Discrete analyser	EK055G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Compounds (Soluble)	EP090H	1	2	**50.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	6	**16.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	2	**50.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	12	**8.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	1	**100.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	10	**10.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia as N by Discrete analyser	EK055G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Matrix Spikes (MS) - Continued							
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	12	**8.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055-103	SOIL	In-house. A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Particle Size Analysis by Hydrometer	EA150H	SOIL	Particle Size Analysis by Hydrometer according to AS1289.3.6.3 - 2003
Soil Particle Density	* EA152	SOIL	Soil Particle Density by AS 1289.3.5.1-2006 : Methods of testing soils for engineering purposes - Soil classification tests - Determination of the soil particle density of a soil - Standard method A modification of the AS 1289.3.5.1 method may apply when testing dispersed soils also tested by AS1289.3.6.3. This modification uses the dispersion solution from AS1289.3.6.3 in place of water for density determinations
Total Fe and Al in Sediments by ICPAES	EG005-SD	SOIL	In house: Referenced to APHA 21st ed., 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3). LORs per NODG
Total Metals in Sediments by ICPMS	EG020-SD	SOIL	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector. Analyte list and LORs per NODG.
Total Mercury by FIMS (Low Level)	EG035T-LL	SOIL	In house: Referenced to AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Nitrite as N - Soluble by Discrete Analyser	EK057G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3- B. Nitrite in a water extract is determined by direct colourimetry by Discrete Analyser.
Nitrate as N - Soluble by Discrete Analyser	EK058G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3--F. Nitrate in the 1:5 soil:water extract is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results.
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3- F. Combined oxidised Nitrogen (NO2+NO3) in a water extract is determined by Chemical Reduction, and direct colourimetry by Discrete Analyser.
TKN as N By Discrete Analyser	EK061G	SOIL	In house: Referenced to APHA 21st ed., 4500-Norg-D Soil samples are digested using Kjeldahl digestion followed by determination by Discrete Analyser.
Total Nitrogen as N (TKN + NOx) By Discrete Analyser	EK062G	SOIL	In house: Referenced to APHA 21st ed., 4500 Norg/NO3- Total Nitrogen is determined as the sum of TKN and Oxidised Nitrrogen, each determined seperately as N.
Total Phosporus By Discrete Analyser	EK067G	SOIL	In house: Referenced to APHA 21st ed., 4500 P-B&F This procedure involves sulfuric acid digestion and quantification using Discrete Analyser.
Ammonia in Sediments	EK255A SD	SOIL	Rayment and Higginson (1992) Method 7C1 and 7C2. This method measures exchangeable ammonium which is defined by the amount of ammonium released by shaking sediment with an un-buffered 2M potassium chloride solution.

Analytical Methods	Method	Matrix	Method Descriptions
Total Organic Carbon	EP003	SOIL	In-house C-IR17. Dried and pulverised sample is reacted with acid to remove inorganic Carbonates, then combusted in a LECO furnace in the presence of strong oxidants / catalysts. The evolved (Organic) Carbon (as CO2) is automaticaly measured by infra-red detector.
TPH - Semivolatile Fraction	EP071-SD	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 504)
TRH Volatiles/BTEX in Sediments	EP080-SD	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve.
Organotin Analysis	EP090	SOIL	(USEPA SW 846 - 8270D) Prepared sample extracts are analysed by GC/MS coupled with high volume injection, and quanitified against an established calibration curve.
Organophosphorus Pesticides (Ultra-trace)	EP130	SOIL	USEPA Method 3640 (GPC cleanup), 8141 (GC/FPD - Capillary Column) This technique is compliant with NEPM (2013) Schedule B(3) (Method 505)
Organochlorine Pesticides (Ultra-trace)	EP131A	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (2013) Schedule B(3) (Method 504)
PCB's (Ultra-trace)	EP131B	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (2013) Schedule B(3) (Method 504)
PAHs in Sediments by GCMS(SIM)	EP132B-SD	SOIL	USEPA 8270 GCMS Capillary column, SIM mode using large volume programmed temperature vaporisation injection.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Metals by ICP-MS - Suite B	EG020B-T	WATER	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Mercury by FIMS	EG035T	WATER	In house: Referenced to AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Ammonia as N by Discrete analyser	EK055G	WATER	In house: Referenced to APHA 21st ed., 4500-NH3 G Ammonia is determined by direct colorimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Nitrite as N by Discrete Analyser	EK057G	WATER	In house: Referenced to APHA 21st ed., 4500-NO2- B. Nitrite is determined by direct colourimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Nitrate as N by Discrete Analyser	EK058G	WATER	In house: Referenced to APHA 21st ed., 4500-NO3- F. Nitrate is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results. This method is compliant with NEPM (2013) Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	WATER	In house: Referenced to APHA 21st ed., 4500-NO3- F. Combined oxidised Nitrogen (NO2+NO3) is determined by Chemical Reduction and direct colourimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	WATER	In house: Referenced to APHA 21st ed., 4500-Norg D (In house). An aliquot of sample is digested using a high temperature Kjeldahl digestion to convert nitrogenous compounds to ammonia. Ammonia is determined colorimetrically by discrete analyser. This method is compliant with NEPM (2013) Schedule B(3)
Total Nitrogen as N (TKN + Nox) By Discrete Analyser	EK062G	WATER	In house: Referenced to APHA 21st ed., 4500-Norg / 4500-NO3-. This method is compliant with NEPM (2013) Schedule B(3)
Total Phosphorus as P By Discrete Analyser	EK067G	WATER	In house: Referenced to APHA 21st ed., 4500-P H, Jirka et al (1976), Zhang et al (2006). This procedure involves sulphuric acid digestion of a sample aliquot to break phosphorus down to orthophosphate. The orthophosphate reacts with ammonium molybdate and antimony potassium tartrate to form a complex which is then reduced and its concentration measured at 880nm using discrete analyser. This method is compliant with NEPM (2013) Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Pesticides by GCMS	EP068	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
Organotin Compounds (Soluble)	EP090H	WATER	(USEPA SW 846 - 8270D, ALS QWI-ORG/EP090) Sample extracts (ALS QWI-ORG/035) are analysed by GC/MS coupled with high volume injection (10-50µL). Quantitation is achieved using internal standard and average response factor quantitation techniques against an established five-point curve. Butyltin results are reported in either "as tin" units eg. ng Sn/L or "ng TBT+/L". The analytical standards are prepared in "as tin" units. Sample results are converted to TBT+ results as required.

Preparation Methods	Method	Matrix	Method Descriptions
TKN/TP Digestion	EK061/EK067	SOIL	APHA 21st ed., 4500 Norg- D; APHA 21st ed., 4500 P - H. Macro Kjeldahl digestion.
1:5 solid / water leach for soluble analytes	EN34	SOIL	10 g of soil is mixed with 50 mL of distilled water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids/ Sample Cleanup	ORG17A-UTP	SOIL	In-house, Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. Samples are extracted, concentrated (by KD) and exchanged into an appropriate solvent for GPC and florisil cleanup as required.

Preparation Methods	Method	Matrix	Method Descriptions
Tumbler Extraction of Solids for LVI (Non-concentrating)	ORG17D	SOIL	In house: 10g of sample, Na2SO4 and surrogate are extracted with 50mL 1:1 DCM/Acetone by end over end tumbling. An aliquot is concentrated by nitrogen blowdown to a reduced volume for analysis if required.
Organotin Sample Preparation	ORG35	SOIL	In house. 20g sample is spiked with surrogate and leached in a methanol:acetic acid:UHP water mix and vacuum filtered. Reagents and solvents are added to the sample and the mixture tumbled. The butyltin compounds are simultaneously derivatised and extracted. The extract is further extracted with petroleum ether. The resultant extracts are combined and concentrated for analysis.
TKN/TP Digestion	EK061/EK067	WATER	APHA 21st ed., 4500 Norg - D; APHA 21st ed., 4500 P - H. This method is compliant with NEPM (2013) Schedule B(3)
Digestion for Total Recoverable Metals	EN25	WATER	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (2013) Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (2013) Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Organotin Sample Preparation	ORG34H	WATER	(IN HOUSE, ALS QWI-ORG/35) A specified volume (determined by the detection limit requirement) of sample is spiked with surrogate, acidified and vacuum filtered. Reagents and solvent are added to the sample and the mixture tumbled for 20 minutes. The butyltin compounds is derivitisated, extracted and the subtitution reaction is completed. The extracts is transferred to a separatory funnel and further extracted two times using petroleum ether. The resultant extracts are combined and concentrated to the desired volume for analysis.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW 846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EK255A SD: Ammonia in Sediment	ES1503080-014	Anonymous	**Ammonia as N**	7664-41-7	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Duplicate outliers occur.**
- **For all matrices, no Laboratory Control outliers occur.**

Regular Sample Surrogates

- **For all regular sample matrices, no surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- **No Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A; Free ice / frozen ice bricks present upon receipt? Yes No N/A; Random Sample Temperature on Receipt: °C; Other comment:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 12	
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr DATE/TIME: 11 February 2015	RECEIVED BY: Kelly Schafer DATE/TIME: 11 February 2015 1730
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		RELINQUISHED BY: KSchafer DATE/TIME: 12-2-15 1600
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			RECEIVED BY: DanJ DATE/TIME: 12/2 0900
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	WB19 0.0-0.5 A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
2	WB19 0.5-1.0 A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
3	WB19 0.0-0.5 B	11/02/2015	S	Bag (White label)	1		1							
4	WB19 0.5-1.0 B	11/02/2015	S	Bag (White label)	1		1							
5	WB6 0.3V	11/02/2015	S	Glass Jar (150 ml)	1			1						
6	WB19 0.7V	11/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

150ml Jars sent direct to Brisbane for TOC/TBT

500ml Amber sent direct to Brisbane for TBT

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Subcon / Forward Lab / Split WO
Lab / Analysis: Newcastle / PSP
Organised By / Date:
Relinquished By / Date:
Connote / Courier:
WO No:
Attach By PO / Internal Sheet:

Environmental Division Sydney

Work Order

ES1503461

Telephone : +61-2-8784 8555

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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 (2) 3 4 5 6 7	Random Sample Temperature on Receipt: 0
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		11 February 2015	11 February 2015 17:30

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 12-2-15 1600	DATE/TIME: 13/2 0400

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
7	WB20 0.0-0.5 A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
8	WB20 0.5-1.0 A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
9	WB20 0.0-0.5 B	11/02/2015	S	Bag (White label)	1		1							
10	WB20 0.5-1.0 B	11/02/2015	S	Bag (White label)	1		1							
11	WB20 0.3V	11/02/2015	S	Glass Jar (150 ml)	1			1						
12	WB20 0.7V	11/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS: ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 (3) 4 5 6 7	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comment:	

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		11 February 2015	11 February 2015 1730	12-2-15 1600	13/2 09cm

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
13	WB23 0.0-0.5A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
14	WB23 0.5-1.0A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
15	WB23 0.0-0.5B	11/02/2015	S	Bag (White label)	1		1							
16	WB23 0.5-1.0B	11/02/2015	S	Bag (White label)	1		1							
17	WB23 0.3V	11/02/2015	S	Glass Jar (150 ml)	1			1						
18	WB23 0.7V	11/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	6	1	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle): Custody Seal Intact? Yes No N/A; Free ice / frozen ice bricks present upon receipt? Yes No N/A; Random Sample Temperature on Receipt: °C; Other comment:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 (4) 5 6 7	
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 (7)	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	Kelly Schafer	AS	D--1
DATE/TIME: 11 February 2015	DATE/TIME: 11 February 2015 1730	DATE/TIME: 12-2-15 1600	DATE/TIME: 13/2 0904

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION	ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
19	BE4 0.0-0.5A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
20	BE4 0.5-1.0A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
21	BE4 0.0-0.5B	11/02/2015	S	Bag (White label)	1		1							
22	BE4 0.5-1.0B	11/02/2015	S	Bag (White label)	1		1							
23	BE4 0.3V	11/02/2015	S	Glass Jar (150 ml)	1			1						
24	BE4 0.7V	11/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
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Ph: 02 4423 2063 E: nowra@alsglobal.com
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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 (5) 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		11 February 2015	11 February 2015 1730

RELINQUISHED BY:	RECEIVED BY:
KS	Dan
DATE/TIME: 12-2-15 1600	DATE/TIME: 13/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
25	BE5 0.0-0.5A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
26	BE5 0.5-1.0A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
27	BE5 0.0-0.5B	11/02/2015	S	Bag (White label)	1		1							
28	BE5 0.5-1.0B	11/02/2015	S	Bag (White label)	1		1							
29	BE5 0.3V	11/02/2015	S	Glass Jar (150 ml)	1			1						
30	BE5 0.7V	11/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ENVIRONMENTAL

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CLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph. 07 7471 5600 E. gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740 Ph. 07 4944 0177 E. mackay@alsglobal.com
MELBOURNE 24 Westall Road Springvale VIC 3171 Ph. 03 8549 9600 E. samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph. 02 6372 0735 E. mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph. 02 4968 8433 E. samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph. 02 4423 2063 E. nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph. 08 9209 7655 E. samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph. 02 8784 8555 E. samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph. 07 4796 0600 E. townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph. 02 4225 3125 E. portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 12	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		11 February 2015	11 February 2015 1730

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 12-2-15 1600	DATE/TIME: 13/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
31	BE6 0.0-0.5 A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
32	BE6 0.5-1.0 A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
33	BE6 0.0-0.5 B	11/02/2015	S	Bag (White label)	1		1							
34	BE6 0.5-1.0 B	11/02/2015	S	Bag (White label)	1		1							
35	BE6 0.3V	11/02/2015	S	Glass Jar (150 ml)	1			1						
36	BE6 0.7V	11/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Eves Ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7Z	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		11 February 2015	11 February 2015 1730

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 12-2-15 1600	DATE/TIME: 13/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
37	BE8 0.0-0.5 A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
38	BE8 0.5-1.0 A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
39	BE8 0.0-0.5 B	11/02/2015	S	Bag (White label)	1		1							
40	BE8 0.5-1.0 B	11/02/2015	S	Bag (White label)	1		1							
41	BE8 0.3V	11/02/2015	S	Glass Jar (150 ml)	1			1						
42	BE8 0.7V	11/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 024128 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7555 E: samples.perth@alsglobal.com

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (8)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (12)	Other comment:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		11 February 2015	11 February 2015 1730

RELINQUISHED BY:	**RECEIVED BY:**
DATE/TIME: 12.2.15 1600	DATE/TIME: 13/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
43	BE11 0.0-0.5 A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
44	BE11 0.5-1.0 A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
45	BE11 0.0-0.5 B	11/02/2015	S	Bag (White label)	1		1							
46	BE11 0.5-1.0 B	11/02/2015	S	Bag (White label)	1		1							
47	BE11 0.3V	11/02/2015	S	Glass Jar (150 ml)	1			1						
48	BE11 0.7V	11/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date):	5 day turnaround
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (9)	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (12)	

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comment:			

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		11 February 2015	11 February 2015 1730	12.2.15 1600	13/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
49	BE12 0.0-0.5 A	11/02/2015	S	Glass Jar (250 ml and 250 ml)	2	1								
50	BE12 0.5-1.0 A	11/02/2015	S	Glass Jar (250 ml and 250 ml)	2	1								
51	BE12 0.0-0.5 B	11/02/2015	S	Bag (White label)	1		1							
52	BE12 0.5-1.0 B	11/02/2015	S	Bag (White label)	1		1							
53	BE12 0.3V	11/02/2015	S	Glass Jar (150 ml)	1			1						
54	BE12 0.7V	11/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
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OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		11 February 2015	11 February 2015 1730

RELINQUISHED BY:	RECEIVED BY:
	Dan
DATE/TIME:	DATE/TIME:
12-2-15 1600	17/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
55	BE13 0.0-0.5 A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
56	BE13 0.5-1.0 A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
57	BE13 0.0-0.5 B	11/02/2015	S	Bag (White label)	1		1							
58	BE13 0.5-1.0 B	11/02/2015	S	Bag (White label)	1		1							
59	BE13 0.3V	11/02/2015	S	Glass Jar (150 ml)	1			1						
60	BE13 0.7V	11/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0690 E: adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5800 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
ORANGE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/15 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Garbutt QLD 4814 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (11)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (12)	Other comment:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		11 February 2015	11 February 2015 1730

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 12-2-15 1600	DATE/TIME: 13/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION	ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
61	WB17 0.0-0.5 A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
62	WB17 0.5-1.0 A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
63	WB17 0.0-0.5 B	11/02/2015	S	Bag (White label)	1		1							
64	WB17 0.5-1.0 B	11/02/2015	S	Bag (White label)	1		1							
65	WB17 0.3V	11/02/2015	S	Glass Jar (150 ml)	1			1						
66	WB17 0.7V	11/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
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NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice/ frozen ice bricks present upon receipt?	Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6	Other comment:	

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		11 February 2015	11 February 2015 1730	12.2.15 1600	13/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	Rinsate Suite		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
67	Triplicate 6A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
68	Triplicate 6B	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
69	Triplicate 7A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
70	Triplicate 7B	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
71	Triplicate 8A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
72	Triplicate 8B	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
73	Trip Blank 8	11/02/2015	S	Pre-filled glass jar	1	1								
74	Rinsate 7	11/02/2015	w	Bottle	8	4						1		
				TOTAL	21	8								

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1503461**	Page	: 1 of 91
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553		
C-O-C number	: ----	Date Samples Received	: 13-FEB-2015
Sampler	: GK	Issue Date	: 03-MAR-2015
Site	: ----		
		No. of samples received	: 74
Quote number	: SY/1021/14 V2	No. of samples analysed	: 74

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **EA150H: Soil Particle Density as required for Hydrometer analysis according to AS 1289.3.6.3 2003 was unable to be performed on samples #046 and #052 as insufficient sample was supplied by the client. Typical SPD values used for calculations and consequently NATA endorsement does not apply to hydrometer results.**
- **EK067G:Poor duplicate precision due to sample heterogeneity. Confirmed by re-extraction and re-analysis.**
- **EP080-SD:Poor surrogate recovery due to sample matrix. Confirmed by re-extraction and re-analysis.**
- **EP090: Sample 'TRIPLICATE 8B' shows poor matrix spike recovery due to matrix interference. Insufficient sample for re-extraction and re-analysis.**

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Ashesh Patel	Inorganic Chemist	Sydney Inorganics
Dianne Blane	Laboratory Coordinator (2IC)	Newcastle - Inorganics
Kim McCabe	Senior Inorganic Chemist	Brisbane Acid Sulphate Soils
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
		Sydney Organics
Ryan Story	2IC Organic Instrument Chemist	Brisbane Inorganics
		Brisbane Organics
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils
Shobhna Chandra	Metals Coordinator	Sydney Inorganics
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB19 0.0-0.5A	WB19 0.5-1.0A	WB19 0.5-0.5B	WB19 0.5-1.0B	WB20 0.0-0.5A
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-001	ES1503461-002	ES1503461-003	ES1503461-004	ES1503461-007
EA150: Particle Sizing									
+75µm	----	1	%		----	----	**95**	**97**	----
+150µm	----	1	%		----	----	**24**	**13**	----
+300µm	----	1	%		----	----	<1	<1	----
+425µm	----	1	%		----	----	<1	<1	----
+600µm	----	1	%		----	----	<1	<1	----
+1180µm	----	1	%		----	----	<1	<1	----
+2.36mm	----	1	%		----	----	<1	<1	----
+4.75mm	----	1	%		----	----	<1	<1	----
+9.5mm	----	1	%		----	----	<1	<1	----
+19.0mm	----	1	%		----	----	<1	<1	----
+37.5mm	----	1	%		----	----	<1	<1	----
+75.0mm	----	1	%		----	----	<1	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**21.7**	**22.9**	----	----	**21.0**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	**1**	**1**	----
Silt (2-60 µm)	----	1	%		----	----	**1**	**2**	----
Sand (0.06-2.00 mm)	----	1	%		----	----	**98**	**97**	----
Gravel (>2mm)	----	1	%		----	----	<1	<1	----
Cobbles (>6cm)	----	1	%		----	----	<1	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	**2.65**	**2.49**	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**4100**	**4300**	----	----	**4210**
Iron	7439-89-6	50	mg/kg		**9070**	**10000**	----	----	**11000**
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	----	----	<0.50
Arsenic	7440-38-2	1.00	mg/kg		**11.9**	**13.7**	----	----	**16.8**
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	----	----	<0.1
Chromium	7440-47-3	1.0	mg/kg		**8.9**	**9.6**	----	----	**8.7**
Copper	7440-50-8	1.0	mg/kg		**2.5**	**2.7**	----	----	**3.0**
Cobalt	7440-48-4	0.5	mg/kg		**5.5**	**5.9**	----	----	**6.2**
Lead	7439-92-1	1.0	mg/kg		**2.2**	**2.4**	----	----	**2.4**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB19 0.0-0.5A	WB19 0.5-1.0A	WB19 0.5-0.5B	WB19 0.5-1.0B	WB20 0.0-0.5A
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-001	ES1503461-002	ES1503461-003	ES1503461-004	ES1503461-007
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		354	483	----	----	640
Nickel	7440-02-0	1.0	mg/kg		3.7	4.1	----	----	4.2
Selenium	7782-49-2	0.1	mg/kg		0.2	0.3	----	----	0.3
Silver	7440-22-4	0.1	mg/kg		<0.5	<0.5	----	----	<0.5
Vanadium	7440-62-2	2.0	mg/kg		22.4	25.0	----	----	29.0
Zinc	7440-66-6	1.0	mg/kg		13.7	14.4	----	----	13.7
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	<0.01	----	----	<0.01
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		0.4	0.3	----	----	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		0.4	0.3	----	----	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		70	80	----	----	40
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		70	80	----	----	40
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		184	151	----	----	251
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		1.1	3.5	----	----	1.5
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		0.08	0.14	----	----	0.06
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	<3	----	----	<3
>C16 - C34 Fraction	----	3	mg/kg		<3	<3	----	----	<3
>C34 - C40 Fraction	----	5	mg/kg		<5	<5	----	----	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	<3	----	----	<3
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C10 - C14 Fraction	----	3	mg/kg		<3	<3	----	----	<3
C15 - C28 Fraction	----	3	mg/kg		<3	<3	----	----	<3
C29 - C36 Fraction	----	5	mg/kg		<5	<5	----	----	<5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB19 0.0-0.5A	WB19 0.5-1.0A	WB19 0.5-0.5B	WB19 0.5-1.0B	WB20 0.0-0.5A
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503461-001	ES1503461-002	ES1503461-003	ES1503461-004	ES1503461-007
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
^ C10 - C36 Fraction (sum)	----	3	mg/kg		<3	<3	----	----	<3
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	<1	----	----	<1
Dibutyltin	1002-53-5	1	µgSn/kg		<1	<1	----	----	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	<0.5	----	----	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	<10	----	----	<10
Carbophenothion	786-19-6	10	µg/kg		<10	<10	----	----	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	<10.0	----	----	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	<10	----	----	<10
Chlorpyrifos	2921-88-2	10	µg/kg		<10	<10	----	----	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	<10	----	----	<10
Demeton-S-methyl	919-86-8	10	µg/kg		<10	<10	----	----	<10
Diazinon	333-41-5	10	µg/kg		<10	<10	----	----	<10
Dichlorvos	62-73-7	10	µg/kg		<10	<10	----	----	<10
Dimethoate	60-51-5	10	µg/kg		<10	<10	----	----	<10
Ethion	563-12-2	10	µg/kg		<10	<10	----	----	<10
Fenamiphos	22224-92-6	10	µg/kg		<10	<10	----	----	<10
Fenthion	55-38-9	10	µg/kg		<10	<10	----	----	<10
Malathion	121-75-5	10	µg/kg		<10	<10	----	----	<10
Azinphos Methyl	86-50-0	10	µg/kg		<10	<10	----	----	<10
Monocrotophos	6923-22-4	10	µg/kg		<10	<10	----	----	<10
Parathion	56-38-2	10	µg/kg		<10	<10	----	----	<10
Parathion-methyl	298-00-0	10	µg/kg		<10	<10	----	----	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	<10	----	----	<10
Prothiofos	34643-46-4	10	µg/kg		<10	<10	----	----	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	<0.50	----	----	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	<0.50	----	----	<0.50
beta-BHC	319-85-7	0.50	µg/kg		<0.50	<0.50	----	----	<0.50
delta-BHC	319-86-8	0.50	µg/kg		<0.50	<0.50	----	----	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	<0.50	----	----	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	<0.50	----	----	<0.50

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB19 0.0-0.5A	WB19 0.5-1.0A	WB19 0.5-0.5B	WB19 0.5-1.0B	WB20 0.0-0.5A
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-001	ES1503461-002	ES1503461-003	ES1503461-004	ES1503461-007
EP131A: Organochlorine Pesticides - Continued									
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	<0.50	----	----	<0.50
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	<0.50	----	----	<0.50
Dieldrin	60-57-1	0.50	µg/kg		<0.50	<0.50	----	----	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	<0.50	----	----	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	<0.50	----	----	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	<0.50	----	----	<0.50
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	<0.50	----	----	<0.50
Endrin	72-20-8	0.50	µg/kg		<0.50	<0.50	----	----	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	<0.50	----	----	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	<0.50	----	----	<0.50
Heptachlor	76-44-8	0.50	µg/kg		<0.50	<0.50	----	----	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	<0.50	----	----	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	<0.50	----	----	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	<0.25	----	----	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	<0.50	----	----	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	<0.25	----	----	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	<0.25	----	----	<0.25
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	<0.25	----	----	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	<0.50	----	----	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	<5.0	----	----	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	<5.0	----	----	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	<5.0	----	----	<5.0
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	<5.0	----	----	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	<5.0	----	----	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	<5.0	----	----	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	<5.0	----	----	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	<5.0	----	----	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	<5	----	----	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	<5	----	----	<5
Acenaphthylene	208-96-8	4	µg/kg		<4	<4	----	----	<4
Acenaphthene	83-32-9	4	µg/kg		<4	<4	----	----	<4
Fluorene	86-73-7	4	µg/kg		<4	<4	----	----	<4

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB19 0.0-0.5A	WB19 0.5-1.0A	WB19 0.5-0.5B	WB19 0.5-1.0B	WB20 0.0-0.5A
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503461-001	ES1503461-002	ES1503461-003	ES1503461-004	ES1503461-007
EP132B: Polynuclear Aromatic Hydrocarbons - Continued									
Phenanthrene	85-01-8	4	µg/kg		<4	<4	----	----	<4
Anthracene	120-12-7	4	µg/kg		<4	<4	----	----	<4
Fluoranthene	206-44-0	4	µg/kg		<4	<4	----	----	<4
Pyrene	129-00-0	4	µg/kg		<4	<4	----	----	<4
Benz(a)anthracene	56-55-3	4	µg/kg		<4	<4	----	----	<4
Chrysene	218-01-9	4	µg/kg		<4	<4	----	----	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	<4	----	----	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	<4	----	----	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	<4	----	----	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	<4	----	----	<4
Perylene	198-55-0	4	µg/kg		<4	<4	----	----	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	<4	----	----	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	<4	----	----	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	<4	----	----	<4
Coronene	191-07-1	5	µg/kg		<5	<5	----	----	<5
^ Sum of PAHs	----	4	µg/kg		<4	<4	----	----	<4
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		85.0	84.0	----	----	101
EP130S: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%		87.3	72.0	----	----	91.6
EP131S: OC Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.1	%		82.6	51.1	----	----	93.1
EP131T: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		89.0	77.2	----	----	95.6
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		95.2	86.2	----	----	84.6
Anthracene-d10	1719-06-8	0.1	%		102	99.0	----	----	108
4-Terphenyl-d14	1718-51-0	0.1	%		109	97.2	----	----	109

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB20 0.5-1.0A	WB20 0.0-0.5B	WB20 0.5-1.0B	WB20 0.3V	WB20 0.7V
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-008	ES1503461-009	ES1503461-010	ES1503461-011	ES1503461-012
EA150: Particle Sizing									
+75µm	----	1	%		----	**96**	**96**	----	----
+150µm	----	1	%		----	**66**	**64**	----	----
+300µm	----	1	%		----	<1	<1	----	----
+425µm	----	1	%		----	<1	<1	----	----
+600µm	----	1	%		----	<1	<1	----	----
+1180µm	----	1	%		----	<1	<1	----	----
+2.36mm	----	1	%		----	<1	<1	----	----
+4.75mm	----	1	%		----	<1	<1	----	----
+9.5mm	----	1	%		----	<1	<1	----	----
+19.0mm	----	1	%		----	<1	<1	----	----
+37.5mm	----	1	%		----	<1	<1	----	----
+75.0mm	----	1	%		----	<1	<1	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**21.2**	----	----	**22.4**	**22.6**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	**1**	**1**	----	----
Silt (2-60 µm)	----	1	%		----	<1	**1**	----	----
Sand (0.06-2.00 mm)	----	1	%		----	**99**	**98**	----	----
Gravel (>2mm)	----	1	%		----	<1	<1	----	----
Cobbles (>6cm)	----	1	%		----	<1	<1	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	**2.58**	**2.51**	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**4570**	----	----	----	----
Iron	7439-89-6	50	mg/kg		**11100**	----	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	----	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		**17.2**	----	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	----	----	----	----
Chromium	7440-47-3	1.0	mg/kg		**8.6**	----	----	----	----
Copper	7440-50-8	1.0	mg/kg		**3.2**	----	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		**6.5**	----	----	----	----
Lead	7439-92-1	1.0	mg/kg		**2.4**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB20 0.5-1.0A	WB20 0.0-0.5B	WB20 0.5-1.0B	WB20 0.3V	WB20 0.7V
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503461-008	ES1503461-009	ES1503461-010	ES1503461-011	ES1503461-012
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		**725**	----	----	----	----
Nickel	7440-02-0	1.0	mg/kg		**4.5**	----	----	----	----
Selenium	7782-49-2	0.1	mg/kg		**0.3**	----	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.5	----	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		**27.3**	----	----	----	----
Zinc	7440-66-6	1.0	mg/kg		**14.2**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		**40**	----	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		**40**	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		**224**	----	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		**2.1**	----	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		**0.06**	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	----	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		<3	----	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	----	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	<3	<3
C10 - C14 Fraction	----	3	mg/kg		<3	----	----	----	----
C15 - C28 Fraction	----	3	mg/kg		<3	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB20 0.5-1.0A	WB20 0.0-0.5B	WB20 0.5-1.0B	WB20 0.3V	WB20 0.7V
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-008	ES1503461-009	ES1503461-010	ES1503461-011	ES1503461-012
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	----	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		<3	----	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	<3	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	<0.2	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	<0.2	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	<0.2	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	<0.2	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	----	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	<0.2	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	----	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	----	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	----	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	----	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	----	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	----	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	----	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	----	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	----	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	----	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	----	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	----	----	----	----
Ethion	563-12-2	10	µg/kg		<10	----	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	----	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	----	----	----	----
Malathion	121-75-5	10	µg/kg		<10	----	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	----	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB20 0.5-1.0A	WB20 0.0-0.5B	WB20 0.5-1.0B	WB20 0.3V	WB20 0.7V
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-008	ES1503461-009	ES1503461-010	ES1503461-011	ES1503461-012
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	----	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	----	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	----	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	----	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	----	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	----	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	----	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	----	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	----	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	----	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	----	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	----	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	----	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	----	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	----	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	----	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	----	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	----	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	----	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	----	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	----	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	----	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	----	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	----	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	----	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB20 0.5-1.0A	WB20 0.0-0.5B	WB20 0.5-1.0B	WB20 0.3V	WB20 0.7V
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-008	ES1503461-009	ES1503461-010	ES1503461-011	ES1503461-012
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	----	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	----	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	----	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	----	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	----	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	----	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	----	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	----	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	----	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	----	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	----	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	----	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	----	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	----	----	----	----
Perylene	198-55-0	4	µg/kg		<4	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	----	----	----	----
Coronene	191-07-1	5	µg/kg		<5	----	----	----	----
^ **Sum of PAHs**	----	4	µg/kg		<4	----	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	**79.4**	**86.2**
Toluene-D8	2037-26-5	0.1	%		----	----	----	**79.4**	**80.7**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	**79.6**	**77.1**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**99.0**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB20 0.5-1.0A	WB20 0.0-0.5B	WB20 0.5-1.0B	WB20 0.3V	WB20 0.7V
			Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503461-008	ES1503461-009	ES1503461-010	ES1503461-011	ES1503461-012
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**69.6**	----	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**100**	----	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**96.4**	----	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**90.4**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**110**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	**112**	----	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB23 0.0-0.5A	WB23 0.5-1.0A	WB23 0.0-0.5B	WB23 0.5-1.0B	WB23 0.3V
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-013	ES1503461-014	ES1503461-015	ES1503461-016	ES1503461-017
EA150: Particle Sizing									
+75µm	----	1	%		----	----	**96**	**94**	----
+150µm	----	1	%		----	----	**70**	**76**	----
+300µm	----	1	%		----	----	**3**	**1**	----
+425µm	----	1	%		----	----	<1	<1	----
+600µm	----	1	%		----	----	<1	<1	----
+1180µm	----	1	%		----	----	<1	<1	----
+2.36mm	----	1	%		----	----	<1	<1	----
+4.75mm	----	1	%		----	----	<1	<1	----
+9.5mm	----	1	%		----	----	<1	<1	----
+19.0mm	----	1	%		----	----	<1	<1	----
+37.5mm	----	1	%		----	----	<1	<1	----
+75.0mm	----	1	%		----	----	<1	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**22.3**	**21.2**	----	----	**23.9**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	**2**	**5**	----
Silt (2-60 µm)	----	1	%		----	----	**2**	<1	----
Sand (0.06-2.00 mm)	----	1	%		----	----	**96**	**95**	----
Gravel (>2mm)	----	1	%		----	----	<1	<1	----
Cobbles (>6cm)	----	1	%		----	----	<1	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	**2.57**	**2.65**	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**5010**	**5020**	----	----	----
Iron	7439-89-6	50	mg/kg		**11600**	**11400**	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		**16.3**	**19.5**	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	----	----	----
Chromium	7440-47-3	1.0	mg/kg		**10.1**	**9.8**	----	----	----
Copper	7440-50-8	1.0	mg/kg		**4.0**	**4.3**	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		**6.3**	**5.7**	----	----	----
Lead	7439-92-1	1.0	mg/kg		**2.8**	**2.9**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB23 0.0-0.5A	WB23 0.5-1.0A	WB23 0.0-0.5B	WB23 0.5-1.0B	WB23 0.3V
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-013	ES1503461-014	ES1503461-015	ES1503461-016	ES1503461-017
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		646	587	----	----	----
Nickel	7440-02-0	1.0	mg/kg		4.8	4.7	----	----	----
Selenium	7782-49-2	0.1	mg/kg		0.3	0.3	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.5	<0.5	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		29.6	27.9	----	----	----
Zinc	7440-66-6	1.0	mg/kg		15.2	14.7	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	<0.01	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	0.2	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	0.2	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		160	40	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		160	40	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		247	290	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		7.7	6.6	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		0.08	0.07	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	<3	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		3	3	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	<5	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		3	3	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		<3	<3	----	----	----
C15 - C28 Fraction	----	3	mg/kg		<3	<3	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB23 0.0-0.5A	WB23 0.5-1.0A	WB23 0.0-0.5B	WB23 0.5-1.0B	WB23 0.3V
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-013	ES1503461-014	ES1503461-015	ES1503461-016	ES1503461-017
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	<5	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		<3	<3	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	----	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	<1	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	<1	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	<0.5	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	<10	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	<10	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	<10.0	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	<10	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	<10	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	<10	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	<10	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	<10	----	----	----
Ethion	563-12-2	10	µg/kg		<10	<10	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	<10	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	<10	----	----	----
Malathion	121-75-5	10	µg/kg		<10	<10	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	<10	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	<10	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB23 0.0-0.5A	WB23 0.5-1.0A	WB23 0.0-0.5B	WB23 0.5-1.0B	WB23 0.3V
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503461-013	ES1503461-014	ES1503461-015	ES1503461-016	ES1503461-017
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	<10	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	<10	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	<10	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	<10	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	<0.50	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	<0.50	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	<0.50	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	<0.50	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	<0.50	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	<0.25	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	<0.50	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	<0.25	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	<0.25	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	<0.25	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	<0.50	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	<5.0	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB23 0.0-0.5A	WB23 0.5-1.0A	WB23 0.0-0.5B	WB23 0.5-1.0B	WB23 0.3V
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503461-013	ES1503461-014	ES1503461-015	ES1503461-016	ES1503461-017
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	<5.0	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	<5	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	<5	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	<4	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	<4	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	<4	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	<4	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	<4	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	<4	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	<4	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	<4	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	<4	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	<4	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	<4	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	<4	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	<4	----	----	----
Perylene	198-55-0	4	µg/kg		<4	<4	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	<4	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	<4	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	<4	----	----	----
Coronene	191-07-1	5	µg/kg		<5	<5	----	----	----
^ Sum of PAHs	----	4	µg/kg		<4	<4	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	----	87.7
Toluene-D8	2037-26-5	0.1	%		----	----	----	----	80.3
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	----	79.4
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		69.6	75.2	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB23 0.0-0.5A	WB23 0.5-1.0A	WB23 0.0-0.5B	WB23 0.5-1.0B	WB23 0.3V
			Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503461-013	ES1503461-014	ES1503461-015	ES1503461-016	ES1503461-017
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	85.8	68.8	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	71.2	72.2	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	101	89.8	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	111	98.3	----	----	----
Anthracene-d10	1719-06-8	0.1	%	119	108	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	119	116	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB23 0.7V	BE4 0.0-0.5A	BE4 0.5-1.0A	BE4 0.0-0.5B	BE4 0.5-1.0B
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-018	ES1503461-019	ES1503461-020	ES1503461-021	ES1503461-022
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	**60**	**48**
+150µm	----	1	%		----	----	----	**28**	**18**
+300µm	----	1	%		----	----	----	**19**	**5**
+425µm	----	1	%		----	----	----	**18**	**4**
+600µm	----	1	%		----	----	----	**18**	**3**
+1180µm	----	1	%		----	----	----	**17**	**2**
+2.36mm	----	1	%		----	----	----	**14**	<1
+4.75mm	----	1	%		----	----	----	**12**	<1
+9.5mm	----	1	%		----	----	----	**9**	<1
+19.0mm	----	1	%		----	----	----	<1	<1
+37.5mm	----	1	%		----	----	----	<1	<1
+75.0mm	----	1	%		----	----	----	<1	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**22.5**	**28.0**	**43.7**	----	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	**21**	**24**
Silt (2-60 µm)	----	1	%		----	----	----	**15**	**19**
Sand (0.06-2.00 mm)	----	1	%		----	----	----	**49**	**56**
Gravel (>2mm)	----	1	%		----	----	----	**15**	**1**
Cobbles (>6cm)	----	1	%		----	----	----	<1	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	**2.42**	**2.57**
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	**11300**	**10400**	----	----
Iron	7439-89-6	50	mg/kg		----	**26300**	**30400**	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	<0.50	<0.50	----	----
Arsenic	7440-38-2	1.00	mg/kg		----	**27.2**	**23.1**	----	----
Cadmium	7440-43-9	0.1	mg/kg		----	<0.1	<0.1	----	----
Chromium	7440-47-3	1.0	mg/kg		----	**20.3**	**18.6**	----	----
Copper	7440-50-8	1.0	mg/kg		----	**13.2**	**15.5**	----	----
Cobalt	7440-48-4	0.5	mg/kg		----	**16.7**	**12.9**	----	----
Lead	7439-92-1	1.0	mg/kg		----	**6.8**	**8.0**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB23 0.7V	BE4 0.0-0.5A	BE4 0.5-1.0A	BE4 0.0-0.5B	BE4 0.5-1.0B
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-018	ES1503461-019	ES1503461-020	ES1503461-021	ES1503461-022
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	242	364	----	----
Nickel	7440-02-0	1.0	mg/kg		----	10.4	8.4	----	----
Selenium	7782-49-2	0.1	mg/kg		----	0.7	0.8	----	----
Silver	7440-22-4	0.1	mg/kg		----	<0.5	<0.5	----	----
Vanadium	7440-62-2	2.0	mg/kg		----	50.6	47.8	----	----
Zinc	7440-66-6	1.0	mg/kg		----	36.1	31.1	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	0.01	0.02	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	310	580	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	310	580	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	197	220	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	4.4	5.9	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	0.95	0.96	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	<3	<3	----	----
>C16 - C34 Fraction	----	3	mg/kg		----	4	14	----	----
>C34 - C40 Fraction	----	5	mg/kg		----	<5	12	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	4	26	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	----	----	----	----
C10 - C14 Fraction	----	3	mg/kg		----	<3	<3	----	----
C15 - C28 Fraction	----	3	mg/kg		----	<3	6	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB23 0.7V	BE4 0.0-0.5A	BE4 0.5-1.0A	BE4 0.0-0.5B	BE4 0.5-1.0B
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-018	ES1503461-019	ES1503461-020	ES1503461-021	ES1503461-022
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	<5	**17**	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	<3	**23**	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	----	----	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.2	mg/kg		<0.2	----	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	----	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	----	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	<1	<1	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	<1	<1	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	<0.5	<0.5	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	<10	<10	----	----
Carbophenothion	786-19-6	10	µg/kg		----	<10	<10	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	<10.0	<10.0	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	<10	<10	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	<10	<10	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	<10	<10	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	<10	<10	----	----
Diazinon	333-41-5	10	µg/kg		----	<10	<10	----	----
Dichlorvos	62-73-7	10	µg/kg		----	<10	<10	----	----
Dimethoate	60-51-5	10	µg/kg		----	<10	<10	----	----
Ethion	563-12-2	10	µg/kg		----	<10	<10	----	----
Fenamiphos	22224-92-6	10	µg/kg		----	<10	<10	----	----
Fenthion	55-38-9	10	µg/kg		----	<10	<10	----	----
Malathion	121-75-5	10	µg/kg		----	<10	<10	----	----
Azinphos Methyl	86-50-0	10	µg/kg		----	<10	<10	----	----
Monocrotophos	6923-22-4	10	µg/kg		----	<10	<10	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB23 0.7V	BE4 0.0-0.5A	BE4 0.5-1.0A	BE4 0.0-0.5B	BE4 0.5-1.0B
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503461-018	ES1503461-019	ES1503461-020	ES1503461-021	ES1503461-022
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	<10	<10	----	----
Parathion-methyl	298-00-0	10	µg/kg		----	<10	<10	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	<10	<10	----	----
Prothiofos	34643-46-4	10	µg/kg		----	<10	<10	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg		----	<0.50	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	<0.50	<0.50	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	<0.50	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	<0.50	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	<0.50	<0.50	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	<0.50	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	<0.50	<0.50	----	----
gamma-BHC	58-89-9	0.25	µg/kg		----	<0.25	<0.25	----	----
Methoxychlor	72-43-5	0.50	µg/kg		----	<0.50	<0.50	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	<0.25	<0.25	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	<0.25	<0.25	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		----	<0.25	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	<0.50	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	<5.0	<5.0	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB23 0.7V	BE4 0.0-0.5A	BE4 0.5-1.0A	BE4 0.0-0.5B	BE4 0.5-1.0B
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-018	ES1503461-019	ES1503461-020	ES1503461-021	ES1503461-022
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	<5.0	<5.0	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	<5	<5	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	<5	<5	----	----
Acenaphthylene	208-96-8	4	µg/kg		----	<4	<4	----	----
Acenaphthene	83-32-9	4	µg/kg		----	<4	<4	----	----
Fluorene	86-73-7	4	µg/kg		----	<4	<4	----	----
Phenanthrene	85-01-8	4	µg/kg		----	<4	<4	----	----
Anthracene	120-12-7	4	µg/kg		----	<4	<4	----	----
Fluoranthene	206-44-0	4	µg/kg		----	<4	<4	----	----
Pyrene	129-00-0	4	µg/kg		----	<4	<4	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	<4	<4	----	----
Chrysene	218-01-9	4	µg/kg		----	<4	<4	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	<4	<4	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	<4	<4	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	<4	<4	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	<4	<4	----	----
Perylene	198-55-0	4	µg/kg		----	<4	<4	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	<4	<4	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	<4	<4	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	<4	<4	----	----
Coronene	191-07-1	5	µg/kg		----	<5	<5	----	----
^ **Sum of PAHs**	----	4	µg/kg		----	<4	<4	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**87.6**	----	----	----	----
Toluene-D8	2037-26-5	0.1	%		**76.0**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**75.3**	----	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	**77.5**	**98.0**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB23 0.7V	BE4 0.0-0.5A	BE4 0.5-1.0A	BE4 0.0-0.5B	BE4 0.5-1.0B
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503461-018	ES1503461-019	ES1503461-020	ES1503461-021	ES1503461-022
EP130S: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%		----	73.4	80.9	----	----
EP131S: OC Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.1	%		----	79.3	72.0	----	----
EP131T: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	82.6	99.5	----	----
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		----	97.5	82.4	----	----
Anthracene-d10	1719-06-8	0.1	%		----	116	99.5	----	----
4-Terphenyl-d14	1718-51-0	0.1	%		----	115	90.4	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE4 0.3V	BE4 0.7V	BE5 0.0-0.5A	BE5 0.5-1.0A	BE5 0.0-0.5B
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-023	ES1503461-024	ES1503461-025	ES1503461-026	ES1503461-027
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	----	**28**
+150µm	----	1	%		----	----	----	----	**13**
+300µm	----	1	%		----	----	----	----	**10**
+425µm	----	1	%		----	----	----	----	**10**
+600µm	----	1	%		----	----	----	----	**9**
+1180µm	----	1	%		----	----	----	----	**8**
+2.36mm	----	1	%		----	----	----	----	**7**
+4.75mm	----	1	%		----	----	----	----	**5**
+9.5mm	----	1	%		----	----	----	----	<1
+19.0mm	----	1	%		----	----	----	----	<1
+37.5mm	----	1	%		----	----	----	----	<1
+75.0mm	----	1	%		----	----	----	----	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**30.5**	**35.9**	**48.6**	**44.4**	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	----	**25**
Silt (2-60 µm)	----	1	%		----	----	----	----	**34**
Sand (0.06-2.00 mm)	----	1	%		----	----	----	----	**34**
Gravel (>2mm)	----	1	%		----	----	----	----	**7**
Cobbles (>6cm)	----	1	%		----	----	----	----	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	----	**2.60**
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	**17600**	**17200**	----
Iron	7439-89-6	50	mg/kg		----	----	**25800**	**18200**	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	<0.50	<0.50	----
Arsenic	7440-38-2	1.00	mg/kg		----	----	**11.0**	**6.26**	----
Cadmium	7440-43-9	0.1	mg/kg		----	----	<0.1	<0.1	----
Chromium	7440-47-3	1.0	mg/kg		----	----	**23.4**	**19.9**	----
Copper	7440-50-8	1.0	mg/kg		----	----	**33.4**	**33.9**	----
Cobalt	7440-48-4	0.5	mg/kg		----	----	**13.2**	**7.9**	----
Lead	7439-92-1	1.0	mg/kg		----	----	**9.2**	**8.7**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE4 0.3V	BE4 0.7V	BE5 0.0-0.5A	BE5 0.5-1.0A	BE5 0.0-0.5B
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-023	ES1503461-024	ES1503461-025	ES1503461-026	ES1503461-027
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	**369**	**243**	----
Nickel	7440-02-0	1.0	mg/kg		----	----	**12.6**	**10.0**	----
Selenium	7782-49-2	0.1	mg/kg		----	----	**1.0**	**1.0**	----
Silver	7440-22-4	0.1	mg/kg		----	----	<0.5	<0.5	----
Vanadium	7440-62-2	2.0	mg/kg		----	----	**63.5**	**57.6**	----
Zinc	7440-66-6	1.0	mg/kg		----	----	**43.3**	**39.2**	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	**0.02**	**0.02**	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	<0.1	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	<0.1	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	<0.1	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	**600**	**620**	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	**600**	**620**	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	**196**	**145**	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	**10.3**	**8.4**	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	**1.37**	**1.42**	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	<3	**3**	----
>C16 - C34 Fraction	----	3	mg/kg		----	----	**10**	**35**	----
>C34 - C40 Fraction	----	5	mg/kg		----	----	**8**	**20**	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	**18**	**58**	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	<3	----	----	----
C10 - C14 Fraction	----	3	mg/kg		----	----	<3	<3	----
C15 - C28 Fraction	----	3	mg/kg		----	----	**5**	**19**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE4 0.3V	BE4 0.7V	BE5 0.0-0.5A	BE5 0.5-1.0A	BE5 0.0-0.5B
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-023	ES1503461-024	ES1503461-025	ES1503461-026	ES1503461-027
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	**11**	**28**	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	**16**	**47**	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	<3	----	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	----	----
Toluene	108-88-3	0.2	mg/kg		<0.2	<0.2	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	<0.2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	<0.2	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	<0.2	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	<1	<1	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	<1	<1	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	<0.5	<0.5	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	<10	<10	----
Carbophenothion	786-19-6	10	µg/kg		----	----	<10	<10	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	<10.0	<10.0	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	<10	<10	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	<10	<10	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	<10	<10	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	<10	<10	----
Diazinon	333-41-5	10	µg/kg		----	----	<10	<10	----
Dichlorvos	62-73-7	10	µg/kg		----	----	<10	<10	----
Dimethoate	60-51-5	10	µg/kg		----	----	<10	<10	----
Ethion	563-12-2	10	µg/kg		----	----	<10	<10	----
Fenamiphos	22224-92-6	10	µg/kg		----	----	<10	<10	----
Fenthion	55-38-9	10	µg/kg		----	----	<10	<10	----
Malathion	121-75-5	10	µg/kg		----	----	<10	<10	----
Azinphos Methyl	86-50-0	10	µg/kg		----	----	<10	<10	----
Monocrotophos	6923-22-4	10	µg/kg		----	----	<10	<10	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE4 0.3V	BE4 0.7V	BE5 0.0-0.5A	BE5 0.5-1.0A	BE5 0.0-0.5B
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-023	ES1503461-024	ES1503461-025	ES1503461-026	ES1503461-027
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	<10	<10	----
Parathion-methyl	298-00-0	10	µg/kg		----	----	<10	<10	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	<10	<10	----
Prothiofos	34643-46-4	10	µg/kg		----	----	<10	<10	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	<0.50	<0.50	----
alpha-BHC	319-84-6	0.50	µg/kg		----	----	<0.50	<0.50	----
beta-BHC	319-85-7	0.50	µg/kg		----	----	<0.50	<0.50	----
delta-BHC	319-86-8	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	<0.50	<0.50	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	----	<0.50	<0.50	----
Dieldrin	60-57-1	0.50	µg/kg		----	----	<0.50	<0.50	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	<0.50	<0.50	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	<0.50	<0.50	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	<0.50	<0.50	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin	72-20-8	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	<0.50	<0.50	----
Heptachlor	76-44-8	0.50	µg/kg		----	----	<0.50	<0.50	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	<0.50	<0.50	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	<0.50	<0.50	----
gamma-BHC	58-89-9	0.25	µg/kg		----	----	<0.25	<0.25	----
Methoxychlor	72-43-5	0.50	µg/kg		----	----	<0.50	<0.50	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	<0.25	<0.25	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	<0.25	<0.25	----
^ Total Chlordane (sum)	----	0.25	µg/kg		----	----	<0.25	<0.25	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	<0.50	<0.50	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	<5.0	<5.0	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE4 0.3V	BE4 0.7V	BE5 0.0-0.5A	BE5 0.5-1.0A	BE5 0.0-0.5B
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-023	ES1503461-024	ES1503461-025	ES1503461-026	ES1503461-027
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	<5.0	<5.0	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	<5	<5	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	<5	<5	----
Acenaphthylene	208-96-8	4	µg/kg		----	----	<4	<4	----
Acenaphthene	83-32-9	4	µg/kg		----	----	<4	<4	----
Fluorene	86-73-7	4	µg/kg		----	----	<4	<4	----
Phenanthrene	85-01-8	4	µg/kg		----	----	<4	<4	----
Anthracene	120-12-7	4	µg/kg		----	----	<4	<4	----
Fluoranthene	206-44-0	4	µg/kg		----	----	<4	<4	----
Pyrene	129-00-0	4	µg/kg		----	----	<4	<4	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	<4	<4	----
Chrysene	218-01-9	4	µg/kg		----	----	<4	<4	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	<4	<4	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	<4	<4	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	<4	<4	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	<4	<4	----
Perylene	198-55-0	4	µg/kg		----	----	<4	<4	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	<4	<4	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	<4	<4	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	<4	<4	----
Coronene	191-07-1	5	µg/kg		----	----	<5	<5	----
^ **Sum of PAHs**	----	4	µg/kg		----	----	<4	<4	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**82.7**	**92.8**	----	----	----
Toluene-D8	2037-26-5	0.1	%		**76.0**	**77.4**	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**74.4**	**77.3**	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	**62.5**	**76.8**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BE4 0.3V	BE4 0.7V	BE5 0.0-0.5A	BE5 0.5-1.0A	BE5 0.0-0.5B
			Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503461-023	ES1503461-024	ES1503461-025	ES1503461-026	ES1503461-027
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	69.2	68.2	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	64.5	64.0	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	52.1	41.1	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	86.0	93.4	----
Anthracene-d10	1719-06-8	0.1	%	----	----	92.3	103	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	103	111	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE5 0.5-1.0B	BE5 0.3V	BE5 0.7V	BE6 0.0-0.5A	BE6 0.5-1.0A
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-028	ES1503461-029	ES1503461-030	ES1503461-031	ES1503461-032
EA150: Particle Sizing									
+75µm	----	1	%		**1**	----	----	----	----
+150µm	----	1	%		**1**	----	----	----	----
+300µm	----	1	%		<1	----	----	----	----
+425µm	----	1	%		<1	----	----	----	----
+600µm	----	1	%		<1	----	----	----	----
+1180µm	----	1	%		<1	----	----	----	----
+2.36mm	----	1	%		<1	----	----	----	----
+4.75mm	----	1	%		<1	----	----	----	----
+9.5mm	----	1	%		<1	----	----	----	----
+19.0mm	----	1	%		<1	----	----	----	----
+37.5mm	----	1	%		<1	----	----	----	----
+75.0mm	----	1	%		<1	----	----	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	**41.1**	**42.2**	**40.6**	**59.0**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		**74**	----	----	----	----
Silt (2-60 µm)	----	1	%		**20**	----	----	----	----
Sand (0.06-2.00 mm)	----	1	%		**6**	----	----	----	----
Gravel (>2mm)	----	1	%		<1	----	----	----	----
Cobbles (>6cm)	----	1	%		<1	----	----	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		**2.67**	----	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	----	**13300**	**15800**
Iron	7439-89-6	50	mg/kg		----	----	----	**15600**	**24900**
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	----	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	----	----	**8.72**	**7.38**
Cadmium	7440-43-9	0.1	mg/kg		----	----	----	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	----	----	**17.8**	**15.8**
Copper	7440-50-8	1.0	mg/kg		----	----	----	**18.6**	**38.9**
Cobalt	7440-48-4	0.5	mg/kg		----	----	----	**9.3**	**8.1**
Lead	7439-92-1	1.0	mg/kg		----	----	----	**7.3**	**8.2**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE5 0.5-1.0B	BE5 0.3V	BE5 0.7V	BE6 0.0-0.5A	BE6 0.5-1.0A
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-028	ES1503461-029	ES1503461-030	ES1503461-031	ES1503461-032
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	----	**118**	**184**
Nickel	7440-02-0	1.0	mg/kg		----	----	----	**8.6**	**12.6**
Selenium	7782-49-2	0.1	mg/kg		----	----	----	**0.7**	**1.3**
Silver	7440-22-4	0.1	mg/kg		----	----	----	<0.5	<0.5
Vanadium	7440-62-2	2.0	mg/kg		----	----	----	**48.5**	**52.8**
Zinc	7440-66-6	1.0	mg/kg		----	----	----	**29.7**	**28.5**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	----	**0.02**	**0.02**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	----	<0.1	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	<0.1	**0.1**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	<0.1	**0.1**
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	----	**360**	**1300**
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	----	**360**	**1300**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	----	**154**	**165**
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	----	**4.5**	**7.4**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	----	**0.63**	**4.00**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	----	<3	**4**
>C16 - C34 Fraction	----	3	mg/kg		----	----	----	**12**	**31**
>C34 - C40 Fraction	----	5	mg/kg		----	----	----	**8**	**16**
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	----	**20**	**51**
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	<3	<3	----	----
C10 - C14 Fraction	----	3	mg/kg		----	----	----	<3	<3
C15 - C28 Fraction	----	3	mg/kg		----	----	----	**5**	**21**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE5 0.5-1.0B	BE5 0.3V	BE5 0.7V	BE6 0.0-0.5A	BE6 0.5-1.0A
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-028	ES1503461-029	ES1503461-030	ES1503461-031	ES1503461-032
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	----	**11**	**22**
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	----	**16**	**43**
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	<3	<3	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	<0.2	<0.2	----	----
Toluene	108-88-3	0.2	mg/kg		----	<0.2	<0.2	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	<0.2	<0.2	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	<0.2	<0.2	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	<0.2	<0.2	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	<0.5	<0.5	----	----
^ Sum of BTEX	----	0.2	mg/kg		----	<0.2	<0.2	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	----	<1	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	----	<1	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	----	<0.5	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	----	<10	<10
Carbophenothion	786-19-6	10	µg/kg		----	----	----	<10	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	----	<10.0	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	----	<10	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	----	<10	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	----	<10	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	----	<10	<10
Diazinon	333-41-5	10	µg/kg		----	----	----	<10	<10
Dichlorvos	62-73-7	10	µg/kg		----	----	----	<10	<10
Dimethoate	60-51-5	10	µg/kg		----	----	----	<10	<10
Ethion	563-12-2	10	µg/kg		----	----	----	<10	<10
Fenamiphos	22224-92-6	10	µg/kg		----	----	----	<10	<10
Fenthion	55-38-9	10	µg/kg		----	----	----	<10	<10
Malathion	121-75-5	10	µg/kg		----	----	----	<10	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	----	----	<10	<10
Monocrotophos	6923-22-4	10	µg/kg		----	----	----	<10	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE5 0.5-1.0B	BE5 0.3V	BE5 0.7V	BE6 0.0-0.5A	BE6 0.5-1.0A
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-028	ES1503461-029	ES1503461-030	ES1503461-031	ES1503461-032
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	----	<10	<10
Parathion-methyl	298-00-0	10	µg/kg		----	----	----	<10	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	----	<10	<10
Prothiofos	34643-46-4	10	µg/kg		----	----	----	<10	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	----	<0.50	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	----	----	<0.50	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	----	----	<0.50	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	----	----	<0.50	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	----	<0.50	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	----	<0.50	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	----	<0.50	<0.50
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	----	----	<0.50	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	----	----	<0.50	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	----	<0.50	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	----	<0.50	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	----	<0.50	<0.50
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	----	----	<0.50	<0.50
Endrin	72-20-8	0.50	µg/kg		----	----	----	<0.50	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	----	<0.50	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	----	<0.50	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	----	----	<0.50	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	----	<0.50	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	----	<0.50	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	----	----	<0.25	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	----	----	<0.50	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	----	<0.25	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	----	<0.25	<0.25
^ Total Chlordane (sum)	----	0.25	µg/kg		----	----	----	<0.25	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	----	<0.50	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	----	<5.0	<5.0

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE5 0.5-1.0B	BE5 0.3V	BE5 0.7V	BE6 0.0-0.5A	BE6 0.5-1.0A
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-028	ES1503461-029	ES1503461-030	ES1503461-031	ES1503461-032
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	----	<5.0	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	----	<5	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	----	<5	<5
Acenaphthylene	208-96-8	4	µg/kg		----	----	----	<4	<4
Acenaphthene	83-32-9	4	µg/kg		----	----	----	<4	<4
Fluorene	86-73-7	4	µg/kg		----	----	----	<4	<4
Phenanthrene	85-01-8	4	µg/kg		----	----	----	<4	<4
Anthracene	120-12-7	4	µg/kg		----	----	----	<4	<4
Fluoranthene	206-44-0	4	µg/kg		----	----	----	<4	<4
Pyrene	129-00-0	4	µg/kg		----	----	----	<4	<4
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	----	<4	<4
Chrysene	218-01-9	4	µg/kg		----	----	----	<4	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	----	<4	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	----	<4	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	----	<4	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	----	<4	<4
Perylene	198-55-0	4	µg/kg		----	----	----	<4	<5
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	----	<4	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	----	<4	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	----	<4	<4
Coronene	191-07-1	5	µg/kg		----	----	----	<5	<5
^ **Sum of PAHs**	----	4	µg/kg		----	----	----	<4	<4
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	**91.9**	**69.7**	----	----
Toluene-D8	2037-26-5	0.1	%		----	**86.8**	**60.5**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	**78.0**	**59.1**	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	----	**83.7**	**91.4**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BE5 0.5-1.0B	BE5 0.3V	BE5 0.7V	BE6 0.0-0.5A	BE6 0.5-1.0A
			Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503461-028	ES1503461-029	ES1503461-030	ES1503461-031	ES1503461-032
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	----	66.8	74.6
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	----	67.9	67.9
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	51.2	100
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	86.9	90.5
Anthracene-d10	1719-06-8	0.1	%	----	----	----	99.4	89.0
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	96.2	119

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE6 0.0-0.5B	BE6 0.5-1.0B	BE6 0.3V	BE6 0.7V	BE8 0.0-0.5A
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-033	ES1503461-034	ES1503461-035	ES1503461-036	ES1503461-037
EA150: Particle Sizing									
+75µm	----	1	%		**31**	**12**	----	----	----
+150µm	----	1	%		**18**	**4**	----	----	----
+300µm	----	1	%		**14**	**2**	----	----	----
+425µm	----	1	%		**13**	**1**	----	----	----
+600µm	----	1	%		**13**	<1	----	----	----
+1180µm	----	1	%		**11**	<1	----	----	----
+2.36mm	----	1	%		**9**	<1	----	----	----
+4.75mm	----	1	%		**6**	<1	----	----	----
+9.5mm	----	1	%		**2**	<1	----	----	----
+19.0mm	----	1	%		<1	<1	----	----	----
+37.5mm	----	1	%		<1	<1	----	----	----
+75.0mm	----	1	%		<1	<1	----	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	----	**39.8**	**47.0**	**46.1**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		**32**	**49**	----	----	----
Silt (2-60 µm)	----	1	%		**28**	**32**	----	----	----
Sand (0.06-2.00 mm)	----	1	%		**30**	**19**	----	----	----
Gravel (>2mm)	----	1	%		**10**	<1	----	----	----
Cobbles (>6cm)	----	1	%		<1	<1	----	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		**2.68**	**2.69**	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	----	----	**17300**
Iron	7439-89-6	50	mg/kg		----	----	----	----	**20400**
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	----	----	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	----	----	----	**7.62**
Cadmium	7440-43-9	0.1	mg/kg		----	----	----	----	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	----	----	----	**19.9**
Copper	7440-50-8	1.0	mg/kg		----	----	----	----	**34.1**
Cobalt	7440-48-4	0.5	mg/kg		----	----	----	----	**12.1**
Lead	7439-92-1	1.0	mg/kg		----	----	----	----	**8.2**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE6 0.0-0.5B	BE6 0.5-1.0B	BE6 0.3V	BE6 0.7V	BE8 0.0-0.5A
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-033	ES1503461-034	ES1503461-035	ES1503461-036	ES1503461-037
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	----	----	**197**
Nickel	7440-02-0	1.0	mg/kg		----	----	----	----	**11.3**
Selenium	7782-49-2	0.1	mg/kg		----	----	----	----	**0.9**
Silver	7440-22-4	0.1	mg/kg		----	----	----	----	<0.5
Vanadium	7440-62-2	2.0	mg/kg		----	----	----	----	**61.9**
Zinc	7440-66-6	1.0	mg/kg		----	----	----	----	**37.8**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	----	----	**0.02**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	----	----	**670**
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	----	----	**670**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	----	----	**182**
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	----	----	**5.1**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	----	----	**1.39**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	----	----	<3
>C16 - C34 Fraction	----	3	mg/kg		----	----	----	----	**22**
>C34 - C40 Fraction	----	5	mg/kg		----	----	----	----	**12**
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	----	----	**34**
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	<3	<3	----
C10 - C14 Fraction	----	3	mg/kg		----	----	----	----	<3
C15 - C28 Fraction	----	3	mg/kg		----	----	----	----	**11**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE6 0.0-0.5B	BE6 0.5-1.0B	BE6 0.3V	BE6 0.7V	BE8 0.0-0.5A
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-033	ES1503461-034	ES1503461-035	ES1503461-036	ES1503461-037
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	----	----	19
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	----	----	30
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	<3	<3	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	<0.2	<0.2	----
Toluene	108-88-3	0.2	mg/kg		----	----	<0.2	<0.2	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	<0.2	<0.2	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	<0.2	<0.2	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	<0.2	<0.2	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	<0.5	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg		----	----	<0.2	<0.2	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	----	----	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	----	----	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	----	----	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	----	----	<10
Carbophenothion	786-19-6	10	µg/kg		----	----	----	----	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	----	----	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	----	----	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	----	----	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	----	----	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	----	----	<10
Diazinon	333-41-5	10	µg/kg		----	----	----	----	<10
Dichlorvos	62-73-7	10	µg/kg		----	----	----	----	<10
Dimethoate	60-51-5	10	µg/kg		----	----	----	----	<10
Ethion	563-12-2	10	µg/kg		----	----	----	----	<10
Fenamiphos	22224-92-6	10	µg/kg		----	----	----	----	<10
Fenthion	55-38-9	10	µg/kg		----	----	----	----	<10
Malathion	121-75-5	10	µg/kg		----	----	----	----	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	----	----	----	<10
Monocrotophos	6923-22-4	10	µg/kg		----	----	----	----	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE6 0.0-0.5B	BE6 0.5-1.0B	BE6 0.3V	BE6 0.7V	BE8 0.0-0.5A
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-033	ES1503461-034	ES1503461-035	ES1503461-036	ES1503461-037
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	----	----	<10
Parathion-methyl	298-00-0	10	µg/kg		----	----	----	----	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	----	----	<10
Prothiofos	34643-46-4	10	µg/kg		----	----	----	----	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	----	----	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	----	----	----	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	----	----	----	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	----	----	<0.50
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	----	----	----	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	----	----	----	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	----	----	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	----	----	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	----	----	<0.50
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	----	----	----	<0.50
Endrin	72-20-8	0.50	µg/kg		----	----	----	----	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	----	----	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	----	----	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	----	----	----	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	----	----	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	----	----	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	----	----	----	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	----	----	----	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	----	----	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	----	----	<0.25
^ Total Chlordane (sum)	----	0.25	µg/kg		----	----	----	----	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	----	----	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	----	----	<5.0

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE6 0.0-0.5B	BE6 0.5-1.0B	BE6 0.3V	BE6 0.7V	BE8 0.0-0.5A
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-033	ES1503461-034	ES1503461-035	ES1503461-036	ES1503461-037
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	----	----	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	----	----	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	----	----	<5
Acenaphthylene	208-96-8	4	µg/kg		----	----	----	----	<4
Acenaphthene	83-32-9	4	µg/kg		----	----	----	----	<4
Fluorene	86-73-7	4	µg/kg		----	----	----	----	<4
Phenanthrene	85-01-8	4	µg/kg		----	----	----	----	<4
Anthracene	120-12-7	4	µg/kg		----	----	----	----	<4
Fluoranthene	206-44-0	4	µg/kg		----	----	----	----	<4
Pyrene	129-00-0	4	µg/kg		----	----	----	----	<4
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	----	----	<4
Chrysene	218-01-9	4	µg/kg		----	----	----	----	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	----	----	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	----	----	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	----	----	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	----	----	<4
Perylene	198-55-0	4	µg/kg		----	----	----	----	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	----	----	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	----	----	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	----	----	<4
Coronene	191-07-1	5	µg/kg		----	----	----	----	<5
^ **Sum of PAHs**	----	4	µg/kg		----	----	----	----	<4
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	**75.9**	**84.1**	----
Toluene-D8	2037-26-5	0.1	%		----	----	**92.6**	**99.0**	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	**89.2**	**93.6**	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	----	----	**95.0**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BE6 0.0-0.5B	BE6 0.5-1.0B	BE6 0.3V	BE6 0.7V	BE8 0.0-0.5A
			Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503461-033	ES1503461-034	ES1503461-035	ES1503461-036	ES1503461-037
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	----	----	64.1
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	----	----	66.8
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	----	86.6
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	----	96.6
Anthracene-d10	1719-06-8	0.1	%	----	----	----	----	88.3
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	----	92.8

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE8 0.5-1.0A	BE8 0.0-0.5B	BE8 0.5-1.0B	BE8 0.3V	BE8 0.7V
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-038	ES1503461-039	ES1503461-040	ES1503461-041	ES1503461-042
EA150: Particle Sizing									
+75µm	----	1	%		----	**39**	**2**	----	----
+150µm	----	1	%		----	**31**	<1	----	----
+300µm	----	1	%		----	**28**	<1	----	----
+425µm	----	1	%		----	**27**	<1	----	----
+600µm	----	1	%		----	**26**	<1	----	----
+1180µm	----	1	%		----	**24**	<1	----	----
+2.36mm	----	1	%		----	**20**	<1	----	----
+4.75mm	----	1	%		----	**13**	<1	----	----
+9.5mm	----	1	%		----	**3**	<1	----	----
+19.0mm	----	1	%		----	<1	<1	----	----
+37.5mm	----	1	%		----	<1	<1	----	----
+75.0mm	----	1	%		----	<1	<1	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**43.6**	----	----	**48.4**	**42.4**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	**30**	**73**	----	----
Silt (2-60 µm)	----	1	%		----	**25**	**22**	----	----
Sand (0.06-2.00 mm)	----	1	%		----	**24**	**5**	----	----
Gravel (>2mm)	----	1	%		----	**21**	<1	----	----
Cobbles (>6cm)	----	1	%		----	<1	<1	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	**2.67**	**2.63**	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**15700**	----	----	----	----
Iron	7439-89-6	50	mg/kg		**18400**	----	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	----	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		**6.14**	----	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	----	----	----	----
Chromium	7440-47-3	1.0	mg/kg		**16.9**	----	----	----	----
Copper	7440-50-8	1.0	mg/kg		**37.2**	----	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		**8.8**	----	----	----	----
Lead	7439-92-1	1.0	mg/kg		**8.2**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE8 0.5-1.0A	BE8 0.0-0.5B	BE8 0.5-1.0B	BE8 0.3V	BE8 0.7V
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-038	ES1503461-039	ES1503461-040	ES1503461-041	ES1503461-042
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		198	----	----	----	----
Nickel	7440-02-0	1.0	mg/kg		9.9	----	----	----	----
Selenium	7782-49-2	0.1	mg/kg		1.1	----	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.5	----	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		59.7	----	----	----	----
Zinc	7440-66-6	1.0	mg/kg		33.0	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		0.02	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		760	----	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		760	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		166	----	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		7.5	----	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		3.93	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	----	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		10	----	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		6	----	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		16	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	<3	<3
C10 - C14 Fraction	----	3	mg/kg		<3	----	----	----	----
C15 - C28 Fraction	----	3	mg/kg		4	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BE8 0.5-1.0A	BE8 0.0-0.5B	BE8 0.5-1.0B	BE8 0.3V	BE8 0.7V
			Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503461-038	ES1503461-039	ES1503461-040	ES1503461-041	ES1503461-042
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued								
C29 - C36 Fraction	----	5	mg/kg	10	----	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg	14	----	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons								
C6 - C10 Fraction	C6_C10	3	mg/kg	----	----	----	<3	<3
EP080-SD: BTEXN								
Benzene	71-43-2	0.2	mg/kg	----	----	----	<0.2	<0.2
Toluene	108-88-3	0.2	mg/kg	----	----	----	<0.2	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg	----	----	----	<0.2	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	----	----	----	<0.2	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg	----	----	----	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	----	----	----	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	----	----	----	<0.2	<0.2
EP090: Organotin Compounds								
Monobutyltin	78763-54-9	1	µgSn/kg	<1	----	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg	<1	----	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	----	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)								
Bromophos-ethyl	4824-78-6	10	µg/kg	<10	----	----	----	----
Carbophenothion	786-19-6	10	µg/kg	<10	----	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	----	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	----	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg	<10	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	----	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg	<10	----	----	----	----
Diazinon	333-41-5	10	µg/kg	<10	----	----	----	----
Dichlorvos	62-73-7	10	µg/kg	<10	----	----	----	----
Dimethoate	60-51-5	10	µg/kg	<10	----	----	----	----
Ethion	563-12-2	10	µg/kg	<10	----	----	----	----
Fenamiphos	22224-92-6	10	µg/kg	<10	----	----	----	----
Fenthion	55-38-9	10	µg/kg	<10	----	----	----	----
Malathion	121-75-5	10	µg/kg	<10	----	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg	<10	----	----	----	----
Monocrotophos	6923-22-4	10	µg/kg	<10	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE8 0.5-1.0A	BE8 0.0-0.5B	BE8 0.5-1.0B	BE8 0.3V	BE8 0.7V
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-038	ES1503461-039	ES1503461-040	ES1503461-041	ES1503461-042
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	----	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	----	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	----	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	----	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	----	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	----	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	----	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	----	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	----	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	----	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	----	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	----	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	----	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	----	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	----	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	----	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	----	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	----	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	----	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	----	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	----	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	----	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	----	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	----	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	----	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE8 0.5-1.0A	BE8 0.0-0.5B	BE8 0.5-1.0B	BE8 0.3V	BE8 0.7V
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-038	ES1503461-039	ES1503461-040	ES1503461-041	ES1503461-042
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	----	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	----	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	----	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	----	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	----	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	----	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	----	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	----	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	----	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	----	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	----	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	----	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	----	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	----	----	----	----
Perylene	198-55-0	4	µg/kg		<4	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	----	----	----	----
Coronene	191-07-1	5	µg/kg		<5	----	----	----	----
^ **Sum of PAHs**	----	4	µg/kg		<4	----	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	**81.3**	**65.5**
Toluene-D8	2037-26-5	0.1	%		----	----	----	**86.9**	**54.7**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	**91.3**	**56.8**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**67.7**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BE8 0.5-1.0A	BE8 0.0-0.5B	BE8 0.5-1.0B	BE8 0.3V	BE8 0.7V
			Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503461-038	ES1503461-039	ES1503461-040	ES1503461-041	ES1503461-042
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**82.9**	----	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**70.8**	----	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**81.6**	----	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**89.7**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**109**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	**104**	----	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE11 0.0-0.5A	BE11 0.5-1.0A	BE11 0.0-0.5B	BE11 0.5-1.0B	BE11 0.3V
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-043	ES1503461-044	ES1503461-045	ES1503461-046	ES1503461-047
EA150: Particle Sizing									
+75µm	----	1	%		----	----	**23**	**9**	----
+150µm	----	1	%		----	----	**12**	**8**	----
+300µm	----	1	%		----	----	**7**	**7**	----
+425µm	----	1	%		----	----	**6**	**5**	----
+600µm	----	1	%		----	----	**5**	**4**	----
+1180µm	----	1	%		----	----	**3**	**2**	----
+2.36mm	----	1	%		----	----	**2**	<1	----
+4.75mm	----	1	%		----	----	**1**	<1	----
+9.5mm	----	1	%		----	----	<1	<1	----
+19.0mm	----	1	%		----	----	<1	<1	----
+37.5mm	----	1	%		----	----	<1	<1	----
+75.0mm	----	1	%		----	----	<1	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**47.7**	**61.1**	----	----	**46.7**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	**39**	**71**	----
Silt (2-60 µm)	----	1	%		----	----	**32**	**14**	----
Sand (0.06-2.00 mm)	----	1	%		----	----	**27**	**14**	----
Gravel (>2mm)	----	1	%		----	----	**2**	**1**	----
Cobbles (>6cm)	----	1	%		----	----	<1	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	**2.63**	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**15600**	**17600**	----	----	----
Iron	7439-89-6	50	mg/kg		**14800**	**21400**	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		**3.10**	**5.81**	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	----	----	----
Chromium	7440-47-3	1.0	mg/kg		**18.1**	**16.2**	----	----	----
Copper	7440-50-8	1.0	mg/kg		**33.0**	**54.8**	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		**7.1**	**10.9**	----	----	----
Lead	7439-92-1	1.0	mg/kg		**8.1**	**9.5**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE11 0.0-0.5A	BE11 0.5-1.0A	BE11 0.0-0.5B	BE11 0.5-1.0B	BE11 0.3V
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-043	ES1503461-044	ES1503461-045	ES1503461-046	ES1503461-047
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		213	472	----	----	----
Nickel	7440-02-0	1.0	mg/kg		10.5	12.9	----	----	----
Selenium	7782-49-2	0.1	mg/kg		0.9	1.4	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.5	<0.5	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		52.2	64.8	----	----	----
Zinc	7440-66-6	1.0	mg/kg		33.2	37.8	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		0.02	0.02	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		780	1470	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		780	1470	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		171	145	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		6.0	7.9	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		3.28	6.82	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		4	18	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		67	272	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		50	95	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		121	385	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		3	8	----	----	----
C15 - C28 Fraction	----	3	mg/kg		33	182	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE11 0.0-0.5A	BE11 0.5-1.0A	BE11 0.0-0.5B	BE11 0.5-1.0B	BE11 0.3V
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503461-043	ES1503461-044	ES1503461-045	ES1503461-046	ES1503461-047
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		70	146	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		106	336	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	----	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	<1	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	<1	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	<0.5	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	<10	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	<10	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	<10.0	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	<10	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	<10	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	<10	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	<10	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	<10	----	----	----
Ethion	563-12-2	10	µg/kg		<10	<10	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	<10	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	<10	----	----	----
Malathion	121-75-5	10	µg/kg		<10	<10	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	<10	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	<10	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE11 0.0-0.5A	BE11 0.5-1.0A	BE11 0.0-0.5B	BE11 0.5-1.0B	BE11 0.3V
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-043	ES1503461-044	ES1503461-045	ES1503461-046	ES1503461-047
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	<10	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	<10	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	<10	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	<10	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	<0.50	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	<0.50	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	<0.50	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	<0.50	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	<0.50	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	<0.25	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	<0.50	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	<0.25	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	<0.25	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	<0.25	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	<0.50	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	<5.0	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE11 0.0-0.5A	BE11 0.5-1.0A	BE11 0.0-0.5B	BE11 0.5-1.0B	BE11 0.3V
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-043	ES1503461-044	ES1503461-045	ES1503461-046	ES1503461-047
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	<5.0	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	<5	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	<5	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	<4	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	<4	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	<4	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	<4	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	<4	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	<4	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	<4	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	<4	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	<4	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	<4	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	<4	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	<4	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	<4	----	----	----
Perylene	198-55-0	4	µg/kg		<4	<4	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	<4	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	<4	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	<4	----	----	----
Coronene	191-07-1	5	µg/kg		<5	<5	----	----	----
^ **Sum of PAHs**	----	4	µg/kg		<4	<4	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	----	**78.3**
Toluene-D8	2037-26-5	0.1	%		----	----	----	----	**84.4**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	----	**86.4**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**82.8**	**76.3**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BE11 0.0-0.5A	BE11 0.5-1.0A	BE11 0.0-0.5B	BE11 0.5-1.0B	BE11 0.3V
			Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503461-043	ES1503461-044	ES1503461-045	ES1503461-046	ES1503461-047
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	66.5	71.8	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	59.7	44.2	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	54.6	75.1	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	85.0	84.8	----	----	----
Anthracene-d10	1719-06-8	0.1	%	123	94.9	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	113	92.0	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE11 0.7V	BE12 0.0-0.5A	BE12 0.5-1.0A	BE12 0.0-0.5B	BE12 0.5-1.0B
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-048	ES1503461-049	ES1503461-050	ES1503461-051	ES1503461-052
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	**30**	**4**
+150µm	----	1	%		----	----	----	**16**	**3**
+300µm	----	1	%		----	----	----	**11**	**2**
+425µm	----	1	%		----	----	----	**9**	**2**
+600µm	----	1	%		----	----	----	**8**	**1**
+1180µm	----	1	%		----	----	----	**7**	<1
+2.36mm	----	1	%		----	----	----	**5**	<1
+4.75mm	----	1	%		----	----	----	**3**	<1
+9.5mm	----	1	%		----	----	----	**2**	<1
+19.0mm	----	1	%		----	----	----	<1	<1
+37.5mm	----	1	%		----	----	----	<1	<1
+75.0mm	----	1	%		----	----	----	<1	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**58.4**	**36.3**	**47.8**	----	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	**35**	**71**
Silt (2-60 µm)	----	1	%		----	----	----	**28**	**21**
Sand (0.06-2.00 mm)	----	1	%		----	----	----	**31**	**7**
Gravel (>2mm)	----	1	%		----	----	----	**6**	**1**
Cobbles (>6cm)	----	1	%		----	----	----	<1	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	**2.69**	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	**12900**	**14000**	----	----
Iron	7439-89-6	50	mg/kg		----	**21000**	**26700**	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	<0.50	<0.50	----	----
Arsenic	7440-38-2	1.00	mg/kg		----	**13.3**	**11.4**	----	----
Cadmium	7440-43-9	0.1	mg/kg		----	<0.1	<0.1	----	----
Chromium	7440-47-3	1.0	mg/kg		----	**18.4**	**17.0**	----	----
Copper	7440-50-8	1.0	mg/kg		----	**24.0**	**45.1**	----	----
Cobalt	7440-48-4	0.5	mg/kg		----	**10.2**	**16.0**	----	----
Lead	7439-92-1	1.0	mg/kg		----	**7.8**	**8.9**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE11 0.7V	BE12 0.0-0.5A	BE12 0.5-1.0A	BE12 0.0-0.5B	BE12 0.5-1.0B
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-048	ES1503461-049	ES1503461-050	ES1503461-051	ES1503461-052
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	205	247	----	----
Nickel	7440-02-0	1.0	mg/kg		----	9.6	11.5	----	----
Selenium	7782-49-2	0.1	mg/kg		----	0.9	1.2	----	----
Silver	7440-22-4	0.1	mg/kg		----	<0.5	<0.5	----	----
Vanadium	7440-62-2	2.0	mg/kg		----	47.7	81.6	----	----
Zinc	7440-66-6	1.0	mg/kg		----	32.2	33.7	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	0.02	0.02	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	0.5	0.4	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	0.5	0.4	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	480	770	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	480	770	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	186	151	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	3.1	6.8	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	2.92	2.85	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	<3	3	----	----
>C16 - C34 Fraction	----	3	mg/kg		----	20	62	----	----
>C34 - C40 Fraction	----	5	mg/kg		----	13	33	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	33	98	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	----	----	----	----
C10 - C14 Fraction	----	3	mg/kg		----	<3	<3	----	----
C15 - C28 Fraction	----	3	mg/kg		----	8	39	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE11 0.7V	BE12 0.0-0.5A	BE12 0.5-1.0A	BE12 0.0-0.5B	BE12 0.5-1.0B
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503461-048	ES1503461-049	ES1503461-050	ES1503461-051	ES1503461-052
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	**19**	**39**	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	**27**	**78**	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	----	----	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.2	mg/kg		<0.2	----	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	----	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	----	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	<1	<1	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	<1	<1	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	<0.5	<0.5	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	<10	<10	----	----
Carbophenothion	786-19-6	10	µg/kg		----	<10	<10	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	<10.0	<10.0	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	<10	<10	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	<10	<10	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	<10	<10	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	<10	<10	----	----
Diazinon	333-41-5	10	µg/kg		----	<10	<10	----	----
Dichlorvos	62-73-7	10	µg/kg		----	<10	<10	----	----
Dimethoate	60-51-5	10	µg/kg		----	<10	<10	----	----
Ethion	563-12-2	10	µg/kg		----	<10	<10	----	----
Fenamiphos	22224-92-6	10	µg/kg		----	<10	<10	----	----
Fenthion	55-38-9	10	µg/kg		----	<10	<10	----	----
Malathion	121-75-5	10	µg/kg		----	<10	<10	----	----
Azinphos Methyl	86-50-0	10	µg/kg		----	<10	<10	----	----
Monocrotophos	6923-22-4	10	µg/kg		----	<10	<10	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE11 0.7V	BE12 0.0-0.5A	BE12 0.5-1.0A	BE12 0.0-0.5B	BE12 0.5-1.0B
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-048	ES1503461-049	ES1503461-050	ES1503461-051	ES1503461-052
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	<10	<10	----	----
Parathion-methyl	298-00-0	10	µg/kg		----	<10	<10	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	<10	<10	----	----
Prothiofos	34643-46-4	10	µg/kg		----	<10	<10	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg		----	<0.50	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	<0.50	<0.50	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	<0.50	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	<0.50	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	<0.50	<0.50	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	<0.50	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	<0.50	<0.50	----	----
gamma-BHC	58-89-9	0.25	µg/kg		----	<0.25	<0.25	----	----
Methoxychlor	72-43-5	0.50	µg/kg		----	<0.50	<0.50	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	<0.25	<0.25	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	<0.25	<0.25	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		----	<0.25	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	<0.50	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	<5.0	<5.0	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE11 0.7V	BE12 0.0-0.5A	BE12 0.5-1.0A	BE12 0.0-0.5B	BE12 0.5-1.0B
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503461-048	ES1503461-049	ES1503461-050	ES1503461-051	ES1503461-052
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	<5.0	<5.0	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	<5	<5	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	<5	<5	----	----
Acenaphthylene	208-96-8	4	µg/kg		----	<4	<4	----	----
Acenaphthene	83-32-9	4	µg/kg		----	<4	<4	----	----
Fluorene	86-73-7	4	µg/kg		----	<4	<4	----	----
Phenanthrene	85-01-8	4	µg/kg		----	<4	<4	----	----
Anthracene	120-12-7	4	µg/kg		----	<4	<4	----	----
Fluoranthene	206-44-0	4	µg/kg		----	<4	<4	----	----
Pyrene	129-00-0	4	µg/kg		----	<4	<4	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	<4	<4	----	----
Chrysene	218-01-9	4	µg/kg		----	<4	<4	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	<4	<4	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	<4	<4	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	<4	<4	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	<4	<4	----	----
Perylene	198-55-0	4	µg/kg		----	<4	<4	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	<4	<4	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	<4	<4	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	<4	<4	----	----
Coronene	191-07-1	5	µg/kg		----	<5	<5	----	----
^ Sum of PAHs	----	4	µg/kg		----	<4	<4	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**87.6**	----	----	----	----
Toluene-D8	2037-26-5	0.1	%		**96.4**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**89.3**	----	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	**64.6**	**92.8**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BE11 0.7V	BE12 0.0-0.5A	BE12 0.5-1.0A	BE12 0.0-0.5B	BE12 0.5-1.0B
			Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503461-048	ES1503461-049	ES1503461-050	ES1503461-051	ES1503461-052
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	69.1	70.0	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	48.9	53.2	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	58.9	86.2	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	81.1	92.9	----	----
Anthracene-d10	1719-06-8	0.1	%	----	96.3	104	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	106	113	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE12 0.3V	BE12 0.7V	BE13 0.0-0.5A	BE13 0.5-1.0A	BE13 0.0-0.5B
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-053	ES1503461-054	ES1503461-055	ES1503461-056	ES1503461-057
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	----	**42**
+150µm	----	1	%		----	----	----	----	**30**
+300µm	----	1	%		----	----	----	----	**20**
+425µm	----	1	%		----	----	----	----	**16**
+600µm	----	1	%		----	----	----	----	**14**
+1180µm	----	1	%		----	----	----	----	**10**
+2.36mm	----	1	%		----	----	----	----	**7**
+4.75mm	----	1	%		----	----	----	----	**4**
+9.5mm	----	1	%		----	----	----	----	<1
+19.0mm	----	1	%		----	----	----	----	<1
+37.5mm	----	1	%		----	----	----	----	<1
+75.0mm	----	1	%		----	----	----	----	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**40.7**	**49.5**	**42.7**	**40.8**	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	----	**27**
Silt (2-60 µm)	----	1	%		----	----	----	----	**25**
Sand (0.06-2.00 mm)	----	1	%		----	----	----	----	**40**
Gravel (>2mm)	----	1	%		----	----	----	----	**8**
Cobbles (>6cm)	----	1	%		----	----	----	----	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	----	**2.71**
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	**12600**	**13300**	----
Iron	7439-89-6	50	mg/kg		----	----	**21000**	**22400**	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	<0.50	<0.50	----
Arsenic	7440-38-2	1.00	mg/kg		----	----	**15.0**	**11.1**	----
Cadmium	7440-43-9	0.1	mg/kg		----	----	<0.1	<0.1	----
Chromium	7440-47-3	1.0	mg/kg		----	----	**16.6**	**16.8**	----
Copper	7440-50-8	1.0	mg/kg		----	----	**26.4**	**26.6**	----
Cobalt	7440-48-4	0.5	mg/kg		----	----	**13.9**	**11.8**	----
Lead	7439-92-1	1.0	mg/kg		----	----	**7.9**	**7.8**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE12 0.3V	BE12 0.7V	BE13 0.0-0.5A	BE13 0.5-1.0A	BE13 0.0-0.5B
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-053	ES1503461-054	ES1503461-055	ES1503461-056	ES1503461-057
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	303	155	----
Nickel	7440-02-0	1.0	mg/kg		----	----	9.6	9.8	----
Selenium	7782-49-2	0.1	mg/kg		----	----	0.9	0.8	----
Silver	7440-22-4	0.1	mg/kg		----	----	<0.5	<0.5	----
Vanadium	7440-62-2	2.0	mg/kg		----	----	59.2	55.3	----
Zinc	7440-66-6	1.0	mg/kg		----	----	31.2	32.8	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	0.02	0.02	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	<0.1	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	<0.1	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	<0.1	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	370	480	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	370	480	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	247	221	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	4.7	4.7	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	0.91	0.81	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	<3	<3	----
>C16 - C34 Fraction	----	3	mg/kg		----	----	28	31	----
>C34 - C40 Fraction	----	5	mg/kg		----	----	21	18	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	49	49	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	<3	----	----	----
C10 - C14 Fraction	----	3	mg/kg		----	----	4	<3	----
C15 - C28 Fraction	----	3	mg/kg		----	----	11	18	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE12 0.3V	BE12 0.7V	BE13 0.0-0.5A	BE13 0.5-1.0A	BE13 0.0-0.5B
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-053	ES1503461-054	ES1503461-055	ES1503461-056	ES1503461-057
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	**31**	**21**	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	**46**	**39**	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	<3	----	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	----	----
Toluene	108-88-3	0.2	mg/kg		<0.2	<0.2	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	<0.2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	<0.2	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	<0.2	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	<1	<1	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	<1	<1	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	<0.5	<0.5	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	<10	<10	----
Carbophenothion	786-19-6	10	µg/kg		----	----	<10	<10	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	<10.0	<10.0	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	<10	<10	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	<10	<10	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	<10	<10	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	<10	<10	----
Diazinon	333-41-5	10	µg/kg		----	----	<10	<10	----
Dichlorvos	62-73-7	10	µg/kg		----	----	<10	<10	----
Dimethoate	60-51-5	10	µg/kg		----	----	<10	<10	----
Ethion	563-12-2	10	µg/kg		----	----	<10	<10	----
Fenamiphos	22224-92-6	10	µg/kg		----	----	<10	<10	----
Fenthion	55-38-9	10	µg/kg		----	----	<10	<10	----
Malathion	121-75-5	10	µg/kg		----	----	<10	<10	----
Azinphos Methyl	86-50-0	10	µg/kg		----	----	<10	<10	----
Monocrotophos	6923-22-4	10	µg/kg		----	----	<10	<10	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE12 0.3V	BE12 0.7V	BE13 0.0-0.5A	BE13 0.5-1.0A	BE13 0.0-0.5B
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-053	ES1503461-054	ES1503461-055	ES1503461-056	ES1503461-057
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	<10	<10	----
Parathion-methyl	298-00-0	10	µg/kg		----	----	<10	<10	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	<10	<10	----
Prothiofos	34643-46-4	10	µg/kg		----	----	<10	<10	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	<0.50	<0.50	----
alpha-BHC	319-84-6	0.50	µg/kg		----	----	<0.50	<0.50	----
beta-BHC	319-85-7	0.50	µg/kg		----	----	<0.50	<0.50	----
delta-BHC	319-86-8	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	<0.50	<0.50	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	----	<0.50	<0.50	----
Dieldrin	60-57-1	0.50	µg/kg		----	----	<0.50	<0.50	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	<0.50	<0.50	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	<0.50	<0.50	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	<0.50	<0.50	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin	72-20-8	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	<0.50	<0.50	----
Heptachlor	76-44-8	0.50	µg/kg		----	----	<0.50	<0.50	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	<0.50	<0.50	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	<0.50	<0.50	----
gamma-BHC	58-89-9	0.25	µg/kg		----	----	<0.25	<0.25	----
Methoxychlor	72-43-5	0.50	µg/kg		----	----	<0.50	<0.50	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	<0.25	<0.25	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	<0.25	<0.25	----
^ Total Chlordane (sum)	----	0.25	µg/kg		----	----	<0.25	<0.25	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	<0.50	<0.50	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	<5.0	<5.0	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE12 0.3V	BE12 0.7V	BE13 0.0-0.5A	BE13 0.5-1.0A	BE13 0.0-0.5B
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-053	ES1503461-054	ES1503461-055	ES1503461-056	ES1503461-057
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	<5.0	<5.0	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	<5	<5	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	<5	<5	----
Acenaphthylene	208-96-8	4	µg/kg		----	----	<4	<4	----
Acenaphthene	83-32-9	4	µg/kg		----	----	<4	<4	----
Fluorene	86-73-7	4	µg/kg		----	----	<4	<4	----
Phenanthrene	85-01-8	4	µg/kg		----	----	<4	<4	----
Anthracene	120-12-7	4	µg/kg		----	----	<4	<4	----
Fluoranthene	206-44-0	4	µg/kg		----	----	<4	<4	----
Pyrene	129-00-0	4	µg/kg		----	----	<4	<4	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	<4	<4	----
Chrysene	218-01-9	4	µg/kg		----	----	<4	<4	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	<4	<4	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	<4	<4	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	<4	<4	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	<4	<4	----
Perylene	198-55-0	4	µg/kg		----	----	<4	<4	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	<4	<4	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	<4	<4	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	<4	<4	----
Coronene	191-07-1	5	µg/kg		----	----	<5	<5	----
^ **Sum of PAHs**	----	4	µg/kg		----	----	<4	<4	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**87.5**	**75.6**	----	----	----
Toluene-D8	2037-26-5	0.1	%		**99.1**	**82.4**	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**92.1**	**94.9**	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	**68.3**	**87.5**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BE12 0.3V	BE12 0.7V	BE13 0.0-0.5A	BE13 0.5-1.0A	BE13 0.0-0.5B
			Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503461-053	ES1503461-054	ES1503461-055	ES1503461-056	ES1503461-057
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	72.7	67.1	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	49.1	41.3	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	64.1	59.5	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	83.5	85.7	----
Anthracene-d10	1719-06-8	0.1	%	----	----	94.4	100	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	96.2	99.1	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE13 0.5-1.0B	BE13 0.3V	BE13 0.7V	WB17 0.0-0.5A	WB17 0.5-1.0A
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503461-058	ES1503461-059	ES1503461-060	ES1503461-061	ES1503461-062
EA150: Particle Sizing									
+75µm	----	1	%		7	----	----	----	----
+150µm	----	1	%		2	----	----	----	----
+300µm	----	1	%		1	----	----	----	----
+425µm	----	1	%		1	----	----	----	----
+600µm	----	1	%		<1	----	----	----	----
+1180µm	----	1	%		<1	----	----	----	----
+2.36mm	----	1	%		<1	----	----	----	----
+4.75mm	----	1	%		<1	----	----	----	----
+9.5mm	----	1	%		<1	----	----	----	----
+19.0mm	----	1	%		<1	----	----	----	----
+37.5mm	----	1	%		<1	----	----	----	----
+75.0mm	----	1	%		<1	----	----	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	40.5	39.6	22.5	24.0
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		48	----	----	----	----
Silt (2-60 µm)	----	1	%		37	----	----	----	----
Sand (0.06-2.00 mm)	----	1	%		15	----	----	----	----
Gravel (>2mm)	----	1	%		<1	----	----	----	----
Cobbles (>6cm)	----	1	%		<1	----	----	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		2.71	----	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	----	3990	3960
Iron	7439-89-6	50	mg/kg		----	----	----	9260	9040
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	----	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	----	----	11.5	13.7
Cadmium	7440-43-9	0.1	mg/kg		----	----	----	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	----	----	9.3	7.8
Copper	7440-50-8	1.0	mg/kg		----	----	----	2.4	2.8
Cobalt	7440-48-4	0.5	mg/kg		----	----	----	5.1	5.2
Lead	7439-92-1	1.0	mg/kg		----	----	----	2.4	2.2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE13 0.5-1.0B	BE13 0.3V	BE13 0.7V	WB17 0.0-0.5A	WB17 0.5-1.0A
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-058	ES1503461-059	ES1503461-060	ES1503461-061	ES1503461-062
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	----	**329**	**401**
Nickel	7440-02-0	1.0	mg/kg		----	----	----	**3.5**	**3.7**
Selenium	7782-49-2	0.1	mg/kg		----	----	----	**0.2**	**0.3**
Silver	7440-22-4	0.1	mg/kg		----	----	----	<0.5	<0.5
Vanadium	7440-62-2	2.0	mg/kg		----	----	----	**24.3**	**22.3**
Zinc	7440-66-6	1.0	mg/kg		----	----	----	**13.2**	**13.2**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	----	<0.01	<0.01
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	----	<0.1	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	<0.1	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	<0.1	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	----	**60**	**60**
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	----	**60**	**60**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	----	**210**	**174**
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	----	**3.7**	**3.7**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	----	**0.07**	**0.07**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	----	<3	<3
>C16 - C34 Fraction	----	3	mg/kg		----	----	----	**10**	**5**
>C34 - C40 Fraction	----	5	mg/kg		----	----	----	<5	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	----	**10**	**5**
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	<3	<3	----	----
C10 - C14 Fraction	----	3	mg/kg		----	----	----	<3	<3
C15 - C28 Fraction	----	3	mg/kg		----	----	----	**4**	**3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE13 0.5-1.0B	BE13 0.3V	BE13 0.7V	WB17 0.0-0.5A	WB17 0.5-1.0A
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503461-058	ES1503461-059	ES1503461-060	ES1503461-061	ES1503461-062
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	----	7	<5
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	----	11	3
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	<3	<3	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	<0.2	<0.2	----	----
Toluene	108-88-3	0.2	mg/kg		----	<0.2	<0.2	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	<0.2	<0.2	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	<0.2	<0.2	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	<0.2	<0.2	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	<0.5	<0.5	----	----
^ Sum of BTEX	----	0.2	mg/kg		----	<0.2	<0.2	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	----	<1	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	----	<1	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	----	<0.5	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	----	<10	<10
Carbophenothion	786-19-6	10	µg/kg		----	----	----	<10	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	----	<10.0	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	----	<10	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	----	<10	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	----	<10	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	----	<10	<10
Diazinon	333-41-5	10	µg/kg		----	----	----	<10	<10
Dichlorvos	62-73-7	10	µg/kg		----	----	----	<10	<10
Dimethoate	60-51-5	10	µg/kg		----	----	----	<10	<10
Ethion	563-12-2	10	µg/kg		----	----	----	<10	<10
Fenamiphos	22224-92-6	10	µg/kg		----	----	----	<10	<10
Fenthion	55-38-9	10	µg/kg		----	----	----	<10	<10
Malathion	121-75-5	10	µg/kg		----	----	----	<10	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	----	----	<10	<10
Monocrotophos	6923-22-4	10	µg/kg		----	----	----	<10	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE13 0.5-1.0B	BE13 0.3V	BE13 0.7V	WB17 0.0-0.5A	WB17 0.5-1.0A
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-058	ES1503461-059	ES1503461-060	ES1503461-061	ES1503461-062
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	----	<10	<10
Parathion-methyl	298-00-0	10	µg/kg		----	----	----	<10	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	----	<10	<10
Prothiofos	34643-46-4	10	µg/kg		----	----	----	<10	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	----	<0.50	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	----	----	<0.50	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	----	----	<0.50	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	----	----	<0.50	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	----	<0.50	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	----	<0.50	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	----	<0.50	<0.50
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	----	----	<0.50	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	----	----	<0.50	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	----	<0.50	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	----	<0.50	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	----	<0.50	<0.50
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	----	----	<0.50	<0.50
Endrin	72-20-8	0.50	µg/kg		----	----	----	<0.50	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	----	<0.50	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	----	<0.50	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	----	----	<0.50	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	----	<0.50	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	----	<0.50	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	----	----	<0.25	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	----	----	<0.50	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	----	<0.25	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	----	<0.25	<0.25
^ **Total Chlordane (sum)**	----	0.25	µg/kg		----	----	----	<0.25	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	----	<0.50	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	----	<5.0	<5.0

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE13 0.5-1.0B	BE13 0.3V	BE13 0.7V	WB17 0.0-0.5A	WB17 0.5-1.0A
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-058	ES1503461-059	ES1503461-060	ES1503461-061	ES1503461-062
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	----	<5.0	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	----	<5	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	----	<5	<5
Acenaphthylene	208-96-8	4	µg/kg		----	----	----	<4	<4
Acenaphthene	83-32-9	4	µg/kg		----	----	----	<4	<4
Fluorene	86-73-7	4	µg/kg		----	----	----	<4	<4
Phenanthrene	85-01-8	4	µg/kg		----	----	----	<4	<4
Anthracene	120-12-7	4	µg/kg		----	----	----	<4	<4
Fluoranthene	206-44-0	4	µg/kg		----	----	----	<4	<4
Pyrene	129-00-0	4	µg/kg		----	----	----	<4	<4
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	----	<4	<4
Chrysene	218-01-9	4	µg/kg		----	----	----	<4	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	----	<4	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	----	<4	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	----	<4	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	----	<4	<4
Perylene	198-55-0	4	µg/kg		----	----	----	<4	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	----	<4	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	----	<4	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	----	<4	<4
Coronene	191-07-1	5	µg/kg		----	----	----	<5	<5
^ **Sum of PAHs**	----	4	µg/kg		----	----	----	<4	<4
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	**103**	**90.7**	----	----
Toluene-D8	2037-26-5	0.1	%		----	**89.3**	**81.5**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	**89.5**	**76.1**	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	----	**96.7**	**77.8**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BE13 0.5-1.0B	BE13 0.3V	BE13 0.7V	WB17 0.0-0.5A	WB17 0.5-1.0A
			Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503461-058	ES1503461-059	ES1503461-060	ES1503461-061	ES1503461-062
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	----	74.1	81.1
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	----	71.9	54.7
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	64.5	72.1
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	103	80.3
Anthracene-d10	1719-06-8	0.1	%	----	----	----	110	85.7
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	118	98.8

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB17 0.0-0.5B	WB17 0.5-1.0B	WB17 0.3V	WB17 0.7V	TRIPLICATE 6A
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-063	ES1503461-064	ES1503461-065	ES1503461-066	ES1503461-067
EA150: Particle Sizing									
+75µm	----	1	%		**96**	**97**	----	----	----
+150µm	----	1	%		**15**	**40**	----	----	----
+300µm	----	1	%		<1	<1	----	----	----
+425µm	----	1	%		<1	<1	----	----	----
+600µm	----	1	%		<1	<1	----	----	----
+1180µm	----	1	%		<1	<1	----	----	----
+2.36mm	----	1	%		<1	<1	----	----	----
+4.75mm	----	1	%		<1	<1	----	----	----
+9.5mm	----	1	%		<1	<1	----	----	----
+19.0mm	----	1	%		<1	<1	----	----	----
+37.5mm	----	1	%		<1	<1	----	----	----
+75.0mm	----	1	%		<1	<1	----	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	----	**22.0**	**22.0**	**21.0**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		**3**	**2**	----	----	----
Silt (2-60 µm)	----	1	%		**1**	<1	----	----	----
Sand (0.06-2.00 mm)	----	1	%		**96**	**98**	----	----	----
Gravel (>2mm)	----	1	%		<1	<1	----	----	----
Cobbles (>6cm)	----	1	%		<1	<1	----	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		**2.69**	**2.56**	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	----	----	**4430**
Iron	7439-89-6	50	mg/kg		----	----	----	----	**10800**
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	----	----	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	----	----	----	**16.9**
Cadmium	7440-43-9	0.1	mg/kg		----	----	----	----	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	----	----	----	**8.4**
Copper	7440-50-8	1.0	mg/kg		----	----	----	----	**3.2**
Cobalt	7440-48-4	0.5	mg/kg		----	----	----	----	**5.9**
Lead	7439-92-1	1.0	mg/kg		----	----	----	----	**2.5**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB17 0.0-0.5B	WB17 0.5-1.0B	WB17 0.3V	WB17 0.7V	TRIPLICATE 6A
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-063	ES1503461-064	ES1503461-065	ES1503461-066	ES1503461-067
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	----	----	**793**
Nickel	7440-02-0	1.0	mg/kg		----	----	----	----	**4.3**
Selenium	7782-49-2	0.1	mg/kg		----	----	----	----	**0.3**
Silver	7440-22-4	0.1	mg/kg		----	----	----	----	<0.5
Vanadium	7440-62-2	2.0	mg/kg		----	----	----	----	**27.0**
Zinc	7440-66-6	1.0	mg/kg		----	----	----	----	**14.1**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	----	----	<0.01
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	----	**0.4**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	----	**0.4**
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	----	----	**70**
EK062: Total Nitrogen as N (TKN + NOx)									
^ **Total Nitrogen as N**	----	20	mg/kg		----	----	----	----	**70**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	----	----	**232**
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	----	----	**3.6**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	----	----	**0.04**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	----	----	<3
>C16 - C34 Fraction	----	3	mg/kg		----	----	----	----	**4**
>C34 - C40 Fraction	----	5	mg/kg		----	----	----	----	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	----	----	**4**
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	<3	<3	----
C10 - C14 Fraction	----	3	mg/kg		----	----	----	----	<3
C15 - C28 Fraction	----	3	mg/kg		----	----	----	----	<3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB17 0.0-0.5B	WB17 0.5-1.0B	WB17 0.3V	WB17 0.7V	TRIPLICATE 6A
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-063	ES1503461-064	ES1503461-065	ES1503461-066	ES1503461-067
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	----	----	<5
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	----	----	<3
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	<3	<3	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	<0.2	<0.2	----
Toluene	108-88-3	0.2	mg/kg		----	----	<0.2	<0.2	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	<0.2	<0.2	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	<0.2	<0.2	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	<0.2	<0.2	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	<0.5	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg		----	----	<0.2	<0.2	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	----	----	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	----	----	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	----	----	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	----	----	<10
Carbophenothion	786-19-6	10	µg/kg		----	----	----	----	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	----	----	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	----	----	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	----	----	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	----	----	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	----	----	<10
Diazinon	333-41-5	10	µg/kg		----	----	----	----	<10
Dichlorvos	62-73-7	10	µg/kg		----	----	----	----	<10
Dimethoate	60-51-5	10	µg/kg		----	----	----	----	<10
Ethion	563-12-2	10	µg/kg		----	----	----	----	<10
Fenamiphos	22224-92-6	10	µg/kg		----	----	----	----	<10
Fenthion	55-38-9	10	µg/kg		----	----	----	----	<10
Malathion	121-75-5	10	µg/kg		----	----	----	----	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	----	----	----	<10
Monocrotophos	6923-22-4	10	µg/kg		----	----	----	----	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB17 0.0-0.5B	WB17 0.5-1.0B	WB17 0.3V	WB17 0.7V	TRIPLICATE 6A
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-063	ES1503461-064	ES1503461-065	ES1503461-066	ES1503461-067
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	----	----	<10
Parathion-methyl	298-00-0	10	µg/kg		----	----	----	----	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	----	----	<10
Prothiofos	34643-46-4	10	µg/kg		----	----	----	----	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	----	----	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	----	----	----	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	----	----	----	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	----	----	<0.50
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	----	----	----	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	----	----	----	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	----	----	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	----	----	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	----	----	<0.50
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	----	----	----	<0.50
Endrin	72-20-8	0.50	µg/kg		----	----	----	----	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	----	----	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	----	----	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	----	----	----	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	----	----	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	----	----	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	----	----	----	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	----	----	----	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	----	----	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	----	----	<0.25
^ Total Chlordane (sum)	----	0.25	µg/kg		----	----	----	----	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	----	----	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	----	----	<5.0

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB17 0.0-0.5B	WB17 0.5-1.0B	WB17 0.3V	WB17 0.7V	TRIPLICATE 6A
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-063	ES1503461-064	ES1503461-065	ES1503461-066	ES1503461-067
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	----	----	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	----	----	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	----	----	<5
Acenaphthylene	208-96-8	4	µg/kg		----	----	----	----	<4
Acenaphthene	83-32-9	4	µg/kg		----	----	----	----	<4
Fluorene	86-73-7	4	µg/kg		----	----	----	----	<4
Phenanthrene	85-01-8	4	µg/kg		----	----	----	----	<4
Anthracene	120-12-7	4	µg/kg		----	----	----	----	<4
Fluoranthene	206-44-0	4	µg/kg		----	----	----	----	<4
Pyrene	129-00-0	4	µg/kg		----	----	----	----	<4
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	----	----	<4
Chrysene	218-01-9	4	µg/kg		----	----	----	----	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	----	----	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	----	----	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	----	----	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	----	----	<4
Perylene	198-55-0	4	µg/kg		----	----	----	----	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	----	----	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	----	----	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	----	----	<4
Coronene	191-07-1	5	µg/kg		----	----	----	----	<5
^ **Sum of PAHs**	----	4	µg/kg		----	----	----	----	<4
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	**102**	**102**	----
Toluene-D8	2037-26-5	0.1	%		----	----	**85.7**	**80.1**	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	**79.3**	**74.6**	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	----	----	**86.7**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB17 0.0-0.5B	WB17 0.5-1.0B	WB17 0.3V	WB17 0.7V	TRIPLICATE 6A
			Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503461-063	ES1503461-064	ES1503461-065	ES1503461-066	ES1503461-067
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	----	----	66.3
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	----	----	64.3
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	----	57.4
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	----	95.6
Anthracene-d10	1719-06-8	0.1	%	----	----	----	----	102
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	----	92.1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	TRIPLICATE 6B	TRIPLICATE 7A	TRIPLICATE 7B	TRIPLICATE 8A	TRIPLICATE 8B
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-068	ES1503461-069	ES1503461-070	ES1503461-071	ES1503461-072
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		21.8	36.5	36.4	44.0	42.5
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		4280	13200	11800	13200	12900
Iron	7439-89-6	50	mg/kg		10600	20000	25000	24000	23400
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		16.9	9.24	14.8	13.1	14.6
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg		8.1	19.5	20.0	18.2	17.4
Copper	7440-50-8	1.0	mg/kg		2.9	19.8	15.4	22.1	26.4
Cobalt	7440-48-4	0.5	mg/kg		6.0	9.5	12.2	11.5	14.5
Lead	7439-92-1	1.0	mg/kg		2.2	7.5	7.1	7.5	8.0
Manganese	7439-96-5	10	mg/kg		666	167	208	166	174
Nickel	7440-02-0	1.0	mg/kg		4.1	9.5	10.4	9.9	10.6
Selenium	7782-49-2	0.1	mg/kg		0.2	0.7	0.7	0.8	0.8
Silver	7440-22-4	0.1	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Vanadium	7440-62-2	2.0	mg/kg		27.0	47.4	43.7	51.5	46.9
Zinc	7440-66-6	1.0	mg/kg		13.5	32.4	34.0	31.6	31.2
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	0.02	0.02	0.02	0.02
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		1.0	0.1	<0.1	<0.1	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		1.0	0.1	<0.1	<0.1	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		70	360	990	720	560
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		70	360	990	720	560
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		206	157	666	259	242
EK255A SD Ammonia in Sediment									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	TRIPLICATE 6B	TRIPLICATE 7A	TRIPLICATE 7B	TRIPLICATE 8A	TRIPLICATE 8B
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-068	ES1503461-069	ES1503461-070	ES1503461-071	ES1503461-072
EK255A SD Ammonia in Sediment - Continued									
Ammonia as N	7664-41-7	0.2	mg/kg		2.1	1.2	1.9	3.3	4.5
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		0.04	0.68	0.56	1.04	1.51
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	<3	<3	<3	<3
>C16 - C34 Fraction	----	3	mg/kg		8	5	14	14	20
>C34 - C40 Fraction	----	5	mg/kg		<5	<5	7	6	8
>C10 - C40 Fraction (sum)	----	3	mg/kg		8	5	21	20	28
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C10 - C14 Fraction	----	3	mg/kg		<3	<3	<3	<3	<3
C15 - C28 Fraction	----	3	mg/kg		6	<3	8	8	12
C29 - C36 Fraction	----	5	mg/kg		<5	<5	10	10	13
^ C10 - C36 Fraction (sum)	----	3	mg/kg		6	<3	18	18	25
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	<1	<1	<1	<1
Dibutyltin	1002-53-5	1	µgSn/kg		<1	<1	<1	<1	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	<0.5	<0.5	<0.5	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	<10	<10	<10	<10
Carbophenothion	786-19-6	10	µg/kg		<10	<10	<10	<10	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	<10.0	<10.0	<10.0	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	<10	<10	<10	<10
Chlorpyrifos	2921-88-2	10	µg/kg		<10	<10	<10	<10	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	<10	<10	<10	<10
Demeton-S-methyl	919-86-8	10	µg/kg		<10	<10	<10	<10	<10
Diazinon	333-41-5	10	µg/kg		<10	<10	<10	<10	<10
Dichlorvos	62-73-7	10	µg/kg		<10	<10	<10	<10	<10
Dimethoate	60-51-5	10	µg/kg		<10	<10	<10	<10	<10
Ethion	563-12-2	10	µg/kg		<10	<10	<10	<10	<10
Fenamiphos	22224-92-6	10	µg/kg		<10	<10	<10	<10	<10
Fenthion	55-38-9	10	µg/kg		<10	<10	<10	<10	<10
Malathion	121-75-5	10	µg/kg		<10	<10	<10	<10	<10
Azinphos Methyl	86-50-0	10	µg/kg		<10	<10	<10	<10	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	TRIPLICATE 6B	TRIPLICATE 7A	TRIPLICATE 7B	TRIPLICATE 8A	TRIPLICATE 8B
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-068	ES1503461-069	ES1503461-070	ES1503461-071	ES1503461-072
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Monocrotophos	6923-22-4	10	µg/kg		<10	<10	<10	<10	<10
Parathion	56-38-2	10	µg/kg		<10	<10	<10	<10	<10
Parathion-methyl	298-00-0	10	µg/kg		<10	<10	<10	<10	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	<10	<10	<10	<10
Prothiofos	34643-46-4	10	µg/kg		<10	<10	<10	<10	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
beta-BHC	319-85-7	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
delta-BHC	319-86-8	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
Dieldrin	60-57-1	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
Endrin	72-20-8	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
Heptachlor	76-44-8	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	<0.25	<0.25	<0.25	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	<0.25	<0.25	<0.25	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	<0.25	<0.25	<0.25	<0.25
^ **Total Chlordane (sum)**	----	0.25	µg/kg		<0.25	<0.25	<0.25	<0.25	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		<5.0	<5.0	<5.0	<5.0	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	<5.0	<5.0	<5.0	<5.0

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	TRIPLICATE 6B	TRIPLICATE 7A	TRIPLICATE 7B	TRIPLICATE 8A	TRIPLICATE 8B
				Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
					ES1503461-068	ES1503461-069	ES1503461-070	ES1503461-071	ES1503461-072
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	<5.0	<5.0	<5.0	<5.0
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	<5.0	<5.0	<5.0	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	<5.0	<5.0	<5.0	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	<5.0	<5.0	<5.0	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	<5.0	<5.0	<5.0	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	<5.0	<5.0	<5.0	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	<5	<5	<5	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	<5	<5	<5	<5
Acenaphthylene	208-96-8	4	µg/kg		<4	<4	<4	<4	<4
Acenaphthene	83-32-9	4	µg/kg		<4	<4	<4	<4	<4
Fluorene	86-73-7	4	µg/kg		<4	<4	<4	<4	<4
Phenanthrene	85-01-8	4	µg/kg		<4	<4	<4	<4	<4
Anthracene	120-12-7	4	µg/kg		<4	<4	<4	<4	<4
Fluoranthene	206-44-0	4	µg/kg		<4	<4	<4	<4	<4
Pyrene	129-00-0	4	µg/kg		<4	<4	<4	<4	<4
Benz(a)anthracene	56-55-3	4	µg/kg		<4	<4	<4	<4	<4
Chrysene	218-01-9	4	µg/kg		<4	<4	<4	<4	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	<4	<4	<4	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	<4	<4	<4	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	<4	<4	<4	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	<4	<4	<4	<4
Perylene	198-55-0	4	µg/kg		<4	<4	<4	<4	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	<4	<4	<4	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	<4	<4	<4	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	<4	<4	<4	<4
Coronene	191-07-1	5	µg/kg		<5	<5	<5	<5	<5
^ **Sum of PAHs**	----	4	µg/kg		<4	<4	<4	<4	<4
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**86.6**	**84.9**	**75.2**	**95.6**	**69.0**
EP130S: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%		**76.4**	**67.0**	**88.3**	**92.2**	**75.3**
EP131S: OC Pesticide Surrogate									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TRIPLICATE 6B	TRIPLICATE 7A	TRIPLICATE 7B	TRIPLICATE 8A	TRIPLICATE 8B
			Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503461-068	ES1503461-069	ES1503461-070	ES1503461-071	ES1503461-072
EP131S: OC Pesticide Surrogate - Continued								
Dibromo-DDE	21655-73-2	0.1	%	71.5	67.3	79.5	82.2	62.5
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	70.1	70.4	74.4	75.1	49.6
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	86.6	85.8	89.7	102	81.0
Anthracene-d10	1719-06-8	0.1	%	109	108	103	109	90.2
4-Terphenyl-d14	1718-51-0	0.1	%	114	114	106	111	86.2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TRIP BLANK 8	WB19 0.3V	WB19 0.7V	----	----
			Client sampling date / time	11-FEB-2015 15:00	11-FEB-2015 15:00	11-FEB-2015 15:00	----	----
Compound	CAS Number	LOR	Unit	ES1503461-073	ES1503461-075	ES1503461-076	----	----
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	----	20.5	22.9	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013								
>C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	----	----	----	----
>C16 - C34 Fraction	----	3	mg/kg	<3	----	----	----	----
>C34 - C40 Fraction	----	5	mg/kg	<5	----	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	3	mg/kg	<3	<3	<3	----	----
C10 - C14 Fraction	----	3	mg/kg	<3	----	----	----	----
C15 - C28 Fraction	----	3	mg/kg	<3	----	----	----	----
C29 - C36 Fraction	----	5	mg/kg	<5	----	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons								
C6 - C10 Fraction	C6_C10	3	mg/kg	<3	<3	<3	----	----
EP080-SD: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
EP080-SD: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	102	81.5	84.8	----	----
Toluene-D8	2037-26-5	0.1	%	116	80.8	87.3	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	125	84.2	88.0	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 7	----	----	----	----
				Client sampling date / time	11-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1503461-074	----	----	----	----
EG020T: Total Metals by ICP-MS									
Antimony	7440-36-0	0.001	mg/L		<0.001	----	----	----	----
Arsenic	7440-38-2	0.001	mg/L		<0.001	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	----	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	----	----	----	----
Manganese	7439-96-5	0.001	mg/L		<0.001	----	----	----	----
Nickel	7440-02-0	0.001	mg/L		<0.001	----	----	----	----
Silver	7440-22-4	0.001	mg/L		<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L		<0.005	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	----	----	----	----
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**0.04**	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	----	0.01	mg/L		<0.01	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		<0.01	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		<0.01	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L		<0.1	----	----	----	----
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser									
^ Total Nitrogen as N	----	0.1	mg/L		<0.1	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		<0.01	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	1	µg/L		<1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.5	µg/L		<0.5	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L		<0.5	----	----	----	----
beta-BHC	319-85-7	0.5	µg/L		<0.5	----	----	----	----
gamma-BHC	58-89-9	0.5	µg/L		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 7	----	----	----	----
				Client sampling date / time	11-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1503461-074	----	----	----	----
EP068A: Organochlorine Pesticides (OC) - Continued									
delta-BHC	319-86-8	0.5	µg/L		<0.5	----	----	----	----
Heptachlor	76-44-8	0.5	µg/L		<0.5	----	----	----	----
Aldrin	309-00-2	0.5	µg/L		<0.5	----	----	----	----
Heptachlor epoxide	1024-57-3	0.5	µg/L		<0.5	----	----	----	----
trans-Chlordane	5103-74-2	0.5	µg/L		<0.5	----	----	----	----
alpha-Endosulfan	959-98-8	0.5	µg/L		<0.5	----	----	----	----
cis-Chlordane	5103-71-9	0.5	µg/L		<0.5	----	----	----	----
Dieldrin	60-57-1	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDE	72-55-9	0.5	µg/L		<0.5	----	----	----	----
Endrin	72-20-8	0.5	µg/L		<0.5	----	----	----	----
beta-Endosulfan	33213-65-9	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDD	72-54-8	0.5	µg/L		<0.5	----	----	----	----
Endrin aldehyde	7421-93-4	0.5	µg/L		<0.5	----	----	----	----
Endosulfan sulfate	1031-07-8	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDT	50-29-3	2.0	µg/L		<2.0	----	----	----	----
Endrin ketone	53494-70-5	0.5	µg/L		<0.5	----	----	----	----
Methoxychlor	72-43-5	2.0	µg/L		<2.0	----	----	----	----
^ Total Chlordane (sum)	----	0.5	µg/L		<0.5	----	----	----	----
^ Sum of DDD + DDE + DDT	----	0.5	µg/L		<0.5	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L		<0.5	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.5	µg/L		<0.5	----	----	----	----
Demeton-S-methyl	919-86-8	0.5	µg/L		<0.5	----	----	----	----
Monocrotophos	6923-22-4	2.0	µg/L		<2.0	----	----	----	----
Dimethoate	60-51-5	0.5	µg/L		<0.5	----	----	----	----
Diazinon	333-41-5	0.5	µg/L		<0.5	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L		<0.5	----	----	----	----
Parathion-methyl	298-00-0	2.0	µg/L		<2.0	----	----	----	----
Malathion	121-75-5	0.5	µg/L		<0.5	----	----	----	----
Fenthion	55-38-9	0.5	µg/L		<0.5	----	----	----	----
Chlorpyrifos	2921-88-2	0.5	µg/L		<0.5	----	----	----	----
Parathion	56-38-2	2.0	µg/L		<2.0	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	µg/L		<0.5	----	----	----	----
Chlorfenvinphos	470-90-6	0.5	µg/L		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	RINSATE 7	----	----	----	----
			Client sampling date / time	11-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1503461-074	----	----	----	----
EP068B: Organophosphorus Pesticides (OP) - Continued								
Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	----	----	----	----
Fenamiphos	22224-92-6	0.5	µg/L	<0.5	----	----	----	----
Prothiofos	34643-46-4	0.5	µg/L	<0.5	----	----	----	----
Ethion	563-12-2	0.5	µg/L	<0.5	----	----	----	----
Carbophenothion	786-19-6	0.5	µg/L	<0.5	----	----	----	----
Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L	<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L	<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L	<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L	<1.0	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L	<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L	<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L	<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L	<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L	<50	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 7	----	----	----	----
				Client sampling date / time	11-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1503461-074	----	----	----	----	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L	<20	----	----	----	----	
>C10 - C16 Fraction	>C10_C16	100	µg/L	<100	----	----	----	----	
>C16 - C34 Fraction	----	100	µg/L	<100	----	----	----	----	
>C34 - C40 Fraction	----	100	µg/L	<100	----	----	----	----	
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L	<100	----	----	----	----	
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L	<100	----	----	----	----	
EP080: BTEXN									
Benzene	71-43-2	1	µg/L	<1	----	----	----	----	
Toluene	108-88-3	2	µg/L	<2	----	----	----	----	
Ethylbenzene	100-41-4	2	µg/L	<2	----	----	----	----	
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	----	----	----	----	
ortho-Xylene	95-47-6	2	µg/L	<2	----	----	----	----	
^ **Total Xylenes**	1330-20-7	2	µg/L	<2	----	----	----	----	
^ **Sum of BTEX**	----	1	µg/L	<1	----	----	----	----	
Naphthalene	91-20-3	5	µg/L	<5	----	----	----	----	
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	5	ngSn/L	<5	----	----	----	----	
Dibutyltin	1002-53-5	5	ngSn/L	<5	----	----	----	----	
Tributyltin	56573-85-4	2	ngSn/L	<2	----	----	----	----	
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	**79.0**	----	----	----	----	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.1	%	**82.0**	----	----	----	----	
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%	**74.7**	----	----	----	----	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%	**30.3**	----	----	----	----	
2-Chlorophenol-D4	93951-73-6	0.1	%	**43.4**	----	----	----	----	
2.4.6-Tribromophenol	118-79-6	0.1	%	**36.1**	----	----	----	----	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%	**53.1**	----	----	----	----	
Anthracene-d10	1719-06-8	0.1	%	**72.6**	----	----	----	----	

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 7	----	----	----	----
				Client sampling date / time	11-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1503461-074	----	----	----	----
EP075(SIM)T: PAH Surrogates - Continued									
4-Terphenyl-d14	1718-51-0	0.1	%		63.1	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		94.2	----	----	----	----
Toluene-D8	2037-26-5	0.1	%		99.9	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		91.8	----	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		88.8	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
EP080-SD: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	67	137
Toluene-D8	2037-26-5	74	134
4-Bromofluorobenzene	460-00-4	73	137
EP090S: Organotin Surrogate			
Tripropyltin	----	35	130
EP130S: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	14.4	102
EP131S: OC Pesticide Surrogate			
Dibromo-DDE	21655-73-2	10	119
EP131T: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	10	106
EP132T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	55	135
Anthracene-d10	1719-06-8	70	136
4-Terphenyl-d14	1718-51-0	57	127

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	28.5	129
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	30	120
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	26.8	129
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10.0	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27.4	113
4-Terphenyl-d14	1718-51-0	32	112
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128
EP090S: Organotin Surrogate			
Tripropyltin	----	8.2	108

QUALITY CONTROL REPORT

Work Order	: **ES1503461**	Page	: 1 of 42
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 13-FEB-2015
Sampler	: GK	Issue Date	: 03-MAR-2015
Order number	: 245553		
		No. of samples received	: 74
Quote number	: SY/1021/14 V2	No. of samples analysed	: 74

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Ashesh Patel	Inorganic Chemist	Sydney Inorganics
Dianne Blane	Laboratory Coordinator (2IC)	Newcastle - Inorganics
Kim McCabe	Senior Inorganic Chemist	Brisbane Acid Sulphate Soils
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
		Sydney Organics
Ryan Story	2IC Organic Instrument Chemist	Brisbane Inorganics
		Brisbane Organics
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils
Shobhna Chandra	Metals Coordinator	Sydney Inorganics
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA055: Moisture Content (QC Lot: 3828125)									
ES1503461-007	WB20 0.0-0.5A	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	21.0	21.3	1.6	0% - 20%
ES1503461-024	BE4 0.7V	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	35.9	36.8	2.5	0% - 20%
EA055: Moisture Content (QC Lot: 3828126)									
ES1503461-037	BE8 0.0-0.5A	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	46.1	46.6	1.1	0% - 20%
ES1503461-054	BE12 0.7V	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	49.5	47.6	3.8	0% - 20%
EA055: Moisture Content (QC Lot: 3828127)									
ES1503461-067	TRIPLICATE 6A	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	21.0	22.2	5.7	0% - 20%
ES1503512-014	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	5.7	4.6	20.9	No Limit
EA055: Moisture Content (QC Lot: 3829842)									
EB1500731-001	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	70.5	70.7	0.3	0% - 20%
EP1501020-005	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	5.8	5.4	5.6	No Limit
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3832716)									
ES1503461-001	WB19 0.0-0.5A	EG005-SD: Aluminium	7429-90-5	50	mg/kg	4100	4110	0.4	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	9070	9290	2.4	0% - 20%
ES1503461-031	BE6 0.0-0.5A	EG005-SD: Aluminium	7429-90-5	50	mg/kg	13300	15200	13.4	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	15600	18700	18.1	0% - 20%
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3832719)									
ES1503461-061	WB17 0.0-0.5A	EG005-SD: Aluminium	7429-90-5	50	mg/kg	3990	4210	5.3	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	9260	9780	5.5	0% - 20%
ES1503599-007	Anonymous	EG005-SD: Aluminium	7429-90-5	50	mg/kg	2770	2580	7.2	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	7350	6680	9.6	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3832715)									
ES1503461-001	WB19 0.0-0.5A	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.2	0.2	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.5	<0.5	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	5.5	5.5	0.0	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	8.9	9.2	3.1	No Limit
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	2.5	2.5	0.0	No Limit
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	2.2	2.3	0.0	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	3.7	3.8	0.0	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	13.7	13.7	0.0	0% - 50%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	11.9	12.1	1.8	0% - 50%
		EG020-SD: Manganese	7439-96-5	10	mg/kg	354	369	4.2	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	22.4	22.8	2.1	0% - 50%

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3832715) - continued									
ES1503461-031	BE6 0.0-0.5A	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.7	0.8	19.6	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.5	<0.5	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	9.3	11.3	19.2	0% - 20%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	17.8	20.3	13.5	0% - 20%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	18.6	21.6	15.0	0% - 20%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	7.3	8.8	17.8	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	8.6	10.3	17.8	0% - 50%
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	29.7	35.0	16.4	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	8.72	11.5	27.3	0% - 50%
		EG020-SD: Manganese	7439-96-5	10	mg/kg	118	132	10.9	0% - 50%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	48.5	55.4	13.3	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3832718)									
ES1503461-061	WB17 0.0-0.5A	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.2	0.2	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.5	<0.5	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	5.1	5.5	7.7	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	9.3	10.0	7.2	No Limit
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	2.4	2.5	4.1	No Limit
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	2.4	2.5	7.1	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	3.5	3.8	5.9	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	13.2	13.7	4.1	0% - 50%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	11.5	11.8	2.5	0% - 50%
		EG020-SD: Manganese	7439-96-5	10	mg/kg	329	324	1.4	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	24.3	26.0	6.5	0% - 50%
ES1503599-007	Anonymous	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.1	0.2	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.5	<0.5	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	4.2	4.4	5.6	No Limit
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	5.0	3.4	37.9	No Limit
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	3.4	3.0	12.5	No Limit
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	1.3	1.4	0.0	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	2.8	2.8	0.0	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	8.1	8.1	0.0	No Limit
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	8.49	8.40	1.0	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	359	306	15.9	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	21.5	19.1	11.7	0% - 50%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3832714)									
ES1503461-001	WB19 0.0-0.5A	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit
ES1503461-031	BE6 0.0-0.5A	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	0.02	0.02	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3832717)									
ES1503461-061	WB17 0.0-0.5A	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit
ES1503599-007	Anonymous	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3829698)									
ES1502604-008	Anonymous	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1503461-025	BE5 0.0-0.5A	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3829700)									
ES1503461-056	BE13 0.5-1.0A	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3829699)									
ES1502604-008	Anonymous	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1503461-025	BE5 0.0-0.5A	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	0.1	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3829701)									
ES1503461-056	BE13 0.5-1.0A	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	0.3	90.7	No Limit
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3832645)									
ES1503080-025	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	60	60	0.0	No Limit
ES1503240-007	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	90	90	0.0	No Limit
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3833604)									
ES1503461-013	WB23 0.0-0.5A	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	160	260	49.7	0% - 50%
ES1503461-038	BE8 0.5-1.0A	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	760	740	1.8	0% - 20%
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3833607)									
ES1503461-069	TRIPLICATE 7A	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	360	370	0.0	0% - 50%
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3832646)									
ES1503080-025	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	245	247	0.8	0% - 20%
ES1503240-007	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	381	345	10.1	0% - 20%
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3833605)									
ES1503461-013	WB23 0.0-0.5A	EK067G: Total Phosphorus as P	----	2	mg/kg	247	240	2.9	0% - 20%
ES1503461-038	BE8 0.5-1.0A	EK067G: Total Phosphorus as P	----	2	mg/kg	166	181	8.6	0% - 20%
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3833606)									
ES1503461-069	TRIPLICATE 7A	EK067G: Total Phosphorus as P	----	2	mg/kg	157	183	15.3	0% - 20%
ES1504262-004	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	333	609	# 58.5	0% - 20%
EK255A SD: Ammonia in Sediment (QC Lot: 3828208)									
ES1503461-001	WB19 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	1.1	1.1	0.0	No Limit
ES1503461-031	BE6 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	4.5	4.4	0.0	0% - 20%
EK255A SD: Ammonia in Sediment (QC Lot: 3828209)									
ES1503461-061	WB17 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	3.7	3.5	3.9	0% - 50%
ES1503599-008	Anonymous	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	0.9	1.0	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP003: Total Organic Carbon (TOC) in Soil (QC Lot: 3826521)									
ES1503461-001	WB19 0.0-0.5A	EP003: Total Organic Carbon	----	0.02	%	0.08	0.08	0.0	No Limit
ES1503461-031	BE6 0.0-0.5A	EP003: Total Organic Carbon	----	0.02	%	0.63	0.64	1.7	0% - 20%
EP003: Total Organic Carbon (TOC) in Soil (QC Lot: 3826522)									
ES1503461-061	WB17 0.0-0.5A	EP003: Total Organic Carbon	----	0.02	%	0.07	0.07	0.0	No Limit
EP003: Total Organic Carbon (TOC) in Soil (QC Lot: 3836440)									
ES1503461-071	TRIPLICATE 8A	EP003: Total Organic Carbon	----	0.02	%	1.04	1.06	1.5	0% - 20%
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3823104)									
ES1503461-001	WB19 0.0-0.5A	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
ES1503461-031	BE6 0.0-0.5A	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	12	11	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	20	19	5.1	No Limit
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	8	8	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3823107)									
ES1503461-061	WB17 0.0-0.5A	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	10	10	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	10	10	0.0	No Limit
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3823087)									
ES1503461-011	WB20 0.3V	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
ES1503461-041	BE8 0.3V	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3823104)									
ES1503461-001	WB19 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
ES1503461-031	BE6 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	5	5	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	16	16	0.0	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	11	11	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3823107)									
ES1503461-061	WB17 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	4	5	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	11	11	0.0	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	7	6	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3828123)									
ES1503461-075	WB19 0.3V	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons (QC Lot: 3828123)									
ES1503461-075	WB19 0.3V	EP080-SD: C6 - C10 Fraction	C6_C10	3	mg/kg	<3	<3	0.0	No Limit
EP080-SD: BTEXN (QC Lot: 3823087)									
ES1503461-011	WB20 0.3V	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
ES1503461-041	BE8 0.3V	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP080-SD: BTEXN (QC Lot: 3828123)									
ES1503461-075	WB19 0.3V	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP090: Organotin Compounds (QC Lot: 3826356)									
ES1503461-001	WB19 0.0-0.5A	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
ES1503461-031	BE6 0.0-0.5A	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
EP090: Organotin Compounds (QC Lot: 3826358)									
ES1503461-061	WB17 0.0-0.5A	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
EP090: Organotin Compounds (QC Lot: 3828512)									
ES1503461-071	TRIPLICATE 8A	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3823088)									
ES1503461-001	WB19 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3823088) - continued									
ES1503461-001	WB19 0.0-0.5A	EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
ES1503461-031	BE6 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3823099)									

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3823099) - continued									
ES1503461-061	WB17 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
EP131A: Organochlorine Pesticides (QC Lot: 3823089)									
ES1503461-001	WB19 0.0-0.5A	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP131A: Organochlorine Pesticides (QC Lot: 3823089) - continued									
ES1503461-001	WB19 0.0-0.5A	EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
ES1503461-031	BE6 0.0-0.5A	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
EP131A: Organochlorine Pesticides (QC Lot: 3823100)									
ES1503461-061	WB17 0.0-0.5A	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP131A: Organochlorine Pesticides (QC Lot: 3823100) - continued									
ES1503461-061	WB17 0.0-0.5A	EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 3823090)									
ES1503461-001	WB19 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
ES1503461-031	BE6 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 3823101)									
ES1503461-061	WB17 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3823103)									
ES1503461-001	WB19 0.0-0.5A	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit
ES1503461-031	BE6 0.0-0.5A	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	<4	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3823103) - continued									
ES1503461-031	BE6 0.0-0.5A	EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3823106)									
ES1503461-061	WB17 0.0-0.5A	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020T: Total Metals by ICP-MS (QC Lot: 3829910)									
ES1503461-074	RINSATE 7	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Manganese	7439-96-5	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.0	No Limit
ES1503720-001	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020T: Total Metals by ICP-MS (QC Lot: 3829910) - continued									
ES1503720-001	Anonymous	EG020A-T: Arsenic	7440-38-2	0.001	mg/L	0.009	0.009	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	0.007	0.006	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	0.008	0.008	0.0	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Manganese	7439-96-5	0.001	mg/L	0.013	0.013	0.0	0% - 50%
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	0.008	0.008	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	0.362	0.361	0.3	0% - 20%
EG020T: Total Metals by ICP-MS (QC Lot: 3829911)									
ES1503461-074	RINSATE 7	EG020B-T: Silver	7440-22-4	0.001	mg/L	<0.001	<0.001	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3834612)									
ES1503169-009	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
ES1503838-005	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EK055G: Ammonia as N by Discrete Analyser (QC Lot: 3831167)									
ES1503461-074	RINSATE 7	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	0.04	0.04	0.0	No Limit
ES1503831-004	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	0.04	0.04	0.0	No Limit
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3823153)									
EM1501516-003	Anonymous	EK057G: Nitrite as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1503292-001	Anonymous	EK057G: Nitrite as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3831166)									
ES1503461-074	RINSATE 7	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1503831-004	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	0.03	0.03	0.0	No Limit
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3831159)									
ES1503461-074	RINSATE 7	EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	<0.1	<0.1	0.0	No Limit
ES1503831-005	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	1.2	1.1	0.0	0% - 50%
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3831160)									
ES1503461-074	RINSATE 7	EK067G: Total Phosphorus as P	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1503831-005	Anonymous	EK067G: Total Phosphorus as P	----	0.01	mg/L	0.19	0.19	0.0	0% - 50%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3829767)									
ES1503618-003	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	100	<20	132	No Limit
ES1503628-005	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	110	110	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3829767)									
ES1503618-003	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	110	<20	137	No Limit
ES1503628-005	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	130	130	0.0	No Limit
EP080: BTEXN (QC Lot: 3829767)									
ES1503618-003	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP080: BTEXN (QC Lot: 3829767) - continued									
ES1503618-003	Anonymous	EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
ES1503628-005	Anonymous	EP080: Benzene	71-43-2	1	µg/L	2	2	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	8	8	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	44	43	3.3	0% - 20%
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3832716)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	116	86	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	78.0	70	130
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3832719)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	115	86	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	77.5	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3832715)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	4.6 mg/kg	110	70	130
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	104	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	101	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	97.8	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	98.7	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	100	84	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	94.7	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	121	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	106	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	116	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.5	2.10 mg/kg	121	64	148
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	110	87	131
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	111	83	137
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3832718)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	4.6 mg/kg	113	70	130
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	97.2	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	95.1	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	93.8	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	96.2	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	95.6	84	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	90.9	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	115	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	102	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	113	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.5	2.10 mg/kg	110	64	148
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	104	87	131

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3832718) - continued								
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	105	83	137
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3832714)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.090 mg/kg	81.7	72	116
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3832717)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.090 mg/kg	80.0	72	116
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3829698)								
EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	97.9	82	120
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3829700)								
EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	97.9	82	120
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3829699)								
EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	105	89	115
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3829701)								
EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	113	89	115
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3832645)								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	<20	1000 mg/kg	87.2	64	114
				----	500 mg/kg	99.0	70	122
				----	100 mg/kg	90.4	70	127
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3833604)								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	----	100 mg/kg	103	70	127
				<20	1000 mg/kg	86.0	64	114
				----	500 mg/kg	106	70	122
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3833607)								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	----	100 mg/kg	101	70	127
				<20	1000 mg/kg	85.2	64	114
				----	500 mg/kg	96.1	70	122
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3832646)								
EK067G: Total Phosphorus as P	----	2	mg/kg	----	44.2 mg/kg	87.7	64	124
				----	100 mg/kg	95.0	69	123
				<2	442 mg/kg	89.7	68	116
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3833605)								
EK067G: Total Phosphorus as P	----	2	mg/kg	<2	442 mg/kg	88.1	68	116
				----	44.2 mg/kg	96.6	64	124
				----	100 mg/kg	106	69	123
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3833606)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3833606) - continued								
EK067G: Total Phosphorus as P	----	2	mg/kg	----	44.2 mg/kg	87.4	64	124
				<2	442 mg/kg	90.8	68	116
				----	100 mg/kg	92.4	69	123
EK255A SD: Ammonia in Sediment (QCLot: 3828208)								
EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	<0.2	0.1 mg/kg	104	70	130
EK255A SD: Ammonia in Sediment (QCLot: 3828209)								
EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	<0.2	0.1 mg/kg	98.1	70	130
EP003: Total Organic Carbon (TOC) in Soil (QCLot: 3826521)								
EP003: Total Organic Carbon	----	0.02	%	<0.02	1.94 %	105	70	130
EP003: Total Organic Carbon (TOC) in Soil (QCLot: 3826522)								
EP003: Total Organic Carbon	----	0.02	%	<0.02	0.11 %	98.2	70	130
EP003: Total Organic Carbon (TOC) in Soil (QCLot: 3836440)								
EP003: Total Organic Carbon	----	0.02	%	<0.02	1.94 %	104	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3823104)								
EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	6.25 mg/kg	98.6	70	130
EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	8.75 mg/kg	98.6	74	138
EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	3.75 mg/kg	104	63	131
EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3823107)								
EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	6.25 mg/kg	102	70	130
EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	8.75 mg/kg	101	74	138
EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	3.75 mg/kg	98.5	63	131
EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3823087)								
EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	6.2 mg/kg	99.2	61	133
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3823104)								
EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	5 mg/kg	101	78	118
EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	7.5 mg/kg	100	84	118
EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	5 mg/kg	98.6	73	119
EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3823107)								
EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	5 mg/kg	101	78	118
EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	7.5 mg/kg	106	84	118
EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	5 mg/kg	106	73	119
EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3824872)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3824872) - continued								
EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	6.2 mg/kg	110	61	133
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3828123)								
EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	16 mg/kg	89.6	66	120
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons (QCLot: 3828123)								
EP080-SD: C6 - C10 Fraction	C6_C10	3	mg/kg	<3	18.5 mg/kg	86.1	66	119
EP080-SD: BTEXN (QCLot: 3823087)								
EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	0.2 mg/kg	115	66	122
EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	0.2 mg/kg	118	69	122
EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.2 mg/kg	115	66	126
EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	0.4 mg/kg	113	59	129
EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.2 mg/kg	118	66	126
EP080-SD: BTEXN (QCLot: 3824872)								
EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	0.2 mg/kg	99.7	66	122
EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	0.2 mg/kg	117	69	122
EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.2 mg/kg	115	66	126
EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	0.4 mg/kg	111	59	129
EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.2 mg/kg	110	66	126
EP080-SD: BTEXN (QCLot: 3828123)								
EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	93.8	73	105
EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	1 mg/kg	93.5	73	105
EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	1 mg/kg	91.7	67	104
EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	2 mg/kg	89.6	66	106
EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	1 mg/kg	96.0	68	105
EP080-SD: Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	----	----	----	----
EP080-SD: Sum of BTEX	----	0.2	mg/kg	<0.2	----	----	----	----
EP090: Organotin Compounds (QCLot: 3826356)								
EP090: Monobutyltin	78763-54-9	1.0	µgSn/kg	<1	1.25 µgSn/kg	94.6	36	128
EP090: Dibutyltin	1002-53-5	1.0	µgSn/kg	<1	1.25 µgSn/kg	94.8	42	132
EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	1.25 µgSn/kg	116	52	139
EP090: Organotin Compounds (QCLot: 3826358)								
EP090: Monobutyltin	78763-54-9	1.0	µgSn/kg	<1	1.25 µgSn/kg	101	36	128
EP090: Dibutyltin	1002-53-5	1.0	µgSn/kg	<1	1.25 µgSn/kg	102	42	132
EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	1.25 µgSn/kg	111	52	139

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP090: Organotin Compounds (QCLot: 3828512)								
EP090: Monobutyltin	78763-54-9	1.0	µgSn/kg	<1	1.25 µgSn/kg	108	36	128
EP090: Dibutyltin	1002-53-5	1.0	µgSn/kg	<1	1.25 µgSn/kg	95.3	42	132
EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	1.25 µgSn/kg	96.5	52	139
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3823088)								
EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	50 µg/kg	94.2	45	139
EP130: Carbophenothion	786-19-6	10	µg/kg	<10	50 µg/kg	79.2	47	117
EP130: Chlorfenvinphos (E)	18708-86-6	10	µg/kg	<10.0	5 µg/kg	141	48	156
EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	50 µg/kg	76.9	62	136
EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	50 µg/kg	93.2	57	137
EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	50 µg/kg	96.1	57	121
EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	50 µg/kg	71.9	20.4	142
EP130: Diazinon	333-41-5	10	µg/kg	<10	50 µg/kg	79.7	57	121
EP130: Dichlorvos	62-73-7	10	µg/kg	<10	50 µg/kg	95.8	47	115
EP130: Dimethoate	60-51-5	10	µg/kg	<10	50 µg/kg	110	55	133
EP130: Ethion	563-12-2	10	µg/kg	<10	50 µg/kg	104	54	130
EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	50 µg/kg	104	57	131
EP130: Fenthion	55-38-9	10	µg/kg	<10	50 µg/kg	80.2	38	130
EP130: Malathion	121-75-5	10	µg/kg	<10	50 µg/kg	77.7	62	138
EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	50 µg/kg	107	33	137
EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	50 µg/kg	97.6	50	148
EP130: Parathion	56-38-2	10	µg/kg	<10	50 µg/kg	113	64	140
EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	50 µg/kg	70.1	56	136
EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	50 µg/kg	92.7	50	132
EP130: Prothiofos	34643-46-4	10	µg/kg	<10	50 µg/kg	90.5	55	135
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3823099)								
EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	50 µg/kg	94.0	45	139
EP130: Carbophenothion	786-19-6	10	µg/kg	<10	50 µg/kg	75.1	47	117
EP130: Chlorfenvinphos (E)	18708-86-6	10	µg/kg	<10.0	5 µg/kg	70.4	48	156
EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	50 µg/kg	89.7	62	136
EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	50 µg/kg	94.6	57	137
EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	50 µg/kg	90.6	57	121
EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	50 µg/kg	74.9	20.4	142
EP130: Diazinon	333-41-5	10	µg/kg	<10	50 µg/kg	75.0	57	121
EP130: Dichlorvos	62-73-7	10	µg/kg	<10	50 µg/kg	89.0	47	115
EP130: Dimethoate	60-51-5	10	µg/kg	<10	50 µg/kg	84.9	55	133
EP130: Ethion	563-12-2	10	µg/kg	<10	50 µg/kg	83.6	54	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3823099) - continued								
EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	50 µg/kg	86.3	57	131
EP130: Fenthion	55-38-9	10	µg/kg	<10	50 µg/kg	91.4	38	130
EP130: Malathion	121-75-5	10	µg/kg	<10	50 µg/kg	100	62	138
EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	50 µg/kg	74.4	33	137
EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	50 µg/kg	89.8	50	148
EP130: Parathion	56-38-2	10	µg/kg	<10	50 µg/kg	112	64	140
EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	50 µg/kg	84.7	56	136
EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	50 µg/kg	94.4	50	132
EP130: Prothiofos	34643-46-4	10	µg/kg	<10	50 µg/kg	91.2	55	135
EP131A: Organochlorine Pesticides (QCLot: 3823089)								
EP131A: Aldrin	309-00-2	0.5	µg/kg	<0.50	5 µg/kg	55.2	38	150
EP131A: alpha-BHC	319-84-6	0.5	µg/kg	<0.50	5 µg/kg	61.6	17.6	156
EP131A: beta-BHC	319-85-7	0.5	µg/kg	<0.50	5 µg/kg	85.4	30.5	152
EP131A: delta-BHC	319-86-8	0.5	µg/kg	<0.50	5 µg/kg	89.7	37	151
EP131A: 4.4`-DDD	72-54-8	0.5	µg/kg	<0.50	5 µg/kg	106	25.9	150
EP131A: 4.4`-DDE	72-55-9	0.5	µg/kg	<0.50	5 µg/kg	70.6	35	129
EP131A: 4.4`-DDT	50-29-3	0.5	µg/kg	<0.50	5 µg/kg	110	23.4	163
EP131A: Sum of DDD + DDE + DDT	----	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Dieldrin	60-57-1	0.5	µg/kg	<0.50	5 µg/kg	76.3	30.2	140
EP131A: alpha-Endosulfan	959-98-8	0.5	µg/kg	<0.50	5 µg/kg	57.2	38	140
EP131A: beta-Endosulfan	33213-65-9	0.5	µg/kg	<0.50	5 µg/kg	87.4	32	152
EP131A: Endosulfan sulfate	1031-07-8	0.5	µg/kg	<0.50	5 µg/kg	103	36	162
EP131A: Endosulfan (sum)	115-29-7	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Endrin	72-20-8	0.5	µg/kg	<0.50	5 µg/kg	68.1	25.8	166
EP131A: Endrin aldehyde	7421-93-4	0.5	µg/kg	<0.50	5 µg/kg	61.3	20.1	116
EP131A: Endrin ketone	53494-70-5	0.5	µg/kg	<0.50	5 µg/kg	65.0	13.4	151
EP131A: Heptachlor	76-44-8	0.5	µg/kg	<0.50	5 µg/kg	75.6	39	173
EP131A: Heptachlor epoxide	1024-57-3	0.5	µg/kg	<0.50	5 µg/kg	73.1	34	148
EP131A: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/kg	<0.50	5 µg/kg	39.2	26.1	152
EP131A: gamma-BHC	58-89-9	0.5	µg/kg	<0.50	5 µg/kg	58.4	31.2	159
EP131A: Methoxychlor	72-43-5	0.5	µg/kg	<0.50	5 µg/kg	73.6	36	160
EP131A: cis-Chlordane	5103-71-9	0.5	µg/kg	<0.50	5 µg/kg	71.7	36	142
EP131A: trans-Chlordane	5103-74-2	0.5	µg/kg	<0.50	5 µg/kg	68.6	29.5	138
EP131A: Total Chlordane (sum)	----	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Organochlorine Pesticides (QCLot: 3823100)								
EP131A: Aldrin	309-00-2	0.5	µg/kg	<0.50	5 µg/kg	95.8	38	150

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP131A: Organochlorine Pesticides (QCLot: 3823100) - continued								
EP131A: alpha-BHC	319-84-6	0.5	µg/kg	<0.50	5 µg/kg	52.9	17.6	156
EP131A: beta-BHC	319-85-7	0.5	µg/kg	<0.50	5 µg/kg	73.4	30.5	152
EP131A: delta-BHC	319-86-8	0.5	µg/kg	<0.50	5 µg/kg	107	37	151
EP131A: 4.4`-DDD	72-54-8	0.5	µg/kg	<0.50	5 µg/kg	134	25.9	150
EP131A: 4.4`-DDE	72-55-9	0.5	µg/kg	<0.50	5 µg/kg	58.1	35	129
EP131A: 4.4`-DDT	50-29-3	0.5	µg/kg	<0.50	5 µg/kg	115	23.4	163
EP131A: Sum of DDD + DDE + DDT	----	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Dieldrin	60-57-1	0.5	µg/kg	<0.50	5 µg/kg	57.1	30.2	140
EP131A: alpha-Endosulfan	959-98-8	0.5	µg/kg	<0.50	5 µg/kg	50.8	38	140
EP131A: beta-Endosulfan	33213-65-9	0.5	µg/kg	<0.50	5 µg/kg	67.8	32	152
EP131A: Endosulfan sulfate	1031-07-8	0.5	µg/kg	<0.50	5 µg/kg	114	36	162
EP131A: Endosulfan (sum)	115-29-7	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Endrin	72-20-8	0.5	µg/kg	<0.50	5 µg/kg	109	25.8	166
EP131A: Endrin aldehyde	7421-93-4	0.5	µg/kg	<0.50	5 µg/kg	65.4	20.1	116
EP131A: Endrin ketone	53494-70-5	0.5	µg/kg	<0.50	5 µg/kg	88.3	13.4	151
EP131A: Heptachlor	76-44-8	0.5	µg/kg	<0.50	5 µg/kg	73.7	39	173
EP131A: Heptachlor epoxide	1024-57-3	0.5	µg/kg	<0.50	5 µg/kg	62.5	34	148
EP131A: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/kg	<0.50	5 µg/kg	69.1	26.1	152
EP131A: gamma-BHC	58-89-9	0.5	µg/kg	<0.50	5 µg/kg	55.2	31.2	159
EP131A: Methoxychlor	72-43-5	0.5	µg/kg	<0.50	5 µg/kg	92.8	36	160
EP131A: cis-Chlordane	5103-71-9	0.5	µg/kg	<0.50	5 µg/kg	62.9	36	142
EP131A: trans-Chlordane	5103-74-2	0.5	µg/kg	<0.50	5 µg/kg	52.5	29.5	138
EP131A: Total Chlordane (sum)	----	0.5	µg/kg	<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3823090)								
EP131B: Total Polychlorinated biphenyls	----	5	µg/kg	<5.0	50 µg/kg	67.0	44	136
EP131B: Aroclor 1016	12674-11-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1221	11104-28-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1232	11141-16-5	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1242	53469-21-9	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1248	12672-29-6	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1254	11097-69-1	5	µg/kg	<5.0	50 µg/kg	67.0	44	136
EP131B: Aroclor 1260	11096-82-5	5	µg/kg	<5.0	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3823101)								
EP131B: Total Polychlorinated biphenyls	----	5	µg/kg	<5.0	50 µg/kg	78.9	44	136
EP131B: Aroclor 1016	12674-11-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1221	11104-28-2	5	µg/kg	<5.0	----	----	----	----

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3823101) - continued								
EP131B: Aroclor 1232	11141-16-5	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1242	53469-21-9	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1248	12672-29-6	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1254	11097-69-1	5	µg/kg	<5.0	50 µg/kg	78.9	44	136
EP131B: Aroclor 1260	11096-82-5	5	µg/kg	<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3823103)								
EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	25 µg/kg	100	67	133
EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	25 µg/kg	91.0	63	135
EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	25 µg/kg	101	68	132
EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	25 µg/kg	104	67	133
EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	25 µg/kg	100	69	131
EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	25 µg/kg	104	66	138
EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	25 µg/kg	107	67	133
EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	25 µg/kg	106	64	130
EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	25 µg/kg	109	67	133
EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	25 µg/kg	98.5	65	133
EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	25 µg/kg	107	70	134
EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	25 µg/kg	101	63	133
EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	25 µg/kg	101	67	133
EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	25 µg/kg	118	64	130
EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	25 µg/kg	99.0	72	130
EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	25 µg/kg	105	70	132
EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	25 µg/kg	80.6	65	127
EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	25 µg/kg	80.2	67	135
EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	25 µg/kg	84.8	62	126
EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	25 µg/kg	97.6	66	134
EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3823106)								
EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	25 µg/kg	96.7	67	133
EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	25 µg/kg	92.2	63	135
EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	25 µg/kg	103	68	132
EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	25 µg/kg	106	67	133
EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	25 µg/kg	99.9	69	131
EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	25 µg/kg	103	66	138
EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	25 µg/kg	104	67	133
EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	25 µg/kg	106	64	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3823106) - continued								
EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	25 µg/kg	107	67	133
EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	25 µg/kg	97.2	65	133
EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	25 µg/kg	102	70	134
EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	25 µg/kg	106	63	133
EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	25 µg/kg	121	67	133
EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	25 µg/kg	116	64	130
EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	25 µg/kg	92.6	72	130
EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	25 µg/kg	107	70	132
EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	25 µg/kg	78.7	65	127
EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	25 µg/kg	92.8	67	135
EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	25 µg/kg	80.2	62	126
EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	25 µg/kg	80.1	66	134
EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 3829910)								
EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	----	----	----	----
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	101	79	121
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	100	83	113
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	102	84	116
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	106	83	117
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	102	84	116
EG020A-T: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	101	85	115
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	106	84	116
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	104	77	117
EG020T: Total Metals by ICP-MS (QCLot: 3829911)								
EG020B-T: Silver	7440-22-4	0.001	mg/L	<0.001	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3834612)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	91.8	77	115
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3831167)								
EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	1.0 mg/L	103	86	112
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3823153)								
EK057G: Nitrite as N	----	0.01	mg/L	<0.01	0.5 mg/L	89.2	83	119
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3831166)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3831166) - continued								
EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	0.5 mg/L	102	87	119
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3831159)								
EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	<0.1	10 mg/L	88.4	66	114
				----	1.0 mg/L	77.3	66	126
				----	5 mg/L	101	66	119
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3831160)								
EK067G: Total Phosphorus as P	----	0.01	mg/L	----	1.0 mg/L	98.7	66	124
				----	0.442 mg/L	82.7	63	123
				<0.01	4.42 mg/L	89.3	67	117
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3826339)								
EP066: Total Polychlorinated biphenyls	----	1	µg/L	<1	10 µg/L	80.1	61.6	107
EP068A: Organochlorine Pesticides (OC) (QCLot: 3826338)								
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	5 µg/L	86.9	65	107
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	5 µg/L	85.9	51	119
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	5 µg/L	92.6	63	113
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	5 µg/L	96.9	62	112
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	5 µg/L	87.5	60	106
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	5 µg/L	89.2	58	108
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	5 µg/L	78.8	58	114
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	5 µg/L	68.7	59	111
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	5 µg/L	76.2	62	114
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	5 µg/L	95.0	64	114
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	5 µg/L	71.4	62	114
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	5 µg/L	78.5	59	111
EP068: 4.4`-DDE	72-55-9	0.5	µg/L	<0.5	5 µg/L	76.3	63	111
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	5 µg/L	81.2	61	119
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	5 µg/L	80.8	71	119
EP068: 4.4`-DDD	72-54-8	0.5	µg/L	<0.5	5 µg/L	88.0	70	118
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	5 µg/L	95.0	62	112
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	5 µg/L	74.8	53	113
EP068: 4.4`-DDT	50-29-3	2.0	µg/L	<2.0	5 µg/L	84.7	52	120
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	5 µg/L	90.0	51	117
EP068: Methoxychlor	72-43-5	2.0	µg/L	<2.0	5 µg/L	86.4	53	127
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3826338)								
EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	5 µg/L	85.7	52	122
EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	5 µg/L	89.5	51	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3826338) - continued								
EP068: Monocrotophos	6923-22-4	0.5	µg/L	<2.0	5 µg/L	33.6	10	89.1
EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	5 µg/L	87.2	61	119
EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	5 µg/L	93.7	67	113
EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	5 µg/L	69.6	60	116
EP068: Parathion-methyl	298-00-0	2.0	µg/L	<2.0	5 µg/L	99.3	64	120
EP068: Malathion	121-75-5	0.5	µg/L	<0.5	5 µg/L	70.2	67	115
EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	5 µg/L	71.8	64	110
EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	5 µg/L	78.0	63	109
EP068: Parathion	56-38-2	2.0	µg/L	<2.0	5 µg/L	78.8	63	121
EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	5 µg/L	91.9	60	110
EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	5 µg/L	76.3	68	114
EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	5 µg/L	67.2	61	109
EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	5 µg/L	76.0	63	117
EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	5 µg/L	76.9	63	111
EP068: Ethion	563-12-2	0.5	µg/L	<0.5	5 µg/L	72.6	65	115
EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	5 µg/L	78.5	55	115
EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	5 µg/L	94.7	44	124
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3826341)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	<1.0	5 µg/L	65.1	58.6	119
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	<1.0	5 µg/L	76.1	63.6	114
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	<1.0	5 µg/L	66.7	62.2	113
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	<1.0	5 µg/L	76.3	63.9	115
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	<1.0	5 µg/L	75.9	62.6	116
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	<1.0	5 µg/L	80.2	64.3	116
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	<1.0	5 µg/L	85.7	63.6	118
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	<1.0	5 µg/L	82.5	63.1	118
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	<1.0	5 µg/L	77.0	64.1	117
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	<1.0	5 µg/L	83.8	62.5	116
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.2	µg/L	<1.0	5 µg/L	69.9	61.7	119
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	<1.0	5 µg/L	81.6	61.7	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	<0.5	5 µg/L	77.7	63.3	117
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.2	µg/L	<1.0	5 µg/L	67.9	59.9	118
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.2	µg/L	<1.0	5 µg/L	68.2	61.2	117
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.2	µg/L	<1.0	5 µg/L	75.6	59.1	118
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3826340)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	2000 µg/L	99.4	59	129

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3826340) - continued								
EP071: C15 - C28 Fraction	----	100	µg/L	<100	3000 µg/L	97.8	71	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	2000 µg/L	91.5	62	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3829767)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	87.7	75	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3826340)								
EP071: >C10 - C16 Fraction	>C10_C16	100	µg/L	<100	2500 µg/L	126	58.9	131
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	3500 µg/L	94.6	73.9	138
EP071: >C34 - C40 Fraction	----	50	µg/L	<100	1500 µg/L	102	67	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3829767)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	91.0	75	127
EP080: BTEXN (QCLot: 3829767)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	84.4	70	124
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	86.1	65	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	86.7	70	120
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	85.8	69	121
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	89.4	72	122
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	93.0	70	124
EP090: Organotin Compounds (QCLot: 3828241)								
EP090H: Monobutyltin	78763-54-9	2	ngSn/L	<5	50 ngSn/L	63.2	25	139
EP090H: Dibutyltin	1002-53-5	2	ngSn/L	<5	50 ngSn/L	60.9	50	114
EP090H: Tributyltin	56573-85-4	1	ngSn/L	<2	50 ngSn/L	54.6	39	120

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3832715)							
ES1503461-002	WB19 0.5-1.0A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	98.6	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	95.9	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	106	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	100	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	96.9	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	95.7	70	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3832715) - continued							
ES1503461-002	WB19 0.5-1.0A	EG020-SD: Zinc	7440-66-6	250 mg/kg	99.0	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3832718)							
ES1503461-062	WB17 0.5-1.0A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	92.6	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	92.6	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	99.0	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	92.2	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	97.5	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	92.9	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	95.1	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3832714)							
ES1503461-001	WB19 0.0-0.5A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	105	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3832717)							
ES1503461-061	WB17 0.0-0.5A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	102	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3829698)							
ES1502604-008	Anonymous	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	98.4	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3829700)							
ES1503461-056	BE13 0.5-1.0A	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	98.1	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3829699)							
ES1502604-008	Anonymous	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	115	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3829701)							
ES1503461-056	BE13 0.5-1.0A	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	114	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3832645)							
ES1503080-025	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	85.9	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3833604)							
ES1503461-013	WB23 0.0-0.5A	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	74.6	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3833607)							
ES1503461-069	TRIPLICATE 7A	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	90.9	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3832646)							
ES1503080-025	Anonymous	EK067G: Total Phosphorus as P	----	100 mg/kg	75.6	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3833605)							
ES1503461-013	WB23 0.0-0.5A	EK067G: Total Phosphorus as P	----	100 mg/kg	126	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3833606)							
ES1503461-069	TRIPLICATE 7A	EK067G: Total Phosphorus as P	----	100 mg/kg	113	70	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EK255A SD: Ammonia in Sediment (QCLot: 3828208)							
ES1503461-001	WB19 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	# Not Determined	70	130
EK255A SD: Ammonia in Sediment (QCLot: 3828209)							
ES1503461-061	WB17 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	# Not Determined	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3823087)							
ES1503461-011	WB20 0.3V	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	119	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3823104)							
ES1503461-001	WB19 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	76.2	70	130
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	93.3	70	130
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	97.2	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3823107)							
ES1503461-061	WB17 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	82.6	70	130
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	117	70	130
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	85.5	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3828123)							
ES1503461-076	WB19 0.7V	EP080-SD: C6 - C9 Fraction	----	8 mg/kg	81.7	70	130
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons (QCLot: 3828123)							
ES1503461-076	WB19 0.7V	EP080-SD: C6 - C10 Fraction	C6_C10	8 mg/kg	82.0	70	130
EP080-SD: BTEXN (QCLot: 3823087)							
ES1503461-011	WB20 0.3V	EP080-SD: Benzene	71-43-2	0.5 mg/kg	87.6	70	130
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	95.2	70	130
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	98.1	70	130
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	94.0	70	130
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	94.4	70	130
EP080-SD: BTEXN (QCLot: 3828123)							
ES1503461-076	WB19 0.7V	EP080-SD: Benzene	71-43-2	2 mg/kg	80.4	70	130
		EP080-SD: Toluene	108-88-3	2 mg/kg	83.2	70	130
EP090: Organotin Compounds (QCLot: 3826356)							
ES1503461-002	WB19 0.5-1.0A	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	73.9	35	130
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	92.6	20	130
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	92.1	20	130
EP090: Organotin Compounds (QCLot: 3826358)							
ES1503461-062	WB17 0.5-1.0A	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	72.3	35	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP090: Organotin Compounds (QCLot: 3826358) - continued							
ES1503461-062	WB17 0.5-1.0A	EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	93.8	20	130
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	88.9	20	130
EP090: Organotin Compounds (QCLot: 3828512)							
ES1503461-072	TRIPLICATE 8B	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	# Not Determined	35	130
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	# 13.5	20	130
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	77.0	20	130
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3823088)							
ES1503461-001	WB19 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	67.3	36	144
		EP130: Carbophenothion	786-19-6	50 µg/kg	77.8	38	120
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	99.6	49	157
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	71.9	53	145
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	70.7	60	140
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	80.9	56	126
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	70.2	9.7	148
		EP130: Diazinon	333-41-5	50 µg/kg	89.8	60	122
		EP130: Dichlorvos	62-73-7	50 µg/kg	86.5	33	123
		EP130: Dimethoate	60-51-5	50 µg/kg	97.5	36	142
		EP130: Ethion	563-12-2	50 µg/kg	74.4	48	136
		EP130: Fenamiphos	22224-92-6	50 µg/kg	84.1	42	136
		EP130: Fenthion	55-38-9	50 µg/kg	70.6	35	131
		EP130: Malathion	121-75-5	50 µg/kg	67.5	55	141
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	98.8	23.5	132
		EP130: Monocrotophos	6923-22-4	50 µg/kg	75.6	35	153
		EP130: Parathion	56-38-2	50 µg/kg	77.8	57	147
		EP130: Parathion-methyl	298-00-0	50 µg/kg	76.2	48	140
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	67.2	45	137
		EP130: Prothiofos	34643-46-4	50 µg/kg	71.4	51	137
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3823099)							
ES1503461-061	WB17 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	89.3	36	144
		EP130: Carbophenothion	786-19-6	50 µg/kg	80.6	38	120
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	120	49	157
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	107	53	145
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	75.5	60	140
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	81.4	56	126
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	99.1	9.7	148

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3823099) - continued							
ES1503461-061	WB17 0.0-0.5A	EP130: Diazinon	333-41-5	50 µg/kg	75.2	60	122
		EP130: Dichlorvos	62-73-7	50 µg/kg	73.1	33	123
		EP130: Dimethoate	60-51-5	50 µg/kg	107	36	142
		EP130: Ethion	563-12-2	50 µg/kg	79.4	48	136
		EP130: Fenamiphos	22224-92-6	50 µg/kg	108	42	136
		EP130: Fenthion	55-38-9	50 µg/kg	80.4	35	131
		EP130: Malathion	121-75-5	50 µg/kg	80.4	55	141
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	99.5	23.5	132
		EP130: Monocrotophos	6923-22-4	50 µg/kg	96.9	35	153
		EP130: Parathion	56-38-2	50 µg/kg	109	57	147
		EP130: Parathion-methyl	298-00-0	50 µg/kg	99.6	48	140
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	85.3	45	137
		EP130: Prothiofos	34643-46-4	50 µg/kg	92.1	51	137
EP131A: Organochlorine Pesticides (QCLot: 3823089)							
ES1503461-001	WB19 0.0-0.5A	EP131A: Aldrin	309-00-2	5 µg/kg	46.5	23.4	153
		EP131A: alpha-BHC	319-84-6	5 µg/kg	55.9	17.6	156
		EP131A: beta-BHC	319-85-7	5 µg/kg	60.0	24.9	153
		EP131A: delta-BHC	319-86-8	5 µg/kg	85.2	25.2	147
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	69.7	25.9	150
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	55.8	31.2	125
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	94.6	23.4	163
		EP131A: Dieldrin	60-57-1	5 µg/kg	65.7	30.2	140
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	51.5	28.8	135
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	67.4	22.6	141
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	84.0	16.1	156
		EP131A: Endrin	72-20-8	5 µg/kg	81.4	17.7	162
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	40.7	20.1	116
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	64.0	13.4	151
		EP131A: Heptachlor	76-44-8	5 µg/kg	95.3	23.8	170
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	60.4	28.3	140
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	48.8	17.7	144
		EP131A: gamma-BHC	58-89-9	5 µg/kg	61.4	21.8	158
		EP131A: Methoxychlor	72-43-5	5 µg/kg	83.5	24.4	158
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	52.4	27.3	139
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	61.4	29.5	138
EP131A: Organochlorine Pesticides (QCLot: 3823100)							
ES1503461-061	WB17 0.0-0.5A	EP131A: Aldrin	309-00-2	5 µg/kg	63.9	23.4	153

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP131A: Organochlorine Pesticides (QCLot: 3823100) - continued							
ES1503461-061	WB17 0.0-0.5A	EP131A: alpha-BHC	319-84-6	5 µg/kg	48.8	17.6	156
		EP131A: beta-BHC	319-85-7	5 µg/kg	46.4	24.9	153
		EP131A: delta-BHC	319-86-8	5 µg/kg	79.1	25.2	147
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	76.9	25.9	150
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	46.5	31.2	125
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	79.4	23.4	163
		EP131A: Dieldrin	60-57-1	5 µg/kg	45.4	30.2	140
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	48.3	28.8	135
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	44.9	22.6	141
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	59.6	16.1	156
		EP131A: Endrin	72-20-8	5 µg/kg	63.0	17.7	162
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	40.9	20.1	116
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	44.7	13.4	151
		EP131A: Heptachlor	76-44-8	5 µg/kg	54.1	23.8	170
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	38.0	28.3	140
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	65.8	17.7	144
		EP131A: gamma-BHC	58-89-9	5 µg/kg	44.1	21.8	158
		EP131A: Methoxychlor	72-43-5	5 µg/kg	124	24.4	158
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	38.9	27.3	139
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	59.4	29.5	138
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3823090)							
ES1503461-001	WB19 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	66.4	44	136
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	66.4	44	136
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3823101)							
ES1503461-061	WB17 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	72.7	44	136
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	72.7	44	136
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3823103)							
ES1503461-001	WB19 0.0-0.5A	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	102	70	130
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	97.4	70	130
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	97.7	70	130
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	96.0	70	130
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	103	70	130
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	102	70	130
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	108	70	130
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	101	70	130
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	102	70	130

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Recovery Limits (%): Low	Recovery Limits (%): High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3823103) - continued							
ES1503461-001	WB19 0.0-0.5A	EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	111	70	130
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	103	70	130
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	91.5	70	130
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	99.6	70	130
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	108	70	130
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	110	70	130
		EP132B-SD: Perylene	198-55-0	25 µg/kg	110	70	130
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	113	70	130
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	109	70	130
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	109	70	130
		EP132B-SD: Coronene	191-07-1	25 µg/kg	113	70	130
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3823106)							
ES1503461-061	WB17 0.0-0.5A	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	105	70	130
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	106	70	130
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	107	70	130
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	102	70	130
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	110	70	130
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	106	70	130
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	108	70	130
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	108	70	130
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	107	70	130
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	112	70	130
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	103	70	130
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	103	70	130
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	82.7	70	130
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	110	70	130
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	111	70	130
		EP132B-SD: Perylene	198-55-0	25 µg/kg	114	70	130
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	107	70	130
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	106	70	130
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	104	70	130
		EP132B-SD: Coronene	191-07-1	25 µg/kg	112	70	130

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Recovery Limits (%): Low	Recovery Limits (%): High

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 3829910)							
ES1503357-008	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	98.5	70	130
		EG020A-T: Cadmium	7440-43-9	0.250 mg/L	97.4	70	130
		EG020A-T: Chromium	7440-47-3	1 mg/L	101	70	130
		EG020A-T: Copper	7440-50-8	1 mg/L	101	70	130
		EG020A-T: Lead	7439-92-1	1 mg/L	101	70	130
		EG020A-T: Manganese	7439-96-5	1 mg/L	102	70	130
		EG020A-T: Nickel	7440-02-0	1 mg/L	98.4	70	130
		EG020A-T: Zinc	7440-66-6	1 mg/L	101	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3834612)							
ES1503357-008	Anonymous	EG035T: Mercury	7439-97-6	0.010 mg/L	85.4	70	130
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3831167)							
ES1503461-074	RINSATE 7	EK055G: Ammonia as N	7664-41-7	1 mg/L	102	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3823153)							
EM1501516-003	Anonymous	EK057G: Nitrite as N	----	0.5 mg/L	97.4	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3831166)							
ES1503461-074	RINSATE 7	EK059G: Nitrite + Nitrate as N	----	0.5 mg/L	102	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3831159)							
ES1503599-042	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	5 mg/L	104	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3831160)							
ES1503599-042	Anonymous	EK067G: Total Phosphorus as P	----	1.0 mg/L	95.4	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3829767)							
ES1503618-003	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	83.5	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3829767)							
ES1503618-003	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	84.9	70	130
EP080: BTEXN (QCLot: 3829767)							
ES1503618-003	Anonymous	EP080: Benzene	71-43-2	25 µg/L	83.5	70	130
		EP080: Toluene	108-88-3	25 µg/L	86.7	70	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	89.9	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	87.8	70	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	92.4	70	130
		EP080: Naphthalene	91-20-3	25 µg/L	101	70	130

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

The quality control term Matrix Spike (MS) and Matrix Spike Duplicate (MSD) refers to intralaboratory split samples spiked with a representative set of target analytes. The purpose of these QC parameters are to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3823087)										
ES1503461-011	WB20 0.3V	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	119	----	70	130	----	----
EP080-SD: BTEXN (QCLot: 3823087)										
ES1503461-011	WB20 0.3V	EP080-SD: Benzene	71-43-2	0.5 mg/kg	87.6	----	70	130	----	----
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	95.2	----	70	130	----	----
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	98.1	----	70	130	----	----
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	94.0	----	70	130	----	----
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	94.4	----	70	130	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3823088)										
ES1503461-001	WB19 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	67.3	----	36	144	----	----
		EP130: Carbophenothion	786-19-6	50 µg/kg	77.8	----	38	120	----	----
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	99.6	----	49	157	----	----
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	71.9	----	53	145	----	----
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	70.7	----	60	140	----	----
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	80.9	----	56	126	----	----
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	70.2	----	9.7	148	----	----
		EP130: Diazinon	333-41-5	50 µg/kg	89.8	----	60	122	----	----
		EP130: Dichlorvos	62-73-7	50 µg/kg	86.5	----	33	123	----	----
		EP130: Dimethoate	60-51-5	50 µg/kg	97.5	----	36	142	----	----
		EP130: Ethion	563-12-2	50 µg/kg	74.4	----	48	136	----	----
		EP130: Fenamiphos	22224-92-6	50 µg/kg	84.1	----	42	136	----	----
		EP130: Fenthion	55-38-9	50 µg/kg	70.6	----	35	131	----	----
		EP130: Malathion	121-75-5	50 µg/kg	67.5	----	55	141	----	----
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	98.8	----	23.5	132	----	----
		EP130: Monocrotophos	6923-22-4	50 µg/kg	75.6	----	35	153	----	----
		EP130: Parathion	56-38-2	50 µg/kg	77.8	----	57	147	----	----
		EP130: Parathion-methyl	298-00-0	50 µg/kg	76.2	----	48	140	----	----
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	67.2	----	45	137	----	----
		EP130: Prothiofos	34643-46-4	50 µg/kg	71.4	----	51	137	----	----
EP131A: Organochlorine Pesticides (QCLot: 3823089)										
ES1503461-001	WB19 0.0-0.5A	EP131A: Aldrin	309-00-2	5 µg/kg	46.5	----	23.4	153	----	----
		EP131A: alpha-BHC	319-84-6	5 µg/kg	55.9	----	17.6	156	----	----
		EP131A: beta-BHC	319-85-7	5 µg/kg	60.0	----	24.9	153	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP131A: Organochlorine Pesticides (QCLot: 3823089) - continued										
ES1503461-001	WB19 0.0-0.5A	EP131A: delta-BHC	319-86-8	5 µg/kg	85.2	----	25.2	147	----	----
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	69.7	----	25.9	150	----	----
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	55.8	----	31.2	125	----	----
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	94.6	----	23.4	163	----	----
		EP131A: Dieldrin	60-57-1	5 µg/kg	65.7	----	30.2	140	----	----
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	51.5	----	28.8	135	----	----
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	67.4	----	22.6	141	----	----
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	84.0	----	16.1	156	----	----
		EP131A: Endrin	72-20-8	5 µg/kg	81.4	----	17.7	162	----	----
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	40.7	----	20.1	116	----	----
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	64.0	----	13.4	151	----	----
		EP131A: Heptachlor	76-44-8	5 µg/kg	95.3	----	23.8	170	----	----
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	60.4	----	28.3	140	----	----
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	48.8	----	17.7	144	----	----
		EP131A: gamma-BHC	58-89-9	5 µg/kg	61.4	----	21.8	158	----	----
		EP131A: Methoxychlor	72-43-5	5 µg/kg	83.5	----	24.4	158	----	----
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	52.4	----	27.3	139	----	----
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	61.4	----	29.5	138	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3823090)										
ES1503461-001	WB19 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	66.4	----	44	136	----	----
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	66.4	----	44	136	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3823099)										
ES1503461-061	WB17 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	89.3	----	36	144	----	----
		EP130: Carbophenothion	786-19-6	50 µg/kg	80.6	----	38	120	----	----
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	120	----	49	157	----	----
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	107	----	53	145	----	----
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	75.5	----	60	140	----	----
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	81.4	----	56	126	----	----
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	99.1	----	9.7	148	----	----
		EP130: Diazinon	333-41-5	50 µg/kg	75.2	----	60	122	----	----
		EP130: Dichlorvos	62-73-7	50 µg/kg	73.1	----	33	123	----	----
		EP130: Dimethoate	60-51-5	50 µg/kg	107	----	36	142	----	----
		EP130: Ethion	563-12-2	50 µg/kg	79.4	----	48	136	----	----
		EP130: Fenamiphos	22224-92-6	50 µg/kg	108	----	42	136	----	----
		EP130: Fenthion	55-38-9	50 µg/kg	80.4	----	35	131	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3823099) - continued										
ES1503461-061	WB17 0.0-0.5A	EP130: Malathion	121-75-5	50 µg/kg	80.4	----	55	141	----	----
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	99.5	----	23.5	132	----	----
		EP130: Monocrotophos	6923-22-4	50 µg/kg	96.9	----	35	153	----	----
		EP130: Parathion	56-38-2	50 µg/kg	109	----	57	147	----	----
		EP130: Parathion-methyl	298-00-0	50 µg/kg	99.6	----	48	140	----	----
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	85.3	----	45	137	----	----
		EP130: Prothiofos	34643-46-4	50 µg/kg	92.1	----	51	137	----	----
EP131A: Organochlorine Pesticides (QCLot: 3823100)										
ES1503461-061	WB17 0.0-0.5A	EP131A: Aldrin	309-00-2	5 µg/kg	63.9	----	23.4	153	----	----
		EP131A: alpha-BHC	319-84-6	5 µg/kg	48.8	----	17.6	156	----	----
		EP131A: beta-BHC	319-85-7	5 µg/kg	46.4	----	24.9	153	----	----
		EP131A: delta-BHC	319-86-8	5 µg/kg	79.1	----	25.2	147	----	----
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	76.9	----	25.9	150	----	----
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	46.5	----	31.2	125	----	----
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	79.4	----	23.4	163	----	----
		EP131A: Dieldrin	60-57-1	5 µg/kg	45.4	----	30.2	140	----	----
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	48.3	----	28.8	135	----	----
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	44.9	----	22.6	141	----	----
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	59.6	----	16.1	156	----	----
		EP131A: Endrin	72-20-8	5 µg/kg	63.0	----	17.7	162	----	----
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	40.9	----	20.1	116	----	----
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	44.7	----	13.4	151	----	----
		EP131A: Heptachlor	76-44-8	5 µg/kg	54.1	----	23.8	170	----	----
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	38.0	----	28.3	140	----	----
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	65.8	----	17.7	144	----	----
		EP131A: gamma-BHC	58-89-9	5 µg/kg	44.1	----	21.8	158	----	----
		EP131A: Methoxychlor	72-43-5	5 µg/kg	124	----	24.4	158	----	----
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	38.9	----	27.3	139	----	----
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	59.4	----	29.5	138	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3823101)										
ES1503461-061	WB17 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	72.7	----	44	136	----	----
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	72.7	----	44	136	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3823103)										
ES1503461-001	WB19 0.0-0.5A	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	102	----	70	130	----	----
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	97.4	----	70	130	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3823103) - continued										
ES1503461-001	WB19 0.0-0.5A	EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	97.7	----	70	130	----	----
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	96.0	----	70	130	----	----
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	103	----	70	130	----	----
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	102	----	70	130	----	----
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	108	----	70	130	----	----
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	101	----	70	130	----	----
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	102	----	70	130	----	----
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	111	----	70	130	----	----
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	103	----	70	130	----	----
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	91.5	----	70	130	----	----
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	99.6	----	70	130	----	----
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	108	----	70	130	----	----
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	110	----	70	130	----	----
		EP132B-SD: Perylene	198-55-0	25 µg/kg	110	----	70	130	----	----
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	113	----	70	130	----	----
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	109	----	70	130	----	----
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	109	----	70	130	----	----
		EP132B-SD: Coronene	191-07-1	25 µg/kg	113	----	70	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3823104)										
ES1503461-001	WB19 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	76.2	----	70	130	----	----
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	93.3	----	70	130	----	----
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	97.2	----	70	130	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3823106)										
ES1503461-061	WB17 0.0-0.5A	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	105	----	70	130	----	----
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	106	----	70	130	----	----
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	107	----	70	130	----	----
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	102	----	70	130	----	----
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	110	----	70	130	----	----
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	106	----	70	130	----	----
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	108	----	70	130	----	----
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	108	----	70	130	----	----
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	107	----	70	130	----	----
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	112	----	70	130	----	----
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	103	----	70	130	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3823106) - continued										
ES1503461-061	WB17 0.0-0.5A	EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	103	----	70	130	----	----
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	82.7	----	70	130	----	----
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	110	----	70	130	----	----
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	111	----	70	130	----	----
		EP132B-SD: Perylene	198-55-0	25 µg/kg	114	----	70	130	----	----
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	107	----	70	130	----	----
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	106	----	70	130	----	----
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	104	----	70	130	----	----
		EP132B-SD: Coronene	191-07-1	25 µg/kg	112	----	70	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3823107)										
ES1503461-061	WB17 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	82.6	----	70	130	----	----
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	117	----	70	130	----	----
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	85.5	----	70	130	----	----
EP090: Organotin Compounds (QCLot: 3826356)										
ES1503461-002	WB19 0.5-1.0A	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	73.9	----	35	130	----	----
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	92.6	----	20	130	----	----
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	92.1	----	20	130	----	----
EP090: Organotin Compounds (QCLot: 3826358)										
ES1503461-062	WB17 0.5-1.0A	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	72.3	----	35	130	----	----
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	93.8	----	20	130	----	----
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	88.9	----	20	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3828123)										
ES1503461-076	WB19 0.7V	EP080-SD: C6 - C9 Fraction	----	8 mg/kg	81.7	----	70	130	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons (QCLot: 3828123)										
ES1503461-076	WB19 0.7V	EP080-SD: C6 - C10 Fraction	C6_C10	8 mg/kg	82.0	----	70	130	----	----
EP080-SD: BTEXN (QCLot: 3828123)										
ES1503461-076	WB19 0.7V	EP080-SD: Benzene	71-43-2	2 mg/kg	80.4	----	70	130	----	----
		EP080-SD: Toluene	108-88-3	2 mg/kg	83.2	----	70	130	----	----
EK255A SD: Ammonia in Sediment (QCLot: 3828208)										
ES1503461-001	WB19 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	# Not Determined	----	70	130	----	----
EK255A SD: Ammonia in Sediment (QCLot: 3828209)										
ES1503461-061	WB17 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	# Not Determined	----	70	130	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP090: Organotin Compounds (QCLot: 3828512)										
ES1503461-072	TRIPLICATE 8B	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	# Not Determined	----	35	130	----	----
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	# 13.5	----	20	130	----	----
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	77.0	----	20	130	----	----
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3829698)										
ES1502604-008	Anonymous	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	98.4	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3829699)										
ES1502604-008	Anonymous	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	115	----	70	130	----	----
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3829700)										
ES1503461-056	BE13 0.5-1.0A	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	98.1	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3829701)										
ES1503461-056	BE13 0.5-1.0A	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	114	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3832645)										
ES1503080-025	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	85.9	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3832646)										
ES1503080-025	Anonymous	EK067G: Total Phosphorus as P	----	100 mg/kg	75.6	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3832714)										
ES1503461-001	WB19 0.0-0.5A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	105	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3832715)										
ES1503461-002	WB19 0.5-1.0A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	98.6	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	95.9	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	106	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	100	----	70	130	----	----
		EG020-SD: Lead	7439-92-1	250 mg/kg	96.9	----	70	130	----	----
		EG020-SD: Nickel	7440-02-0	50 mg/kg	95.7	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	99.0	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3832717)										
ES1503461-061	WB17 0.0-0.5A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	102	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3832718)										
ES1503461-062	WB17 0.5-1.0A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	92.6	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	92.6	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	99.0	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	92.2	----	70	130	----	----
		EG020-SD: Lead	7439-92-1	250 mg/kg	97.5	----	70	130	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3832718) - continued										
ES1503461-062	WB17 0.5-1.0A	EG020-SD: Nickel	7440-02-0	50 mg/kg	92.9	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	95.1	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3833604)										
ES1503461-013	WB23 0.0-0.5A	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	74.6	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3833605)										
ES1503461-013	WB23 0.0-0.5A	EK067G: Total Phosphorus as P	----	100 mg/kg	126	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3833606)										
ES1503461-069	TRIPLICATE 7A	EK067G: Total Phosphorus as P	----	100 mg/kg	113	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3833607)										
ES1503461-069	TRIPLICATE 7A	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	90.9	----	70	130	----	----

Sub-Matrix: **WATER**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3823153)										
EM1501516-003	Anonymous	EK057G: Nitrite as N	----	0.5 mg/L	97.4	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3829767)										
ES1503618-003	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	83.5	----	70	130	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3829767)										
ES1503618-003	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	84.9	----	70	130	----	----
EP080: BTEXN (QCLot: 3829767)										
ES1503618-003	Anonymous	EP080: Benzene	71-43-2	25 µg/L	83.5	----	70	130	----	----
		EP080: Toluene	108-88-3	25 µg/L	86.7	----	70	130	----	----
		EP080: Ethylbenzene	100-41-4	25 µg/L	89.9	----	70	130	----	----
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	87.8	----	70	130	----	----
		EP080: ortho-Xylene	95-47-6	25 µg/L	92.4	----	70	130	----	----
		EP080: Naphthalene	91-20-3	25 µg/L	101	----	70	130	----	----
EG020T: Total Metals by ICP-MS (QCLot: 3829910)										
ES1503357-008	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	98.5	----	70	130	----	----
		EG020A-T: Cadmium	7440-43-9	0.250 mg/L	97.4	----	70	130	----	----
		EG020A-T: Chromium	7440-47-3	1 mg/L	101	----	70	130	----	----
		EG020A-T: Copper	7440-50-8	1 mg/L	101	----	70	130	----	----
		EG020A-T: Lead	7439-92-1	1 mg/L	101	----	70	130	----	----
		EG020A-T: Manganese	7439-96-5	1 mg/L	102	----	70	130	----	----

Sub-Matrix: **WATER**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EG020T: Total Metals by ICP-MS (QCLot: 3829910) - continued										
ES1503357-008	Anonymous	EG020A-T: Nickel	7440-02-0	1 mg/L	98.4	----	70	130	----	----
		EG020A-T: Zinc	7440-66-6	1 mg/L	101	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3831159)										
ES1503599-042	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	5 mg/L	104	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3831160)										
ES1503599-042	Anonymous	EK067G: Total Phosphorus as P	----	1.0 mg/L	95.4	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3831166)										
ES1503461-074	RINSATE 7	EK059G: Nitrite + Nitrate as N	----	0.5 mg/L	102	----	70	130	----	----
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3831167)										
ES1503461-074	RINSATE 7	EK055G: Ammonia as N	7664-41-7	1 mg/L	102	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3834612)										
ES1503357-008	Anonymous	EG035T: Mercury	7439-97-6	0.010 mg/L	85.4	----	70	130	----	----

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1503461**	Page	: 1 of 23
Client	: AURECON AUSTRALASIA PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 13-FEB-2015
Sampler	: GK	Issue Date	: 03-MAR-2015
Order number	: 245553		
		No. of samples received	: 74
Quote number	: SY/1021/14 V2	No. of samples analysed	: 74

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with recommended holding times (USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content								
Soil Glass Jar - Unpreserved (EA055-103)								
WB19 0.0-0.5A,	WB19 0.5-1.0A,	**11-FEB-2015**	**----**	----	----	**18-FEB-2015**	25-FEB-2015	✓
WB20 0.0-0.5A,	WB20 0.5-1.0A,							
WB20 0.3V,	WB20 0.7V,							
WB23 0.0-0.5A,	WB23 0.5-1.0A,							
WB23 0.3V,	WB23 0.7V,							
BE4 0.0-0.5A,	BE4 0.5-1.0A,							
BE4 0.3V,	BE4 0.7V,							
BE5 0.0-0.5A,	BE5 0.5-1.0A,							
BE5 0.3V,	BE5 0.7V,							
BE6 0.0-0.5A,	BE6 0.5-1.0A,							
BE6 0.3V,	BE6 0.7V,							
BE8 0.0-0.5A,	BE8 0.5-1.0A,							
BE8 0.3V,	BE8 0.7V,							
BE11 0.0-0.5A,	BE11 0.5-1.0A,							
BE11 0.3V,	BE11 0.7V,							
BE12 0.0-0.5A,	BE12 0.5-1.0A,							
BE12 0.3V,	BE12 0.7V,							
BE13 0.0-0.5A,	BE13 0.5-1.0A,							
BE13 0.3V,	BE13 0.7V,							
WB17 0.0-0.5A,	WB17 0.5-1.0A,							
WB17 0.3V,	WB17 0.7V,							
TRIPLICATE 6A,	TRIPLICATE 6B,							
TRIPLICATE 7A,	TRIPLICATE 7B,							
TRIPLICATE 8A,	TRIPLICATE 8B							
Soil Glass Jar - Unpreserved (EA055-103)								
WB19 0.3V,	WB19 0.7V	**11-FEB-2015**	**----**	----	----	**19-FEB-2015**	25-FEB-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA150: Particle Sizing								
Snap Lock Bag (EA150H)								
WB19 0.5-0.5B,	WB19 0.5-1.0B,	**11-FEB-2015**	**---**	10-AUG-2015	----	**27-FEB-2015**	10-AUG-2015	✓
WB20 0.0-0.5B,	WB20 0.5-1.0B,							
WB23 0.0-0.5B,	WB23 0.5-1.0B,							
BE4 0.0-0.5B,	BE4 0.5-1.0B,							
BE5 0.0-0.5B,	BE5 0.5-1.0B,							
BE6 0.0-0.5B,	BE6 0.5-1.0B,							
BE8 0.0-0.5B,	BE8 0.5-1.0B,							
BE11 0.0-0.5B,	BE11 0.5-1.0B,							
BE12 0.0-0.5B,	BE12 0.5-1.0B,							
BE13 0.0-0.5B,	BE13 0.5-1.0B,							
WB17 0.0-0.5B,	WB17 0.5-1.0B							
EA150: Soil Classification based on Particle Size								
Snap Lock Bag (EA150H)								
WB19 0.5-0.5B,	WB19 0.5-1.0B,	**11-FEB-2015**	**---**	10-AUG-2015	----	**27-FEB-2015**	10-AUG-2015	✓
WB20 0.0-0.5B,	WB20 0.5-1.0B,							
WB23 0.0-0.5B,	WB23 0.5-1.0B,							
BE4 0.0-0.5B,	BE4 0.5-1.0B,							
BE5 0.0-0.5B,	BE5 0.5-1.0B,							
BE6 0.0-0.5B,	BE6 0.5-1.0B,							
BE8 0.0-0.5B,	BE8 0.5-1.0B,							
BE11 0.0-0.5B,	BE11 0.5-1.0B,							
BE12 0.0-0.5B,	BE12 0.5-1.0B,							
BE13 0.0-0.5B,	BE13 0.5-1.0B,							
WB17 0.0-0.5B,	WB17 0.5-1.0B							
EA152: Soil Particle Density								
Snap Lock Bag (EA152)								
WB19 0.5-0.5B,	WB19 0.5-1.0B,	**11-FEB-2015**	**---**	10-AUG-2015	----	**02-MAR-2015**	10-AUG-2015	✓
WB20 0.0-0.5B,	WB20 0.5-1.0B,							
WB23 0.0-0.5B,	WB23 0.5-1.0B,							
BE4 0.0-0.5B,	BE4 0.5-1.0B,							
BE5 0.0-0.5B,	BE5 0.5-1.0B,							
BE6 0.0-0.5B,	BE6 0.5-1.0B,							
BE8 0.0-0.5B,	BE8 0.5-1.0B,							
BE11 0.0-0.5B,	BE12 0.0-0.5B,							
BE13 0.0-0.5B,	BE13 0.5-1.0B,							
WB17 0.0-0.5B,	WB17 0.5-1.0B							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005-SD: Total Metals in Sediments by ICP-AES								
Soil Glass Jar - Unpreserved (EG005-SD)								
WB19 0.0-0.5A,	WB19 0.5-1.0A,	**11-FEB-2015**	**23-FEB-2015**	10-AUG-2015	✓	**23-FEB-2015**	10-AUG-2015	✓
WB20 0.0-0.5A,	WB20 0.5-1.0A,							
WB23 0.0-0.5A,	WB23 0.5-1.0A,							
BE4 0.0-0.5A,	BE4 0.5-1.0A,							
BE5 0.0-0.5A,	BE5 0.5-1.0A,							
BE6 0.0-0.5A,	BE6 0.5-1.0A,							
BE8 0.0-0.5A,	BE8 0.5-1.0A,							
BE11 0.0-0.5A,	BE11 0.5-1.0A,							
BE12 0.0-0.5A,	BE12 0.5-1.0A,							
BE13 0.0-0.5A,	BE13 0.5-1.0A,							
WB17 0.0-0.5A,	WB17 0.5-1.0A,							
TRIPLICATE 6A,	TRIPLICATE 6B,							
TRIPLICATE 7A,	TRIPLICATE 7B,							
TRIPLICATE 8A,	TRIPLICATE 8B							
EG020-SD: Total Metals in Sediments by ICPMS								
Soil Glass Jar - Unpreserved (EG020-SD)								
WB19 0.0-0.5A,	WB19 0.5-1.0A,	**11-FEB-2015**	**23-FEB-2015**	10-AUG-2015	✓	**23-FEB-2015**	10-AUG-2015	✓
WB20 0.0-0.5A,	WB20 0.5-1.0A,							
WB23 0.0-0.5A,	WB23 0.5-1.0A,							
BE4 0.0-0.5A,	BE4 0.5-1.0A,							
BE5 0.0-0.5A,	BE5 0.5-1.0A,							
BE6 0.0-0.5A,	BE6 0.5-1.0A,							
BE8 0.0-0.5A,	BE8 0.5-1.0A,							
BE11 0.0-0.5A,	BE11 0.5-1.0A,							
BE12 0.0-0.5A,	BE12 0.5-1.0A,							
BE13 0.0-0.5A,	BE13 0.5-1.0A,							
WB17 0.0-0.5A,	WB17 0.5-1.0A,							
TRIPLICATE 6A,	TRIPLICATE 6B,							
TRIPLICATE 7A,	TRIPLICATE 7B,							
TRIPLICATE 8A,	TRIPLICATE 8B							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T-LL)								
WB19 0.0-0.5A,	WB19 0.5-1.0A,	**11-FEB-2015**	**23-FEB-2015**	11-MAR-2015	✓	**25-FEB-2015**	11-MAR-2015	✓
WB20 0.0-0.5A,	WB20 0.5-1.0A,							
WB23 0.0-0.5A,	WB23 0.5-1.0A,							
BE4 0.0-0.5A,	BE4 0.5-1.0A,							
BE5 0.0-0.5A,	BE5 0.5-1.0A,							
BE6 0.0-0.5A,	BE6 0.5-1.0A,							
BE8 0.0-0.5A,	BE8 0.5-1.0A,							
BE11 0.0-0.5A,	BE11 0.5-1.0A,							
BE12 0.0-0.5A,	BE12 0.5-1.0A,							
BE13 0.0-0.5A,	BE13 0.5-1.0A,							
WB17 0.0-0.5A,	WB17 0.5-1.0A,							
TRIPLICATE 6A,	TRIPLICATE 6B,							
TRIPLICATE 7A,	TRIPLICATE 7B,							
TRIPLICATE 8A,	TRIPLICATE 8B							
EK057G: Nitrite as N by Discrete Analyser								
Soil Glass Jar - Unpreserved (EK057G)								
WB19 0.0-0.5A,	WB19 0.5-1.0A,	**11-FEB-2015**	**19-FEB-2015**	10-AUG-2015	✓	**19-FEB-2015**	10-AUG-2015	✓
WB20 0.0-0.5A,	WB20 0.5-1.0A,							
WB23 0.0-0.5A,	WB23 0.5-1.0A,							
BE4 0.0-0.5A,	BE4 0.5-1.0A,							
BE5 0.0-0.5A,	BE5 0.5-1.0A,							
BE6 0.0-0.5A,	BE6 0.5-1.0A,							
BE8 0.0-0.5A,	BE8 0.5-1.0A,							
BE11 0.0-0.5A,	BE11 0.5-1.0A,							
BE12 0.0-0.5A,	BE12 0.5-1.0A,							
BE13 0.0-0.5A,	BE13 0.5-1.0A,							
WB17 0.0-0.5A,	WB17 0.5-1.0A,							
TRIPLICATE 6A,	TRIPLICATE 6B,							
TRIPLICATE 7A,	TRIPLICATE 7B,							
TRIPLICATE 8A,	TRIPLICATE 8B							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser								
Soil Glass Jar - Unpreserved (EK059G)								
WB19 0.0-0.5A,	WB19 0.5-1.0A,	**11-FEB-2015**	**19-FEB-2015**	10-AUG-2015	✓	**19-FEB-2015**	10-AUG-2015	✓
WB20 0.0-0.5A,	WB20 0.5-1.0A,							
WB23 0.0-0.5A,	WB23 0.5-1.0A,							
BE4 0.0-0.5A,	BE4 0.5-1.0A,							
BE5 0.0-0.5A,	BE5 0.5-1.0A,							
BE6 0.0-0.5A,	BE6 0.5-1.0A,							
BE8 0.0-0.5A,	BE8 0.5-1.0A,							
BE11 0.0-0.5A,	BE11 0.5-1.0A,							
BE12 0.0-0.5A,	BE12 0.5-1.0A,							
BE13 0.0-0.5A,	BE13 0.5-1.0A,							
WB17 0.0-0.5A,	WB17 0.5-1.0A,							
TRIPLICATE 6A,	TRIPLICATE 6B,							
TRIPLICATE 7A,	TRIPLICATE 7B,							
TRIPLICATE 8A,	TRIPLICATE 8B							
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser								
Soil Glass Jar - Unpreserved (EK061G)								
WB19 0.0-0.5A,	WB19 0.5-1.0A,	**11-FEB-2015**	**22-FEB-2015**	10-AUG-2015	✓	**22-FEB-2015**	10-AUG-2015	✓
WB20 0.0-0.5A,	WB20 0.5-1.0A							
Soil Glass Jar - Unpreserved (EK061G)								
WB23 0.0-0.5A,	WB23 0.5-1.0A,	**11-FEB-2015**	**23-FEB-2015**	10-AUG-2015	✓	**23-FEB-2015**	10-AUG-2015	✓
BE4 0.0-0.5A,	BE4 0.5-1.0A,							
BE5 0.0-0.5A,	BE5 0.5-1.0A,							
BE6 0.0-0.5A,	BE6 0.5-1.0A,							
BE8 0.0-0.5A,	BE8 0.5-1.0A,							
BE11 0.0-0.5A,	BE11 0.5-1.0A,							
BE12 0.0-0.5A,	BE12 0.5-1.0A,							
BE13 0.0-0.5A,	BE13 0.5-1.0A,							
WB17 0.0-0.5A,	WB17 0.5-1.0A,							
TRIPLICATE 6A,	TRIPLICATE 6B,							
TRIPLICATE 7A,	TRIPLICATE 7B,							
TRIPLICATE 8A,	TRIPLICATE 8B							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK067G: Total Phosphorus as P by Discrete Analyser								
Soil Glass Jar - Unpreserved (EK067G)								
WB19 0.0-0.5A,	WB19 0.5-1.0A,	**11-FEB-2015**	**22-FEB-2015**	10-AUG-2015	✓	**22-FEB-2015**	10-AUG-2015	✓
WB20 0.0-0.5A,	WB20 0.5-1.0A							
Soil Glass Jar - Unpreserved (EK067G)								
WB23 0.0-0.5A,	WB23 0.5-1.0A,	**11-FEB-2015**	**23-FEB-2015**	10-AUG-2015	✓	**23-FEB-2015**	10-AUG-2015	✓
BE4 0.0-0.5A,	BE4 0.5-1.0A,							
BE5 0.0-0.5A,	BE5 0.5-1.0A,							
BE6 0.0-0.5A,	BE6 0.5-1.0A,							
BE8 0.0-0.5A,	BE8 0.5-1.0A,							
BE11 0.0-0.5A,	BE11 0.5-1.0A,							
BE12 0.0-0.5A,	BE12 0.5-1.0A,							
BE13 0.0-0.5A,	BE13 0.5-1.0A,							
WB17 0.0-0.5A,	WB17 0.5-1.0A,							
TRIPLICATE 6A,	TRIPLICATE 6B,							
TRIPLICATE 7A,	TRIPLICATE 7B,							
TRIPLICATE 8A,	TRIPLICATE 8B							
EK255A SD Ammonia in Sediment								
Soil Glass Jar - Unpreserved (EK255A SD)								
WB19 0.0-0.5A,	WB19 0.5-1.0A,	**11-FEB-2015**	**----**	----	----	**18-FEB-2015**	10-AUG-2015	✓
WB20 0.0-0.5A,	WB20 0.5-1.0A,							
WB23 0.0-0.5A,	WB23 0.5-1.0A,							
BE4 0.0-0.5A,	BE4 0.5-1.0A,							
BE5 0.0-0.5A,	BE5 0.5-1.0A,							
BE6 0.0-0.5A,	BE6 0.5-1.0A,							
BE8 0.0-0.5A,	BE8 0.5-1.0A,							
BE11 0.0-0.5A,	BE11 0.5-1.0A,							
BE12 0.0-0.5A,	BE12 0.5-1.0A,							
BE13 0.0-0.5A,	BE13 0.5-1.0A,							
WB17 0.0-0.5A,	WB17 0.5-1.0A,							
TRIPLICATE 6A,	TRIPLICATE 6B,							
TRIPLICATE 7A,	TRIPLICATE 7B,							
TRIPLICATE 8A,	TRIPLICATE 8B							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP003: Total Organic Carbon (TOC) in Soil								
Pulp Bag (EP003)								
WB19 0.0-0.5A,	WB19 0.5-1.0A,	**11-FEB-2015**	**17-FEB-2015**	11-MAR-2015	✓	**17-FEB-2015**	11-MAR-2015	✓
WB20 0.0-0.5A,	WB20 0.5-1.0A,							
WB23 0.0-0.5A,	WB23 0.5-1.0A,							
BE4 0.0-0.5A,	BE4 0.5-1.0A,							
BE5 0.0-0.5A,	BE5 0.5-1.0A,							
BE6 0.0-0.5A,	BE6 0.5-1.0A,							
BE8 0.0-0.5A,	BE8 0.5-1.0A,							
BE11 0.0-0.5A,	BE11 0.5-1.0A,							
BE12 0.0-0.5A,	BE12 0.5-1.0A,							
BE13 0.0-0.5A,	BE13 0.5-1.0A,							
WB17 0.0-0.5A,	WB17 0.5-1.0A,							
TRIPLICATE 6A,	TRIPLICATE 6B,							
TRIPLICATE 7A,	TRIPLICATE 7B							
Pulp Bag (EP003)								
TRIPLICATE 8A,	TRIPLICATE 8B	**11-FEB-2015**	**25-FEB-2015**	11-MAR-2015	✓	**25-FEB-2015**	11-MAR-2015	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013								
Soil Glass Jar - Unpreserved (EP071-SD)								
WB19 0.0-0.5A,	WB19 0.5-1.0A,	**11-FEB-2015**	**18-FEB-2015**	25-FEB-2015	✓	**24-FEB-2015**	30-MAR-2015	✓
WB20 0.0-0.5A,	WB20 0.5-1.0A,							
WB23 0.0-0.5A,	WB23 0.5-1.0A,							
BE4 0.0-0.5A,	BE4 0.5-1.0A,							
BE5 0.0-0.5A,	BE5 0.5-1.0A,							
BE6 0.0-0.5A,	BE6 0.5-1.0A,							
BE8 0.0-0.5A,	BE8 0.5-1.0A,							
BE11 0.0-0.5A,	BE11 0.5-1.0A,							
BE12 0.0-0.5A,	BE12 0.5-1.0A,							
BE13 0.0-0.5A,	BE13 0.5-1.0A,							
WB17 0.0-0.5A,	WB17 0.5-1.0A,							
TRIPLICATE 6A,	TRIPLICATE 6B,							
TRIPLICATE 7A,	TRIPLICATE 7B,							
TRIPLICATE 8A,	TRIPLICATE 8B,							
TRIP BLANK 8								

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080-SD: BTEXN							
Soil Glass Jar - Unpreserved (EP080-SD)							
WB20 0.3V, WB20 0.7V, WB23 0.3V, WB23 0.7V, BE4 0.3V, BE4 0.7V, BE5 0.3V, BE5 0.7V, BE6 0.3V, BE6 0.7V, BE8 0.3V, BE8 0.7V, BE11 0.3V, BE11 0.7V, BE12 0.3V, BE12 0.7V, BE13 0.3V, BE13 0.7V, WB17 0.3V, WB17 0.7V	**11-FEB-2015**	**16-FEB-2015**	25-FEB-2015	✓	**24-FEB-2015**	25-FEB-2015	✓
Soil Glass Jar - Unpreserved (EP080-SD)							
WB19 0.3V, WB19 0.7V	**11-FEB-2015**	**18-FEB-2015**	25-FEB-2015	✓	**18-FEB-2015**	25-FEB-2015	✓
Soil Glass Jar - Unpreserved (EP080-SD)							
TRIP BLANK 8	**11-FEB-2015**	**23-FEB-2015**	25-FEB-2015	✓	**24-FEB-2015**	25-FEB-2015	✓
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080-SD)							
WB20 0.3V, WB20 0.7V, WB23 0.3V, WB23 0.7V, BE4 0.3V, BE4 0.7V, BE5 0.3V, BE5 0.7V, BE6 0.3V, BE6 0.7V, BE8 0.3V, BE8 0.7V, BE11 0.3V, BE11 0.7V, BE12 0.3V, BE12 0.7V, BE13 0.3V, BE13 0.7V, WB17 0.3V, WB17 0.7V	**11-FEB-2015**	**16-FEB-2015**	25-FEB-2015	✓	**24-FEB-2015**	25-FEB-2015	✓
Soil Glass Jar - Unpreserved (EP080-SD)							
WB19 0.3V, WB19 0.7V	**11-FEB-2015**	**18-FEB-2015**	25-FEB-2015	✓	**18-FEB-2015**	25-FEB-2015	✓
Soil Glass Jar - Unpreserved (EP080-SD)							
TRIP BLANK 8	**11-FEB-2015**	**23-FEB-2015**	25-FEB-2015	✓	**24-FEB-2015**	25-FEB-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP090: Organotin Compounds								
Soil Glass Jar - Unpreserved (EP090)								
WB17 0.0-0.5A,	WB17 0.5-1.0A,	**11-FEB-2015**	**18-FEB-2015**	25-FEB-2015	✓	**19-FEB-2015**	30-MAR-2015	✓
TRIPLICATE 6A,	TRIPLICATE 6B,							
TRIPLICATE 7A,	TRIPLICATE 7B							
Soil Glass Jar - Unpreserved (EP090)								
WB19 0.0-0.5A,	WB19 0.5-1.0A,	**11-FEB-2015**	**18-FEB-2015**	25-FEB-2015	✓	**20-FEB-2015**	30-MAR-2015	✓
WB20 0.0-0.5A,	WB20 0.5-1.0A,							
WB23 0.0-0.5A,	WB23 0.5-1.0A,							
BE4 0.0-0.5A,	BE4 0.5-1.0A,							
BE5 0.0-0.5A,	BE5 0.5-1.0A,							
BE6 0.0-0.5A,	BE6 0.5-1.0A,							
BE8 0.0-0.5A,	BE8 0.5-1.0A,							
BE11 0.0-0.5A,	BE11 0.5-1.0A,							
BE12 0.0-0.5A,	BE12 0.5-1.0A,							
BE13 0.0-0.5A,	BE13 0.5-1.0A							
Soil Glass Jar - Unpreserved (EP090)								
TRIPLICATE 8A,	TRIPLICATE 8B	**11-FEB-2015**	**19-FEB-2015**	25-FEB-2015	✓	**20-FEB-2015**	31-MAR-2015	✓
EP130A: Organophosphorus Pesticides (Ultra-trace)								
Soil Glass Jar - Unpreserved (EP130)								
WB17 0.0-0.5A,	WB17 0.5-1.0A,	**11-FEB-2015**	**18-FEB-2015**	25-FEB-2015	✓	**24-FEB-2015**	30-MAR-2015	✓
TRIPLICATE 6A,	TRIPLICATE 6B,							
TRIPLICATE 7A,	TRIPLICATE 7B,							
TRIPLICATE 8A,	TRIPLICATE 8B							
Soil Glass Jar - Unpreserved (EP130)								
WB19 0.0-0.5A,	WB19 0.5-1.0A,	**11-FEB-2015**	**18-FEB-2015**	25-FEB-2015	✓	**25-FEB-2015**	30-MAR-2015	✓
WB20 0.0-0.5A,	WB20 0.5-1.0A,							
WB23 0.0-0.5A,	WB23 0.5-1.0A,							
BE4 0.0-0.5A,	BE4 0.5-1.0A,							
BE5 0.0-0.5A,	BE5 0.5-1.0A,							
BE6 0.0-0.5A,	BE6 0.5-1.0A,							
BE8 0.0-0.5A,	BE8 0.5-1.0A,							
BE11 0.0-0.5A,	BE11 0.5-1.0A,							
BE12 0.0-0.5A,	BE12 0.5-1.0A,							
BE13 0.0-0.5A,	BE13 0.5-1.0A							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP131A: Organochlorine Pesticides								
Soil Glass Jar - Unpreserved (EP131A)								
WB17 0.0-0.5A,	WB17 0.5-1.0A,	**11-FEB-2015**	**18-FEB-2015**	25-FEB-2015	✓	**24-FEB-2015**	30-MAR-2015	✓
TRIPLICATE 6A,	TRIPLICATE 6B,							
TRIPLICATE 7A,	TRIPLICATE 7B,							
TRIPLICATE 8A,	TRIPLICATE 8B							
Soil Glass Jar - Unpreserved (EP131A)								
WB19 0.0-0.5A,	WB19 0.5-1.0A,	**11-FEB-2015**	**18-FEB-2015**	25-FEB-2015	✓	**25-FEB-2015**	30-MAR-2015	✓
WB20 0.0-0.5A,	WB20 0.5-1.0A,							
WB23 0.0-0.5A,	WB23 0.5-1.0A,							
BE4 0.0-0.5A,	BE4 0.5-1.0A,							
BE5 0.0-0.5A,	BE5 0.5-1.0A,							
BE6 0.0-0.5A,	BE6 0.5-1.0A,							
BE8 0.0-0.5A,	BE8 0.5-1.0A,							
BE11 0.0-0.5A,	BE11 0.5-1.0A,							
BE12 0.0-0.5A,	BE12 0.5-1.0A,							
BE13 0.0-0.5A,	BE13 0.5-1.0A							
EP131B: Polychlorinated Biphenyls (as Aroclors)								
Soil Glass Jar - Unpreserved (EP131B)								
WB17 0.0-0.5A,	WB17 0.5-1.0A,	**11-FEB-2015**	**18-FEB-2015**	25-FEB-2015	✓	**24-FEB-2015**	30-MAR-2015	✓
TRIPLICATE 6A,	TRIPLICATE 6B,							
TRIPLICATE 7A,	TRIPLICATE 7B,							
TRIPLICATE 8A,	TRIPLICATE 8B							
Soil Glass Jar - Unpreserved (EP131B)								
WB19 0.0-0.5A,	WB19 0.5-1.0A,	**11-FEB-2015**	**18-FEB-2015**	25-FEB-2015	✓	**25-FEB-2015**	30-MAR-2015	✓
WB20 0.0-0.5A,	WB20 0.5-1.0A,							
WB23 0.0-0.5A,	WB23 0.5-1.0A,							
BE4 0.0-0.5A,	BE4 0.5-1.0A,							
BE5 0.0-0.5A,	BE5 0.5-1.0A,							
BE6 0.0-0.5A,	BE6 0.5-1.0A,							
BE8 0.0-0.5A,	BE8 0.5-1.0A,							
BE11 0.0-0.5A,	BE11 0.5-1.0A,							
BE12 0.0-0.5A,	BE12 0.5-1.0A,							
BE13 0.0-0.5A,	BE13 0.5-1.0A							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP132B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP132B-SD)							
WB19 0.0-0.5A, WB19 0.5-1.0A, WB20 0.0-0.5A, WB20 0.5-1.0A, WB23 0.0-0.5A, WB23 0.5-1.0A, BE4 0.0-0.5A, BE4 0.5-1.0A, BE5 0.0-0.5A, BE5 0.5-1.0A, BE6 0.0-0.5A, BE6 0.5-1.0A, BE8 0.0-0.5A, BE8 0.5-1.0A, BE11 0.0-0.5A, BE11 0.5-1.0A, BE12 0.0-0.5A, BE12 0.5-1.0A, BE13 0.0-0.5A, BE13 0.5-1.0A, WB17 0.0-0.5A, WB17 0.5-1.0A, TRIPLICATE 6A, TRIPLICATE 6B, TRIPLICATE 7A, TRIPLICATE 7B, TRIPLICATE 8A, TRIPLICATE 8B	**11-FEB-2015**	**18-FEB-2015**	25-FEB-2015	✓	**24-FEB-2015**	30-MAR-2015	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG020A-T)							
RINSATE 7	**11-FEB-2015**	**19-FEB-2015**	10-AUG-2015	✓	**19-FEB-2015**	10-AUG-2015	✓
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG020B-T)							
RINSATE 7	**11-FEB-2015**	**19-FEB-2015**	10-AUG-2015	✓	**19-FEB-2015**	10-AUG-2015	✓
EG035T: Total Recoverable Mercury by FIMS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG035T)							
RINSATE 7	**11-FEB-2015**	**----**	----	----	**25-FEB-2015**	11-MAR-2015	✓
EK055G: Ammonia as N by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK055G)							
RINSATE 7	**11-FEB-2015**	**---**	11-MAR-2015	----	**20-FEB-2015**	11-MAR-2015	✓
EK057G: Nitrite as N by Discrete Analyser							
Clear Plastic Bottle - Natural (EK057G)							
RINSATE 7	**11-FEB-2015**	**---**	13-FEB-2015	----	**13-FEB-2015**	13-FEB-2015	✓
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK059G)							
RINSATE 7	**11-FEB-2015**	**---**	11-MAR-2015	----	**20-FEB-2015**	11-MAR-2015	✓
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK061G)							
RINSATE 7	**11-FEB-2015**	**20-FEB-2015**	11-MAR-2015	✓	**20-FEB-2015**	11-MAR-2015	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK067G: Total Phosphorus as P by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK067G)							
RINSATE 7	**11-FEB-2015**	**20-FEB-2015**	11-MAR-2015	✓	**20-FEB-2015**	11-MAR-2015	✓
EP066: Polychlorinated Biphenyls (PCB)							
Amber Glass Bottle - Unpreserved (EP066)							
RINSATE 7	**11-FEB-2015**	**17-FEB-2015**	18-FEB-2015	✓	**18-FEB-2015**	29-MAR-2015	✓
EP068A: Organochlorine Pesticides (OC)							
Amber Glass Bottle - Unpreserved (EP068)							
RINSATE 7	**11-FEB-2015**	**17-FEB-2015**	18-FEB-2015	✓	**18-FEB-2015**	29-MAR-2015	✓
EP068B: Organophosphorus Pesticides (OP)							
Amber Glass Bottle - Unpreserved (EP068)							
RINSATE 7	**11-FEB-2015**	**17-FEB-2015**	18-FEB-2015	✓	**18-FEB-2015**	29-MAR-2015	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
RINSATE 7	**11-FEB-2015**	**17-FEB-2015**	18-FEB-2015	✓	**17-FEB-2015**	29-MAR-2015	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
RINSATE 7	**11-FEB-2015**	**17-FEB-2015**	18-FEB-2015	✓	**18-FEB-2015**	29-MAR-2015	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
RINSATE 7	**11-FEB-2015**	**20-FEB-2015**	25-FEB-2015	✓	**20-FEB-2015**	25-FEB-2015	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber VOC Vial - Sulfuric Acid (EP080)							
RINSATE 7	**11-FEB-2015**	**20-FEB-2015**	25-FEB-2015	✓	**20-FEB-2015**	25-FEB-2015	✓
EP090: Organotin Compounds							
Amber Glass Bottle - Unpreserved (EP090H)							
RINSATE 7	**11-FEB-2015**	**18-FEB-2015**	18-FEB-2015	✓	**19-FEB-2015**	30-MAR-2015	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Ammonia in Sediments	EK255A SD	4	40	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Moisture Content	EA055-103	8	77	**10.4**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	3	29	**10.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	3	29	**10.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	3	28	**10.7**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	3	28	**10.7**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	4	27	**14.8**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	3	28	**10.7**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	3	28	**10.7**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	5	44	**11.4**	**9.5**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	4	34	**11.8**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	4	34	**11.8**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	4	34	**11.8**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	4	28	**14.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	6	49	**12.2**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	3	29	**10.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	3	22	**13.6**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Ammonia in Sediments	EK255A SD	2	40	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	2	29	**6.9**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	2	29	**6.9**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	2	28	**7.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	2	28	**7.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	3	27	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	2	28	**7.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	2	28	**7.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	9	44	**20.5**	**14.3**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	34	**5.9**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	34	**5.9**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	34	**5.9**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	3	28	**10.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	9	49	**18.4**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	2	29	**6.9**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	3	23	**13.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Method Blanks (MB)							
Ammonia in Sediments	EK255A SD	2	40	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	2	29	6.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	2	29	6.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	2	28	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	2	28	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	3	27	11.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	2	28	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	2	28	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	3	44	6.8	4.8	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	34	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	34	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	34	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	3	28	10.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	3	49	6.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	2	29	6.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	3	23	13.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia in Sediments	EK255A SD	2	40	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	2	29	6.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	2	29	6.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	2	28	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	2	28	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	3	27	11.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	2	28	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	2	28	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	3	44	6.8	4.8	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	34	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	34	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	3	49	6.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	2	29	6.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	2	22	9.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Ammonia as N by Discrete analyser	EK055G	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	2	11	18.2	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP) - Continued							
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	19	**10.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	3	**33.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Ammonia as N by Discrete analyser	EK055G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	11	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Compounds (Soluble)	EP090H	1	3	**33.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	6	**16.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	2	**50.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	3	20	**15.0**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	3	**33.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	3	20	**15.0**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	10	**10.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Ammonia as N by Discrete analyser	EK055G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	11	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Compounds (Soluble)	EP090H	1	3	**33.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	6	**16.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	2	**50.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	3	**33.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	10	**10.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia as N by Discrete analyser	EK055G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	11	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Matrix Spikes (MS) - Continued							
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055-103	SOIL	In-house. A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Particle Size Analysis by Hydrometer	EA150H	SOIL	Particle Size Analysis by Hydrometer according to AS1289.3.6.3 - 2003
Soil Particle Density	* EA152	SOIL	Soil Particle Density by AS 1289.3.5.1-2006 : Methods of testing soils for engineering purposes - Soil classification tests - Determination of the soil particle density of a soil - Standard method A modification of the AS 1289.3.5.1 method may apply when testing dispersed soils also tested by AS1289.3.6.3. This modification uses the dispersion solution from AS1289.3.6.3 in place of water for density determinations
Total Fe and Al in Sediments by ICPAES	EG005-SD	SOIL	In house: Referenced to APHA 21st ed., 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3). LORs per NODG
Total Metals in Sediments by ICPMS	EG020-SD	SOIL	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector. Analyte list and LORs per NODG.
Total Mercury by FIMS (Low Level)	EG035T-LL	SOIL	In house: Referenced to AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Nitrite as N - Soluble by Discrete Analyser	EK057G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3- B. Nitrite in a water extract is determined by direct colourimetry by Discrete Analyser.
Nitrate as N - Soluble by Discrete Analyser	EK058G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3--F. Nitrate in the 1:5 soil:water extract is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results.
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3- F. Combined oxidised Nitrogen (NO2+NO3) in a water extract is determined by Chemical Reduction, and direct colourimetry by Discrete Analyser.
TKN as N By Discrete Analyser	EK061G	SOIL	In house: Referenced to APHA 21st ed., 4500-Norg-D Soil samples are digested using Kjeldahl digestion followed by determination by Discrete Analyser.
Total Nitrogen as N (TKN + NOx) By Discrete Analyser	EK062G	SOIL	In house: Referenced to APHA 21st ed., 4500 Norg/NO3- Total Nitrogen is determined as the sum of TKN and Oxidised Nitrrogen, each determined seperately as N.
Total Phosporus By Discrete Analyser	EK067G	SOIL	In house: Referenced to APHA 21st ed., 4500 P-B&F This procedure involves sulfuric acid digestion and quantification using Discrete Analyser.
Ammonia in Sediments	EK255A SD	SOIL	Rayment and Higginson (1992) Method 7C1 and 7C2. This method measures exchangeable ammonium which is defined by the amount of ammonium released by shaking sediment with an un-buffered 2M potassium chloride solution.

Analytical Methods	Method	Matrix	Method Descriptions
Total Organic Carbon	EP003	SOIL	In-house C-IR17. Dried and pulverised sample is reacted with acid to remove inorganic Carbonates, then combusted in a LECO furnace in the presence of strong oxidants / catalysts. The evolved (Organic) Carbon (as CO2) is automaticaly measured by infra-red detector.
TPH - Semivolatile Fraction	EP071-SD	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 504)
TRH Volatiles/BTEX in Sediments	EP080-SD	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve.
Organotin Analysis	EP090	SOIL	(USEPA SW 846 - 8270D) Prepared sample extracts are analysed by GC/MS coupled with high volume injection, and quanitified against an established calibration curve.
Organophosphorus Pesticides (Ultra-trace)	EP130	SOIL	USEPA Method 3640 (GPC cleanup), 8141 (GC/FPD - Capillary Column) This technique is compliant with NEPM (2013) Schedule B(3) (Method 505)
Organochlorine Pesticides (Ultra-trace)	EP131A	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (2013) Schedule B(3) (Method 504)
PCB's (Ultra-trace)	EP131B	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (2013) Schedule B(3) (Method 504)
PAHs in Sediments by GCMS(SIM)	EP132B-SD	SOIL	USEPA 8270 GCMS Capillary column, SIM mode using large volume programmed temperature vaporisation injection.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Metals by ICP-MS - Suite B	EG020B-T	WATER	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Mercury by FIMS	EG035T	WATER	In house: Referenced to AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Ammonia as N by Discrete analyser	EK055G	WATER	In house: Referenced to APHA 21st ed., 4500-NH3 G Ammonia is determined by direct colorimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Nitrite as N by Discrete Analyser	EK057G	WATER	In house: Referenced to APHA 21st ed., 4500-NO2- B. Nitrite is determined by direct colourimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Nitrate as N by Discrete Analyser	EK058G	WATER	In house: Referenced to APHA 21st ed., 4500-NO3- F. Nitrate is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results. This method is compliant with NEPM (2013) Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	WATER	In house: Referenced to APHA 21st ed., 4500-NO3- F. Combined oxidised Nitrogen (NO2+NO3) is determined by Chemical Reduction and direct colourimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	WATER	In house: Referenced to APHA 21st ed., 4500-Norg D (In house). An aliquot of sample is digested using a high temperature Kjeldahl digestion to convert nitrogenous compounds to ammonia. Ammonia is determined colorimetrically by discrete analyser. This method is compliant with NEPM (2013) Schedule B(3)
Total Nitrogen as N (TKN + Nox) By Discrete Analyser	EK062G	WATER	In house: Referenced to APHA 21st ed., 4500-Norg / 4500-NO3-. This method is compliant with NEPM (2013) Schedule B(3)
Total Phosphorus as P By Discrete Analyser	EK067G	WATER	In house: Referenced to APHA 21st ed., 4500-P H, Jirka et al (1976), Zhang et al (2006). This procedure involves sulphuric acid digestion of a sample aliquot to break phosphorus down to orthophosphate. The orthophosphate reacts with ammonium molybdate and antimony potassium tartrate to form a complex which is then reduced and its concentration measured at 880nm using discrete analyser. This method is compliant with NEPM (2013) Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Pesticides by GCMS	EP068	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
Organotin Compounds (Soluble)	EP090H	WATER	(USEPA SW 846 - 8270D, ALS QWI-ORG/EP090) Sample extracts (ALS QWI-ORG/035) are analysed by GC/MS coupled with high volume injection (10-50µL). Quantitation is achieved using internal standard and average response factor quantitation techniques against an established five-point curve. Butyltin results are reported in either "as tin" units eg. ng Sn/L or "ng TBT+/L". The analytical standards are prepared in "as tin" units. Sample results are converted to TBT+ results as required.

Preparation Methods	Method	Matrix	Method Descriptions
TKN/TP Digestion	EK061/EK067	SOIL	APHA 21st ed., 4500 Norg- D; APHA 21st ed., 4500 P - H. Macro Kjeldahl digestion.
1:5 solid / water leach for soluble analytes	EN34	SOIL	10 g of soil is mixed with 50 mL of distilled water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids/ Sample Cleanup	ORG17A-UTP	SOIL	In-house, Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. Samples are extracted, concentrated (by KD) and exchanged into an appropriate solvent for GPC and florisil cleanup as required.

Preparation Methods	Method	Matrix	Method Descriptions
Tumbler Extraction of Solids for LVI (Non-concentrating)	ORG17D	SOIL	In house: 10g of sample, Na2SO4 and surrogate are extracted with 50mL 1:1 DCM/Acetone by end over end tumbling. An aliquot is concentrated by nitrogen blowdown to a reduced volume for analysis if required.
Organotin Sample Preparation	ORG35	SOIL	In house. 20g sample is spiked with surrogate and leached in a methanol:acetic acid:UHP water mix and vacuum filtered. Reagents and solvents are added to the sample and the mixture tumbled. The butyltin compounds are simultaneously derivatised and extracted. The extract is further extracted with petroleum ether. The resultant extracts are combined and concentrated for analysis.
TKN/TP Digestion	EK061/EK067	WATER	APHA 21st ed., 4500 Norg - D; APHA 21st ed., 4500 P - H. This method is compliant with NEPM (2013) Schedule B(3)
Digestion for Total Recoverable Metals	EN25	WATER	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (2013) Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (2013) Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Organotin Sample Preparation	ORG34H	WATER	(IN HOUSE, ALS QWI-ORG/35) A specified volume (determined by the detection limit requirement) of sample is spiked with surrogate, acidified and vacuum filtered. Reagents and solvent are added to the sample and the mixture tumbled for 20 minutes. The butyltin compounds is derivitisated, extracted and the subtitution reaction is completed. The extracts is transferred to a separatory funnel and further extracted two times using petroleum ether. The resultant extracts are combined and concentrated to the desired volume for analysis.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW 846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EK067G: Total Phosphorus as P by Discrete Analyser	ES1504262-004	Anonymous	**Total Phosphorus as P**	----	58.5 %	0-20%	**RPD exceeds LOR based limits**
Matrix Spike (MS) Recoveries							
EK255A SD: Ammonia in Sediment	ES1503461-001	WB19 0.0-0.5A	**Ammonia as N**	7664-41-7	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EK255A SD: Ammonia in Sediment	ES1503461-061	WB17 0.0-0.5A	**Ammonia as N**	7664-41-7	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP090: Organotin Compounds	ES1503461-072	TRIPLICATE 8B	**Monobutyltin**	78763-54-9	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP090: Organotin Compounds	ES1503461-072	TRIPLICATE 8B	**Dibutyltin**	1002-53-5	13.5 %	20-130%	**Recovery less than lower data quality objective**

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Laboratory Control outliers occur.**

Regular Sample Surrogates

Sub-Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP080-SD: TPH(V)/BTEX Surrogates	ES1503461-042	BE8 0.7V	**1.2-Dichloroethane-D4**	17060-07-0	65.5 %	67-137 %	**Recovery less than lower data quality objective**
EP080-SD: TPH(V)/BTEX Surrogates	ES1503461-030	BE5 0.7V	**Toluene-D8**	2037-26-5	60.5 %	74-134 %	**Recovery less than lower data quality objective**
EP080-SD: TPH(V)/BTEX Surrogates	ES1503461-042	BE8 0.7V	**Toluene-D8**	2037-26-5	54.7 %	74-134 %	**Recovery less than lower data quality objective**
EP080-SD: TPH(V)/BTEX Surrogates	ES1503461-030	BE5 0.7V	**4-Bromofluorobenzene**	460-00-4	59.1 %	73-137 %	**Recovery less than lower data quality objective**
EP080-SD: TPH(V)/BTEX Surrogates	ES1503461-042	BE8 0.7V	**4-Bromofluorobenzene**	460-00-4	56.8 %	73-137 %	**Recovery less than lower data quality objective**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- **No Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

Dolly Elias

From: Saman Taeidi
Sent: Wednesday, 18 February 2015 8:00 AM
To: Dolly Elias
Cc: Wael Saleh
Subject: FW: Analysis Confirmation ES1503599

Hi Dolly,

For the metal elements on sample BH14 0.0-0.05 E from ES1503599 please add the following:

SD-3 Suite Metals by ICP/MS (15 metals incl. Sb, As, Cd, Cr, Cu, Pb, Mn, Ni, Ag, Zn + low level Hg)

Kind Regards

Saman Taeidi

Client Services Officer
ALS | Environmental Division

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Smithfield NSW 2164 Australia

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F +61 2 8784 8500

www.alsglobal.com

We are keen for your feedback! Please click here for your 1 question survey

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Environmental Division
Sydney
Work Order
ES1503599
Telephone : +61-2-8784 8555

From: Sally Leyland [mailto:Sally.Leyland@aurecongroup.com]
Sent: Tuesday, 17 February 2015 7:27 PM
To: Saman Taeidi
Subject: RE: Analysis Confirmation ES1503599

Hi Saman,
Please use the usual suite of metals that is included in Aurecon Suite 1.
Regards,
Sally

Sally Leyland
Senior Environmental Scientist, Aurecon
T +61 7 3173 8006 **F** +61 7 3173 8001 **M** +61 477 736 809
E sally.leyland@aurecongroup.com
Level 14, 32 Turbot Street, Brisbane | QLD 4000 | Australia
Locked Bag 331, Brisbane I QLD 4001 | Australia
aurecongroup.com

From: Saman Taeidi [mailto:Saman.Taeidi@alsglobal.com]
Sent: Tuesday, 17 February 2015 7:12 AM
To: Sally Leyland

ALS Environmental

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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: (1) 2 3 4 5 6 7	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comment:	
SAMPLER: Georgina Kerr SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO) EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer	KSchafer	Ravi
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com	DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com	12 February 2015	12 February 2015 1730	16.2.15 1600	17/2/15 1430

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	BH14 0.0-0.5 A	12/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
2	BH14 0.4-0.7 A	12/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
3	BH14 0.0-0.5 B	12/02/2015	S	Bag (White label)	1		1								
4	BH14 0.4-0.7 B	12/02/2015	S	Bag (White label)	1		1								
5	BH14 0.3V	12/02/2015	S	Glass Jar (150 ml)	1			1							
6	BH14 0.7V	12/02/2015	S	Glass Jar (150 ml)	1			1							
7	BH14 0.0 - 0.05 E	12/02/2015	S	Glass Jar (150 ml)	1			1				1			
				TOTAL	7	2	2	1				1			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

* 150ml jar from sample #1 missing Sydney – Can you please split after Volatiles and send to EB for TBT/TOC

150ml Jars sent direct to Brisbane for TOC/TBT

500ml Amber sent direct to Brisbane for TBT

Environmental Division Sydney

Work Order

ES1503599

Telephone : +61-2-8784 8555

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Ph: 02 4225 3125 E: portkembla@alsglobal.com

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OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 (2) 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (8)	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		12 February 2015	12 February 2015 1730

RELINQUISHED BY:	RECEIVED BY:
GS	
DATE/TIME: 16.2.15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
8	BH23 0.4-0.9 A	12/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
9	BH23 0.4-0.9 B	12/02/2015	S	Bag (White label)	1		1							
10	BH23 0.3V	12/02/2015	S	Glass Jar (150 ml)	1			1						
11	BH23 0.7V	12/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	5	1	1	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Environmental

ALS Laboratory: please tick →

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☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 (3) 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (8)	Other comments:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*	KS	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		12 February 2015	12 February 2015 1730	16.2.15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
12	BH25 0.0-0.5A	12/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
13	BH25 0.5-1.0A	12/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
14	BH25 0.0-0.5B	12/02/2015	S	Bag (White label)	1		1							
15	BH25 0.5-1.0B	12/02/2015	S	Bag (White label)	1		1							
16	BH25 0.3V	12/02/2015	S	Glass Jar (150 ml)	1			1						
17	BH25 0.7V	12/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	6	1	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 4225 3125 E: portkembla@alsglobal.com

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OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 (4) 5 6 7	Random Sample Temperature on Receipt	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (8)	Other comment:	

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*	KS	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		12 February 2015	12 February 2015 1730	16-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
18	WB26 0.0-0.5A	12/02/2015	S	Glass Jar (250 ml and 160 ml)	2	1								
19	WB26 0.5-1.0A	12/02/2015	S	Glass Jar (250 ml and 160 ml)	2	1								
20	WB26 0.0-0.5B	12/02/2015	S	Bag (White label)	1		1							
21	WB26 0.5-1.0B	12/02/2015	S	Bag (White label)	1		1							
22	WB26 0.3V	12/02/2015	S	Glass Jar (150 ml)	1			1						
23	WB26 0.7V	12/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
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PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 8	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
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Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		12 February 2015	12 February 2015 1730

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 16.2.15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH				
24	BH28 0.2-0.7A	12/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
25	BH28 0.3V	12/02/2015	S	Glass Jar (150 ml)	1			1							
26	BH28 0.7V	12/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	4	1		2							

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Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 8	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		12 February 2015	12 February 2015 1730

RELINQUISHED BY:	RECEIVED BY:
KS	
DATE/TIME: 16-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
27	WB25 0.0-0.5 A	12/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
28	WB25 0.5-1.0 A	12/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
29	WB25 0.0-0.5 B	12/02/2015	S	Bag (White label)	1		1							
30	WB25 0.5-1.0 B	12/02/2015	S	Bag (White label)	1		1							
31	WB25 0.3V	12/02/2015	S	Glass Jar (150 ml)	1			1						
32	WB25 0.7V	12/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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BRISBANE 32 Shand Street Stafford QLD 4053
Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 46 Callemondah Drive Clinton QLD 4680
Ph: 07 7471 5600 E: gladstone@alsglobal.com

MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com

NEWCASTLE 5 Rose Gum Road Wombrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com

SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245563		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 8	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		12 February 2015	12 February 2015 1730

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME:	DATE/TIME:
16-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
33	WB257 0.0-0.5 A	12/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
34	WB27 0.5-1.0 A	12/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
35	WB27 0.0-0.5 B	12/02/2015	S	Bag (White label)	1		1							
36	WB27 0.5-1.0 B	12/02/2015	S	Bag (White label)	1		1							
37	WB27 0.3V	12/02/2015	S	Glass Jar (150 ml)	1			1						
38	WB27 0.7V	12/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Environmental

ALS Laboratory: please tick →

☐ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
☐BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
☐GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
☐MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
☐MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
☐MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee mail@alsglobal.com
☐NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
☐NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
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☐TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townesville.environmental@alsglobal.com
☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Freeze / Frozen Ice bricks present upon receipt?	Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6	Other comment:	

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		12 February 2015	12 February 2015 1730	16.2.15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	Rinsate Suite	Trip blank suite	
39	Triplicate 9A	12/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
40	Triplicate 9B	12/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
41	Trip Blank 9	12/02/2015	S	Pre-filled glass jar	1									
42	Rinsate 8	12/02/2015	W	Bottle	8							1	1	
				TOTAL	13	2						1	1	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

SAMPLE RECEIPT INFORMATION & BOTTLE TYPE

CONWAG

WORKORDER No: ES1503599

To be completed by Sample Receipt						Samples checked, labelled and put in trays by:	Analysis creation by: (Starlims only)
Sorting Times *(Only record for BP, Mobil & URS)*	**Temperature Details** (record if NOT on COC)		**Packaging**		**Courier Details** (Mandatory for Quarantine)		
Time Sorting Commenced:	Sample Temp	'C	Seal Intact - Y / N / NA		Con Note: TNT 980164001160	Initial:	Initial:
Time Placed in Fridge:	Chilling Method - Circle If sample temp is less than 6'C it is not necessary to complete this section		**Type**	**No.**			
Sorting to Fridge Target Time <1 Hour			Esky		*Cells shaded grey don't need to be completed on this form if they are entered directly into LIMS/ANGEL by Sample Receipt staff.*		
	Ice / Ice Bricks / No Chilling		Other				

Sample Receipt Advice Comments - To be completed by Sorting Staff

VOC analysis may be compromised as sample containers contained **headspace** *(list):*

Details of any samples damaged during transit:

Other Information (eg. Were bottles received that weren't completely filled) (eg. If sample temperature is above 6'C add further detail here - *Internal use only - Not for SRN*):

Samples oiginally received at ALS Gladstone - Date 12-2-15 **- Temp** **and forward to ALS Sydney for Analysis.**

BOTTLES LOGGED AND LABELLED ○

150ml jars & 500ml Amber sent direct to Brisbane for TOC/TBT

* **150ml jar from sample #1 missing Sydney- Can you please split after Volatiles and send to EB for TBT/TOC**

Metals Bottles: F = Field filtered. T = Total. N/S = Not Specified.
Cyanide Bottles: Tr = Treated, meaning the client has ticked the pre-treated box on the bottle. Un = Untreated, meaning the box is not ticked.
Ferrous Iron, Hexavalent Chromium & Geosmin and MIB: F = Field filtered. N/S = Not Specified.
Soil Bags: S = Small. M = Medium (~500mL asbestos or PSD bag). L = Large (~6kg FMT bag)

Lab No.	S-						SV-					V(Vial)-					T(Vial)-			W-				P-		OG-	M-													IN-										Micro			UTW-		Crypto Lab	
	Soil Jar	Sediment Jar	SOIL BAG CIRCE Plastic / Paper Frozen / Not Frozen			Potential ACM Board	Glass Orange (SVOC)		Grey HDPE - No PTFE (PFOS & PFOA etc)		Red Glass (AOX)	Purple (VOC)	Dark Blue / White (Halo Acetic Acids)	Grey (Acrylamide Acrolein)	Green (Geosmin & MIB)		Purple		Black on White EDA pres'vd (ED013)	Natural Plastic Green			White Plastic Green (Chlor a)	Plastic Purple (Nutrien, Total Phenols & COD)		Purple Glass (O&G)	Standard Metal Bottle			ORC Metal Bottle			Maroon on White Plastic (As / Se Special'n)	Blue White Plastic (CN)		Yellow Plastic (Sulfide)	Light Blue Plastic (UHS)	Light Orange Plastic (Sulfide)	Maroon Plastic (Ferrous Iron)		Blue Plastic (Cr VI)		Brown/ Green Stripe Glass (Surf't or Alkyl Ethox's)	Sterile Micro Jar		Dark Green White Plastic (Algae)	Light Green & White Plastic (UT Nutrients - Unfiltered)	Turquoise & White Plastic (UT Nutrients - Filtered)	Plastic Carboy (Crypto & Giardia)	Other
																	TOC	DOC									CIRCLE Red OR Red / Green			CIRCLE Red OR Red / Green																		Black	Grey					
	150	250	S	M	L	Bag	100	500	60	125	500	40	40	40	F	N/S	40	40	40mL	1L	500	250	1L	60	125	250mL	F	T	N/S	F	T	N/S	60	Tr	Un	125	250	250	F	N/S	F	N/S	500	120	250	500mL	60	60	10L	
	This line allows for an initial indication of bottle types received without specifying the exact number for each sample. When using this function tick the boxes matching the containers received for this work order.																																																		
1																																																				
2																																																				
3																																																				
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ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1503599**	Page	: 1 of 58
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553		
C-O-C number	: ----	Date Samples Received	: 17-FEB-2015
Sampler	: GK	Issue Date	: 03-MAR-2015
Site	: ----		
		No. of samples received	: 42
Quote number	: SY/1021/14 V2	No. of samples analysed	: 42

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.**
- **EA150H: Soil Particle Density as required for Hydrometer analysis according to AS 1289.3.6.3 2003 was unable to be performed on sample #009 as insufficient sample was supplied by the client. Typical SPD values used for calculations and consequently NATA endorsement does not apply to hydrometer results.**
- **EP090: Sample 'BH14 0.4-0.7A' shows poor matrix spike recovery for Monobutyltin due to matrix interference.**

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Ashesh Patel	Inorganic Chemist	Sydney Inorganics
Lana Nguyen	Senior LCMS Chemist	Sydney Organics
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
		Sydney Organics
Peter Keyte	Newcastle Manager	Newcastle - Inorganics
Ryan Story	2IC Organic Instrument Chemist	Brisbane Organics
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils
Shobhna Chandra	Metals Coordinator	Sydney Inorganics
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH14 0.0-0.5A	BH14 0.4-0.7A	BH14 0.0-0.5B	BH14 0.4-0.7B	BH14 0.3V
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
					ES1503599-001	ES1503599-002	ES1503599-003	ES1503599-004	ES1503599-005
EA150: Particle Sizing									
+75µm	----	1	%		----	----	**97**	**18**	----
+150µm	----	1	%		----	----	**96**	**17**	----
+300µm	----	1	%		----	----	**90**	**14**	----
+425µm	----	1	%		----	----	**76**	**10**	----
+600µm	----	1	%		----	----	**61**	**6**	----
+1180µm	----	1	%		----	----	**46**	**3**	----
+2.36mm	----	1	%		----	----	**34**	<1	----
+4.75mm	----	1	%		----	----	**25**	<1	----
+9.5mm	----	1	%		----	----	**9**	<1	----
+19.0mm	----	1	%		----	----	<1	<1	----
+37.5mm	----	1	%		----	----	<1	<1	----
+75.0mm	----	1	%		----	----	<1	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**19.3**	**20.1**	----	----	**10.0**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	**1**	**41**	----
Silt (2-60 µm)	----	1	%		----	----	**1**	**35**	----
Sand (0.06-2.00 mm)	----	1	%		----	----	**61**	**23**	----
Gravel (>2mm)	----	1	%		----	----	**37**	**1**	----
Cobbles (>6cm)	----	1	%		----	----	<1	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	**2.68**	**2.72**	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**2600**	**14200**	----	----	----
Iron	7439-89-6	50	mg/kg		**5710**	**31600**	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		**8.05**	**8.92**	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	----	----	----
Chromium	7440-47-3	1.0	mg/kg		**4.0**	**19.4**	----	----	----
Copper	7440-50-8	1.0	mg/kg		**2.8**	**38.9**	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		**3.6**	**16.8**	----	----	----
Lead	7439-92-1	1.0	mg/kg		**1.4**	**16.1**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH14 0.0-0.5A	BH14 0.4-0.7A	BH14 0.0-0.5B	BH14 0.4-0.7B	BH14 0.3V
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
					ES1503599-001	ES1503599-002	ES1503599-003	ES1503599-004	ES1503599-005
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		258	792	----	----	----
Nickel	7440-02-0	1.0	mg/kg		2.4	15.5	----	----	----
Selenium	7782-49-2	0.1	mg/kg		0.2	0.8	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.5	<0.5	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		17.6	68.5	----	----	----
Zinc	7440-66-6	1.0	mg/kg		7.1	58.3	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	0.03	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		0.2	<0.1	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		0.2	<0.1	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		60	200	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		60	200	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		200	331	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		0.4	0.7	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		0.17	0.33	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	<3	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		4	7	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	<5	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		4	7	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		<3	<3	----	----	----
C15 - C28 Fraction	----	3	mg/kg		<3	4	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH14 0.0-0.5A	BH14 0.4-0.7A	BH14 0.0-0.5B	BH14 0.4-0.7B	BH14 0.3V
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
					ES1503599-001	ES1503599-002	ES1503599-003	ES1503599-004	ES1503599-005
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	<5	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		<3	4	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	----	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	<1	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	<1	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	<0.5	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	<10	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	<10	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	<10.0	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	<10	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	<10	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	<10	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	<10	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	<10	----	----	----
Ethion	563-12-2	10	µg/kg		<10	<10	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	<10	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	<10	----	----	----
Malathion	121-75-5	10	µg/kg		<10	<10	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	<10	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	<10	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH14 0.0-0.5A	BH14 0.4-0.7A	BH14 0.0-0.5B	BH14 0.4-0.7B	BH14 0.3V
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
					ES1503599-001	ES1503599-002	ES1503599-003	ES1503599-004	ES1503599-005
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	<10	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	<10	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	<10	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	<10	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	<0.50	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	<0.50	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	<0.50	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	<0.50	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	<0.50	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	<0.25	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	<0.50	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	<0.25	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	<0.25	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	<0.25	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	<0.50	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	<5.0	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH14 0.0-0.5A	BH14 0.4-0.7A	BH14 0.0-0.5B	BH14 0.4-0.7B	BH14 0.3V
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
					ES1503599-001	ES1503599-002	ES1503599-003	ES1503599-004	ES1503599-005
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	<5.0	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	<5	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	<5	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	<4	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	<4	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	<4	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	<4	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	<4	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	<4	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	<4	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	<4	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	<4	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	<4	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	<4	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	<4	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	<4	----	----	----
Perylene	198-55-0	4	µg/kg		<4	<4	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	<4	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	<4	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	<4	----	----	----
Coronene	191-07-1	5	µg/kg		<5	<5	----	----	----
^ **Sum of PAHs**	----	4	µg/kg		<4	<4	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	----	**105**
Toluene-D8	2037-26-5	0.1	%		----	----	----	----	**86.2**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	----	**95.7**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**115**	**83.2**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH14 0.0-0.5A	BH14 0.4-0.7A	BH14 0.0-0.5B	BH14 0.4-0.7B	BH14 0.3V
			Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503599-001	ES1503599-002	ES1503599-003	ES1503599-004	ES1503599-005
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	67.4	68.8	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	68.0	53.3	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	70.5	58.5	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	62.8	70.6	----	----	----
Anthracene-d10	1719-06-8	0.1	%	111	101	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	121	119	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH14 0.7V	BH14 0.0-0.05E	BH23 0.4-0.9A	BH23 0.4-0.9B	BH23 0.3V
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
					ES1503599-006	ES1503599-007	ES1503599-008	ES1503599-009	ES1503599-010
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	**98**	----
+150µm	----	1	%		----	----	----	**98**	----
+300µm	----	1	%		----	----	----	**97**	----
+425µm	----	1	%		----	----	----	**97**	----
+600µm	----	1	%		----	----	----	**95**	----
+1180µm	----	1	%		----	----	----	**93**	----
+2.36mm	----	1	%		----	----	----	**90**	----
+4.75mm	----	1	%		----	----	----	**85**	----
+9.5mm	----	1	%		----	----	----	**81**	----
+19.0mm	----	1	%		----	----	----	**73**	----
+37.5mm	----	1	%		----	----	----	**60**	----
+75.0mm	----	1	%		----	----	----	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**20.0**	**12.6**	**12.4**	----	**16.9**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	**1**	----
Silt (2-60 µm)	----	1	%		----	----	----	**1**	----
Sand (0.06-2.00 mm)	----	1	%		----	----	----	**7**	----
Gravel (>2mm)	----	1	%		----	----	----	**43**	----
Cobbles (>6cm)	----	1	%		----	----	----	**48**	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	**2770**	**4140**	----	----
Iron	7439-89-6	50	mg/kg		----	**7350**	**7560**	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	<0.50	<0.50	----	----
Arsenic	7440-38-2	1.00	mg/kg		----	**8.49**	**3.08**	----	----
Cadmium	7440-43-9	0.1	mg/kg		----	<0.1	<0.1	----	----
Chromium	7440-47-3	1.0	mg/kg		----	**5.0**	**6.6**	----	----
Copper	7440-50-8	1.0	mg/kg		----	**3.4**	**5.4**	----	----
Cobalt	7440-48-4	0.5	mg/kg		----	**4.2**	**3.4**	----	----
Lead	7439-92-1	1.0	mg/kg		----	**1.3**	**2.0**	----	----
Manganese	7439-96-5	10	mg/kg		----	**359**	**85**	----	----
Nickel	7440-02-0	1.0	mg/kg		----	**2.8**	**4.0**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH14 0.7V	BH14 0.0-0.05E	BH23 0.4-0.9A	BH23 0.4-0.9B	BH23 0.3V
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
					ES1503599-006	ES1503599-007	ES1503599-008	ES1503599-009	ES1503599-010
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Selenium	7782-49-2	0.1	mg/kg		----	**0.1**	**0.2**	----	----
Silver	7440-22-4	0.1	mg/kg		----	<0.5	<0.5	----	----
Vanadium	7440-62-2	2.0	mg/kg		----	**21.5**	**18.9**	----	----
Zinc	7440-66-6	1.0	mg/kg		----	**8.1**	**12.9**	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	<0.01	<0.01	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	**90**	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	**90**	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	**216**	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	**0.9**	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	**0.09**	**0.31**	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	<3	----	----
>C16 - C34 Fraction	----	3	mg/kg		----	----	**7**	----	----
>C34 - C40 Fraction	----	5	mg/kg		----	----	<5	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	**7**	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	<3	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		----	----	<3	----	----
C15 - C28 Fraction	----	3	mg/kg		----	----	**5**	----	----
C29 - C36 Fraction	----	5	mg/kg		----	----	<5	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	**5**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH14 0.7V	BH14 0.0-0.05E	BH23 0.4-0.9A	BH23 0.4-0.9B	BH23 0.3V
			Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503599-006	ES1503599-007	ES1503599-008	ES1503599-009	ES1503599-010
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons								
C6 - C10 Fraction	C6_C10	3	mg/kg	<3	<3	----	----	<3
EP080-SD: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	----	----	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	----	----	<0.2
EP090: Organotin Compounds								
Monobutyltin	78763-54-9	1	µgSn/kg	----	----	<1	----	----
Dibutyltin	1002-53-5	1	µgSn/kg	----	----	<1	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg	----	----	<0.5	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)								
Bromophos-ethyl	4824-78-6	10	µg/kg	----	<10	<10	----	----
Carbophenothion	786-19-6	10	µg/kg	----	<10	<10	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	----	<10.0	<10.0	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	----	<10	<10	----	----
Chlorpyrifos	2921-88-2	10	µg/kg	----	<10	<10	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg	----	<10	<10	----	----
Demeton-S-methyl	919-86-8	10	µg/kg	----	<10	<10	----	----
Diazinon	333-41-5	10	µg/kg	----	<10	<10	----	----
Dichlorvos	62-73-7	10	µg/kg	----	<10	<10	----	----
Dimethoate	60-51-5	10	µg/kg	----	<10	<10	----	----
Ethion	563-12-2	10	µg/kg	----	<10	<10	----	----
Fenamiphos	22224-92-6	10	µg/kg	----	<10	<10	----	----
Fenthion	55-38-9	10	µg/kg	----	<10	<10	----	----
Malathion	121-75-5	10	µg/kg	----	<10	<10	----	----
Azinphos Methyl	86-50-0	10	µg/kg	----	<10	<10	----	----
Monocrotophos	6923-22-4	10	µg/kg	----	<10	<10	----	----
Parathion	56-38-2	10	µg/kg	----	<10	<10	----	----
Parathion-methyl	298-00-0	10	µg/kg	----	<10	<10	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg	----	<10	<10	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH14 0.7V	BH14 0.0-0.05E	BH23 0.4-0.9A	BH23 0.4-0.9B	BH23 0.3V
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
					ES1503599-006	ES1503599-007	ES1503599-008	ES1503599-009	ES1503599-010
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Prothiofos	34643-46-4	10	µg/kg		----	<10	<10	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg		----	<0.50	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	<0.50	<0.50	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	<0.50	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	<0.50	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	<0.50	<0.50	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	<0.50	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	<0.50	<0.50	----	----
gamma-BHC	58-89-9	0.25	µg/kg		----	<0.25	<0.25	----	----
Methoxychlor	72-43-5	0.50	µg/kg		----	<0.50	<0.50	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	<0.25	<0.25	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	<0.25	<0.25	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		----	<0.25	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	<0.50	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1232	11141-16-5	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	<5.0	<5.0	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH14 0.7V	BH14 0.0-0.05E	BH23 0.4-0.9A	BH23 0.4-0.9B	BH23 0.3V
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
					ES1503599-006	ES1503599-007	ES1503599-008	ES1503599-009	ES1503599-010
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1254	11097-69-1	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	<5.0	<5.0	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	<5	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	<5	----	----
Acenaphthylene	208-96-8	4	µg/kg		----	----	<4	----	----
Acenaphthene	83-32-9	4	µg/kg		----	----	<4	----	----
Fluorene	86-73-7	4	µg/kg		----	----	<4	----	----
Phenanthrene	85-01-8	4	µg/kg		----	----	<4	----	----
Anthracene	120-12-7	4	µg/kg		----	----	<4	----	----
Fluoranthene	206-44-0	4	µg/kg		----	----	<4	----	----
Pyrene	129-00-0	4	µg/kg		----	----	<4	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	<4	----	----
Chrysene	218-01-9	4	µg/kg		----	----	<4	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	<4	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	<4	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	<4	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	<4	----	----
Perylene	198-55-0	4	µg/kg		----	----	<4	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	<4	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	<4	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	<4	----	----
Coronene	191-07-1	5	µg/kg		----	----	<5	----	----
^ **Sum of PAHs**	----	4	µg/kg		----	----	<4	----	----
EP202A: Phenoxyacetic Acid Herbicides by LCMS									
4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg		----	<0.02	----	----	----
2.4-DB	94-82-6	0.02	mg/kg		----	<0.02	----	----	----
Dicamba	1918-00-9	0.02	mg/kg		----	<0.02	----	----	----
Mecoprop	93-65-2	0.02	mg/kg		----	<0.02	----	----	----
MCPA	94-74-6	0.02	mg/kg		----	<0.02	----	----	----
2.4-DP	120-36-5	0.02	mg/kg		----	<0.02	----	----	----
2.4-D	94-75-7	0.02	mg/kg		----	<0.02	----	----	----
Triclopyr	55335-06-3	0.02	mg/kg		----	<0.02	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH14 0.7V	BH14 0.0-0.05E	BH23 0.4-0.9A	BH23 0.4-0.9B	BH23 0.3V
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503599-006	ES1503599-007	ES1503599-008	ES1503599-009	ES1503599-010
EP202A: Phenoxyacetic Acid Herbicides by LCMS - Continued									
2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg		----	<0.02	----	----	----
2.4.5-T	93-76-5	0.02	mg/kg		----	<0.02	----	----	----
MCPB	94-81-5	0.02	mg/kg		----	<0.02	----	----	----
Picloram	1918-02-1	0.02	mg/kg		----	<0.02	----	----	----
Clopyralid	1702-17-6	0.02	mg/kg		----	<0.02	----	----	----
Fluroxypyr	69377-81-7	0.02	mg/kg		----	<0.02	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**104**	**110**	----	----	**103**
Toluene-D8	2037-26-5	0.1	%		**92.1**	**91.7**	----	----	**89.7**
4-Bromofluorobenzene	460-00-4	0.1	%		**102**	**102**	----	----	**98.0**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	**99.4**	----	----
EP130S: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%		----	**67.7**	**81.9**	----	----
EP131S: OC Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.1	%		----	**68.7**	**62.4**	----	----
EP131T: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	**78.0**	**47.9**	----	----
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		----	----	**102**	----	----
Anthracene-d10	1719-06-8	0.1	%		----	----	**119**	----	----
4-Terphenyl-d14	1718-51-0	0.1	%		----	----	**106**	----	----
EP202S: Phenoxyacetic Acid Herbicide Surrogate									
2.4-Dichlorophenyl Acetic Acid	19719-28-9	0.1	%		----	**72.0**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH23 0.7V	BH25 0.0-0.5A	BH25 0.5-1.0A	BH25 0.0-0.5B	BH25 0.5-1.0B
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503599-011	ES1503599-012	ES1503599-013	ES1503599-014	ES1503599-015
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	96	93
+150µm	----	1	%		----	----	----	95	92
+300µm	----	1	%		----	----	----	86	88
+425µm	----	1	%		----	----	----	55	77
+600µm	----	1	%		----	----	----	21	65
+1180µm	----	1	%		----	----	----	1	55
+2.36mm	----	1	%		----	----	----	<1	45
+4.75mm	----	1	%		----	----	----	<1	30
+9.5mm	----	1	%		----	----	----	<1	26
+19.0mm	----	1	%		----	----	----	<1	15
+37.5mm	----	1	%		----	----	----	<1	<1
+75.0mm	----	1	%		----	----	----	<1	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		12.3	18.0	18.5	----	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	3	4
Silt (2-60 µm)	----	1	%		----	----	----	<1	2
Sand (0.06-2.00 mm)	----	1	%		----	----	----	97	46
Gravel (>2mm)	----	1	%		----	----	----	<1	48
Cobbles (>6cm)	----	1	%		----	----	----	<1	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	2.67	2.67
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	4020	4720	----	----
Iron	7439-89-6	50	mg/kg		----	8000	8610	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	<0.50	<0.50	----	----
Arsenic	7440-38-2	1.00	mg/kg		----	3.41	5.82	----	----
Cadmium	7440-43-9	0.1	mg/kg		----	<0.1	<0.1	----	----
Chromium	7440-47-3	1.0	mg/kg		----	7.3	7.1	----	----
Copper	7440-50-8	1.0	mg/kg		----	5.1	5.6	----	----
Cobalt	7440-48-4	0.5	mg/kg		----	2.6	3.5	----	----
Lead	7439-92-1	1.0	mg/kg		----	2.2	2.5	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH23 0.7V	BH25 0.0-0.5A	BH25 0.5-1.0A	BH25 0.0-0.5B	BH25 0.5-1.0B
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503599-011	ES1503599-012	ES1503599-013	ES1503599-014	ES1503599-015
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	**134**	**172**	----	----
Nickel	7440-02-0	1.0	mg/kg		----	**3.2**	**4.0**	----	----
Selenium	7782-49-2	0.1	mg/kg		----	**0.2**	**0.2**	----	----
Silver	7440-22-4	0.1	mg/kg		----	<0.5	<0.5	----	----
Vanadium	7440-62-2	2.0	mg/kg		----	**18.3**	**20.2**	----	----
Zinc	7440-66-6	1.0	mg/kg		----	**13.6**	**13.4**	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	<0.01	<0.01	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	**30**	**50**	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	**30**	**50**	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	**190**	**207**	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	**0.3**	**0.6**	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	**0.07**	**0.10**	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	<3	<3	----	----
>C16 - C34 Fraction	----	3	mg/kg		----	**12**	**7**	----	----
>C34 - C40 Fraction	----	5	mg/kg		----	<5	<5	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	**12**	**7**	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	----	----	----	----
C10 - C14 Fraction	----	3	mg/kg		----	<3	<3	----	----
C15 - C28 Fraction	----	3	mg/kg		----	**8**	**5**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH23 0.7V	BH25 0.0-0.5A	BH25 0.5-1.0A	BH25 0.0-0.5B	BH25 0.5-1.0B
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503599-011	ES1503599-012	ES1503599-013	ES1503599-014	ES1503599-015
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	7	<5	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	15	5	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	----	----	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.2	mg/kg		<0.2	----	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	----	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	----	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	<1	<1	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	<1	<1	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	<0.5	<0.5	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	<10	<10	----	----
Carbophenothion	786-19-6	10	µg/kg		----	<10	<10	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	<10.0	<10.0	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	<10	<10	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	<10	<10	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	<10	<10	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	<10	<10	----	----
Diazinon	333-41-5	10	µg/kg		----	<10	<10	----	----
Dichlorvos	62-73-7	10	µg/kg		----	<10	<10	----	----
Dimethoate	60-51-5	10	µg/kg		----	<10	<10	----	----
Ethion	563-12-2	10	µg/kg		----	<10	<10	----	----
Fenamiphos	22224-92-6	10	µg/kg		----	<10	<10	----	----
Fenthion	55-38-9	10	µg/kg		----	<10	<10	----	----
Malathion	121-75-5	10	µg/kg		----	<10	<10	----	----
Azinphos Methyl	86-50-0	10	µg/kg		----	<10	<10	----	----
Monocrotophos	6923-22-4	10	µg/kg		----	<10	<10	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH23 0.7V	BH25 0.0-0.5A	BH25 0.5-1.0A	BH25 0.0-0.5B	BH25 0.5-1.0B
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503599-011	ES1503599-012	ES1503599-013	ES1503599-014	ES1503599-015
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	<10	<10	----	----
Parathion-methyl	298-00-0	10	µg/kg		----	<10	<10	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	<10	<10	----	----
Prothiofos	34643-46-4	10	µg/kg		----	<10	<10	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg		----	<0.50	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	<0.50	<0.50	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	<0.50	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	<0.50	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	<0.50	<0.50	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	<0.50	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	<0.50	<0.50	----	----
gamma-BHC	58-89-9	0.25	µg/kg		----	<0.25	<0.25	----	----
Methoxychlor	72-43-5	0.50	µg/kg		----	<0.50	<0.50	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	<0.25	<0.25	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	<0.25	<0.25	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		----	<0.25	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	<0.50	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	<5.0	<5.0	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH23 0.7V	BH25 0.0-0.5A	BH25 0.5-1.0A	BH25 0.0-0.5B	BH25 0.5-1.0B
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
					ES1503599-011	ES1503599-012	ES1503599-013	ES1503599-014	ES1503599-015
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	<5.0	<5.0	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	<5	<5	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	<5	<5	----	----
Acenaphthylene	208-96-8	4	µg/kg		----	<4	<4	----	----
Acenaphthene	83-32-9	4	µg/kg		----	<4	<4	----	----
Fluorene	86-73-7	4	µg/kg		----	<4	<4	----	----
Phenanthrene	85-01-8	4	µg/kg		----	<4	<4	----	----
Anthracene	120-12-7	4	µg/kg		----	<4	<4	----	----
Fluoranthene	206-44-0	4	µg/kg		----	<4	<4	----	----
Pyrene	129-00-0	4	µg/kg		----	<4	<4	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	<4	<4	----	----
Chrysene	218-01-9	4	µg/kg		----	<4	<4	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	<4	<4	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	<4	<4	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	<4	<4	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	<4	<4	----	----
Perylene	198-55-0	4	µg/kg		----	<4	<4	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	<4	<4	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	<4	<4	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	<4	<4	----	----
Coronene	191-07-1	5	µg/kg		----	<5	<5	----	----
^ **Sum of PAHs**	----	4	µg/kg		----	<4	<4	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**102**	----	----	----	----
Toluene-D8	2037-26-5	0.1	%		**89.4**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**103**	----	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	**84.7**	**106**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH23 0.7V	BH25 0.0-0.5A	BH25 0.5-1.0A	BH25 0.0-0.5B	BH25 0.5-1.0B
			Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503599-011	ES1503599-012	ES1503599-013	ES1503599-014	ES1503599-015
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	71.3	68.6	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	82.5	65.4	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	74.9	65.0	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	87.8	93.9	----	----
Anthracene-d10	1719-06-8	0.1	%	----	110	96.7	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	111	83.0	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH25 0.3V	BH25 0.7V	WB26 0.0-0.5A	WB26 0.5-1.0A	WB26 0.0-0.5B
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503599-016	ES1503599-017	ES1503599-018	ES1503599-019	ES1503599-020
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	----	96
+150µm	----	1	%		----	----	----	----	36
+300µm	----	1	%		----	----	----	----	<1
+425µm	----	1	%		----	----	----	----	<1
+600µm	----	1	%		----	----	----	----	<1
+1180µm	----	1	%		----	----	----	----	<1
+2.36mm	----	1	%		----	----	----	----	<1
+4.75mm	----	1	%		----	----	----	----	<1
+9.5mm	----	1	%		----	----	----	----	<1
+19.0mm	----	1	%		----	----	----	----	<1
+37.5mm	----	1	%		----	----	----	----	<1
+75.0mm	----	1	%		----	----	----	----	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		17.3	14.9	20.9	24.1	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	----	3
Silt (2-60 µm)	----	1	%		----	----	----	----	<1
Sand (0.06-2.00 mm)	----	1	%		----	----	----	----	97
Gravel (>2mm)	----	1	%		----	----	----	----	<1
Cobbles (>6cm)	----	1	%		----	----	----	----	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	----	2.69
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	4340	4600	----
Iron	7439-89-6	50	mg/kg		----	----	11600	11000	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	<0.50	<0.50	----
Arsenic	7440-38-2	1.00	mg/kg		----	----	13.0	9.22	----
Cadmium	7440-43-9	0.1	mg/kg		----	----	<0.1	<0.1	----
Chromium	7440-47-3	1.0	mg/kg		----	----	10.4	12.0	----
Copper	7440-50-8	1.0	mg/kg		----	----	3.0	3.3	----
Cobalt	7440-48-4	0.5	mg/kg		----	----	6.0	6.5	----
Lead	7439-92-1	1.0	mg/kg		----	----	2.9	3.4	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH25 0.3V	BH25 0.7V	WB26 0.0-0.5A	WB26 0.5-1.0A	WB26 0.0-0.5B
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
					ES1503599-016	ES1503599-017	ES1503599-018	ES1503599-019	ES1503599-020
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	**509**	**376**	----
Nickel	7440-02-0	1.0	mg/kg		----	----	**4.3**	**4.7**	----
Selenium	7782-49-2	0.1	mg/kg		----	----	**0.3**	**0.3**	----
Silver	7440-22-4	0.1	mg/kg		----	----	<0.1	**0.1**	----
Vanadium	7440-62-2	2.0	mg/kg		----	----	**28.4**	**25.7**	----
Zinc	7440-66-6	1.0	mg/kg		----	----	**14.2**	**15.6**	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	<0.01	<0.01	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	<0.1	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	<0.1	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	<0.1	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	**60**	**120**	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	**60**	**120**	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	**218**	**239**	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	**2.9**	**8.7**	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	**0.06**	**0.08**	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	<3	<3	----
>C16 - C34 Fraction	----	3	mg/kg		----	----	**7**	**12**	----
>C34 - C40 Fraction	----	5	mg/kg		----	----	<5	<5	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	**7**	**12**	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	<3	----	----	----
C10 - C14 Fraction	----	3	mg/kg		----	----	<3	<3	----
C15 - C28 Fraction	----	3	mg/kg		----	----	**5**	**8**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH25 0.3V	BH25 0.7V	WB26 0.0-0.5A	WB26 0.5-1.0A	WB26 0.0-0.5B
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503599-016	ES1503599-017	ES1503599-018	ES1503599-019	ES1503599-020
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	<5	**6**	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	**5**	**14**	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	<3	----	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	----	----
Toluene	108-88-3	0.2	mg/kg		<0.2	<0.2	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	<0.2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	<0.2	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	<0.2	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	<1	<1	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	<1	<1	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	<0.5	<0.5	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	<10	<10	----
Carbophenothion	786-19-6	10	µg/kg		----	----	<10	<10	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	<10.0	<10.0	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	<10	<10	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	<10	<10	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	<10	<10	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	<10	<10	----
Diazinon	333-41-5	10	µg/kg		----	----	<10	<10	----
Dichlorvos	62-73-7	10	µg/kg		----	----	<10	<10	----
Dimethoate	60-51-5	10	µg/kg		----	----	<10	<10	----
Ethion	563-12-2	10	µg/kg		----	----	<10	<10	----
Fenamiphos	22224-92-6	10	µg/kg		----	----	<10	<10	----
Fenthion	55-38-9	10	µg/kg		----	----	<10	<10	----
Malathion	121-75-5	10	µg/kg		----	----	<10	<10	----
Azinphos Methyl	86-50-0	10	µg/kg		----	----	<10	<10	----
Monocrotophos	6923-22-4	10	µg/kg		----	----	<10	<10	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH25 0.3V	BH25 0.7V	WB26 0.0-0.5A	WB26 0.5-1.0A	WB26 0.0-0.5B
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
					ES1503599-016	ES1503599-017	ES1503599-018	ES1503599-019	ES1503599-020
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	<10	<10	----
Parathion-methyl	298-00-0	10	µg/kg		----	----	<10	<10	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	<10	<10	----
Prothiofos	34643-46-4	10	µg/kg		----	----	<10	<10	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	<0.50	<0.50	----
alpha-BHC	319-84-6	0.50	µg/kg		----	----	<0.50	<0.50	----
beta-BHC	319-85-7	0.50	µg/kg		----	----	<0.50	<0.50	----
delta-BHC	319-86-8	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	<0.50	<0.50	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	----	<0.50	<0.50	----
Dieldrin	60-57-1	0.50	µg/kg		----	----	<0.50	<0.50	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	<0.50	<0.50	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	<0.50	<0.50	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	<0.50	<0.50	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin	72-20-8	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	<0.50	<0.50	----
Heptachlor	76-44-8	0.50	µg/kg		----	----	<0.50	<0.50	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	<0.50	<0.50	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	<0.50	<0.50	----
gamma-BHC	58-89-9	0.25	µg/kg		----	----	<0.25	<0.25	----
Methoxychlor	72-43-5	0.50	µg/kg		----	----	<0.50	<0.50	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	<0.25	<0.25	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	<0.25	<0.25	----
^ Total Chlordane (sum)	----	0.25	µg/kg		----	----	<0.25	<0.25	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	<0.50	<0.50	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	<5.0	<5.0	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH25 0.3V	BH25 0.7V	WB26 0.0-0.5A	WB26 0.5-1.0A	WB26 0.0-0.5B
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
					ES1503599-016	ES1503599-017	ES1503599-018	ES1503599-019	ES1503599-020
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	<5.0	<5.0	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	<5	<5	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	<5	<5	----
Acenaphthylene	208-96-8	4	µg/kg		----	----	<4	<4	----
Acenaphthene	83-32-9	4	µg/kg		----	----	<4	<4	----
Fluorene	86-73-7	4	µg/kg		----	----	<4	<4	----
Phenanthrene	85-01-8	4	µg/kg		----	----	<4	<4	----
Anthracene	120-12-7	4	µg/kg		----	----	<4	<4	----
Fluoranthene	206-44-0	4	µg/kg		----	----	<4	<4	----
Pyrene	129-00-0	4	µg/kg		----	----	<4	<4	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	<4	<4	----
Chrysene	218-01-9	4	µg/kg		----	----	<4	<4	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	<4	<4	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	<4	<4	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	<4	<4	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	<4	<4	----
Perylene	198-55-0	4	µg/kg		----	----	<4	<4	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	<4	<4	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	<4	<4	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	<4	<4	----
Coronene	191-07-1	5	µg/kg		----	----	<5	<5	----
^ Sum of PAHs	----	4	µg/kg		----	----	<4	<4	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		102	108	----	----	----
Toluene-D8	2037-26-5	0.1	%		87.6	91.2	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		97.8	103	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	91.2	89.9	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH25 0.3V	BH25 0.7V	WB26 0.0-0.5A	WB26 0.5-1.0A	WB26 0.0-0.5B
			Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503599-016	ES1503599-017	ES1503599-018	ES1503599-019	ES1503599-020
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	67.3	70.7	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	70.7	87.9	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	94.4	59.6	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	90.2	93.7	----
Anthracene-d10	1719-06-8	0.1	%	----	----	82.6	117	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	86.9	116	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB26 0.5-1.0B	WB26 0.3V	WB26 0.7V	BH28 0.2-0.7A	BH28 0.3V
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
					ES1503599-021	ES1503599-022	ES1503599-023	ES1503599-024	ES1503599-025
EA150: Particle Sizing									
+75µm	----	1	%		**94**	----	----	----	----
+150µm	----	1	%		**44**	----	----	----	----
+300µm	----	1	%		**2**	----	----	----	----
+425µm	----	1	%		**1**	----	----	----	----
+600µm	----	1	%		<1	----	----	----	----
+1180µm	----	1	%		<1	----	----	----	----
+2.36mm	----	1	%		<1	----	----	----	----
+4.75mm	----	1	%		<1	----	----	----	----
+9.5mm	----	1	%		<1	----	----	----	----
+19.0mm	----	1	%		<1	----	----	----	----
+37.5mm	----	1	%		<1	----	----	----	----
+75.0mm	----	1	%		<1	----	----	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	**21.0**	**22.1**	**15.8**	**17.0**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		**3**	----	----	----	----
Silt (2-60 µm)	----	1	%		**2**	----	----	----	----
Sand (0.06-2.00 mm)	----	1	%		**95**	----	----	----	----
Gravel (>2mm)	----	1	%		<1	----	----	----	----
Cobbles (>6cm)	----	1	%		<1	----	----	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		**2.69**	----	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	----	**5420**	----
Iron	7439-89-6	50	mg/kg		----	----	----	**12300**	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	----	<0.50	----
Arsenic	7440-38-2	1.00	mg/kg		----	----	----	**8.67**	----
Cadmium	7440-43-9	0.1	mg/kg		----	----	----	<0.1	----
Chromium	7440-47-3	1.0	mg/kg		----	----	----	**10.8**	----
Copper	7440-50-8	1.0	mg/kg		----	----	----	**5.4**	----
Cobalt	7440-48-4	0.5	mg/kg		----	----	----	**5.3**	----
Lead	7439-92-1	1.0	mg/kg		----	----	----	**4.0**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB26 0.5-1.0B	WB26 0.3V	WB26 0.7V	BH28 0.2-0.7A	BH28 0.3V
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
					ES1503599-021	ES1503599-022	ES1503599-023	ES1503599-024	ES1503599-025
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	----	**561**	----
Nickel	7440-02-0	1.0	mg/kg		----	----	----	**5.2**	----
Selenium	7782-49-2	0.1	mg/kg		----	----	----	**0.3**	----
Silver	7440-22-4	0.1	mg/kg		----	----	----	<0.1	----
Vanadium	7440-62-2	2.0	mg/kg		----	----	----	**31.0**	----
Zinc	7440-66-6	1.0	mg/kg		----	----	----	**19.4**	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	----	<0.01	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	----	<0.1	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	<0.1	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	<0.1	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	----	**130**	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	----	**130**	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	----	**172**	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	----	**1.1**	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	----	**0.19**	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	----	<3	----
>C16 - C34 Fraction	----	3	mg/kg		----	----	----	**8**	----
>C34 - C40 Fraction	----	5	mg/kg		----	----	----	<5	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	----	**8**	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	<3	<3	----	<3
C10 - C14 Fraction	----	3	mg/kg		----	----	----	<3	----
C15 - C28 Fraction	----	3	mg/kg		----	----	----	**5**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB26 0.5-1.0B	WB26 0.3V	WB26 0.7V	BH28 0.2-0.7A	BH28 0.3V
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
					ES1503599-021	ES1503599-022	ES1503599-023	ES1503599-024	ES1503599-025
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	----	<5	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	----	**5**	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	<3	<3	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	<0.2	<0.2	----	<0.2
Toluene	108-88-3	0.2	mg/kg		----	<0.2	<0.2	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	<0.2	<0.2	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	<0.2	<0.2	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	<0.2	<0.2	----	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	<0.5	<0.5	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	<0.2	<0.2	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	----	<1	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	----	<1	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	----	<0.5	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	----	<10	----
Carbophenothion	786-19-6	10	µg/kg		----	----	----	<10	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	----	<10.0	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	----	<10	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	----	<10	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	----	<10	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	----	<10	----
Diazinon	333-41-5	10	µg/kg		----	----	----	<10	----
Dichlorvos	62-73-7	10	µg/kg		----	----	----	<10	----
Dimethoate	60-51-5	10	µg/kg		----	----	----	<10	----
Ethion	563-12-2	10	µg/kg		----	----	----	<10	----
Fenamiphos	22224-92-6	10	µg/kg		----	----	----	<10	----
Fenthion	55-38-9	10	µg/kg		----	----	----	<10	----
Malathion	121-75-5	10	µg/kg		----	----	----	<10	----
Azinphos Methyl	86-50-0	10	µg/kg		----	----	----	<10	----
Monocrotophos	6923-22-4	10	µg/kg		----	----	----	<10	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB26 0.5-1.0B	WB26 0.3V	WB26 0.7V	BH28 0.2-0.7A	BH28 0.3V
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
					ES1503599-021	ES1503599-022	ES1503599-023	ES1503599-024	ES1503599-025
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	----	<10	----
Parathion-methyl	298-00-0	10	µg/kg		----	----	----	<10	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	----	<10	----
Prothiofos	34643-46-4	10	µg/kg		----	----	----	<10	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	----	<0.50	----
alpha-BHC	319-84-6	0.50	µg/kg		----	----	----	<0.50	----
beta-BHC	319-85-7	0.50	µg/kg		----	----	----	<0.50	----
delta-BHC	319-86-8	0.50	µg/kg		----	----	----	<0.50	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	----	<0.50	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	----	<0.50	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	----	<0.50	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	----	----	<0.50	----
Dieldrin	60-57-1	0.50	µg/kg		----	----	----	<0.50	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	----	<0.50	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	----	<0.50	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	----	<0.50	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	----	----	<0.50	----
Endrin	72-20-8	0.50	µg/kg		----	----	----	<0.50	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	----	<0.50	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	----	<0.50	----
Heptachlor	76-44-8	0.50	µg/kg		----	----	----	<0.50	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	----	<0.50	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	----	<0.50	----
gamma-BHC	58-89-9	0.25	µg/kg		----	----	----	<0.25	----
Methoxychlor	72-43-5	0.50	µg/kg		----	----	----	<0.50	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	----	<0.25	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	----	<0.25	----
^ Total Chlordane (sum)	----	0.25	µg/kg		----	----	----	<0.25	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	----	<0.50	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	----	----	<5.0	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	----	<5.0	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	----	<5.0	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB26 0.5-1.0B	WB26 0.3V	WB26 0.7V	BH28 0.2-0.7A	BH28 0.3V
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
					ES1503599-021	ES1503599-022	ES1503599-023	ES1503599-024	ES1503599-025
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	----	<5.0	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	----	<5.0	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	----	<5.0	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	----	<5.0	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	----	<5.0	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	----	<5	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	----	<5	----
Acenaphthylene	208-96-8	4	µg/kg		----	----	----	<4	----
Acenaphthene	83-32-9	4	µg/kg		----	----	----	<4	----
Fluorene	86-73-7	4	µg/kg		----	----	----	<4	----
Phenanthrene	85-01-8	4	µg/kg		----	----	----	<4	----
Anthracene	120-12-7	4	µg/kg		----	----	----	<4	----
Fluoranthene	206-44-0	4	µg/kg		----	----	----	<4	----
Pyrene	129-00-0	4	µg/kg		----	----	----	<4	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	----	<4	----
Chrysene	218-01-9	4	µg/kg		----	----	----	<4	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	----	<4	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	----	<4	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	----	<4	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	----	<4	----
Perylene	198-55-0	4	µg/kg		----	----	----	<4	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	----	<4	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	----	<4	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	----	<4	----
Coronene	191-07-1	5	µg/kg		----	----	----	<5	----
^ Sum of PAHs	----	4	µg/kg		----	----	----	<4	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	**111**	**112**	----	**89.6**
Toluene-D8	2037-26-5	0.1	%		----	**92.8**	**92.5**	----	**75.5**
4-Bromofluorobenzene	460-00-4	0.1	%		----	**104**	**103**	----	**98.4**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	----	**114**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB26 0.5-1.0B	WB26 0.3V	WB26 0.7V	BH28 0.2-0.7A	BH28 0.3V
			Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503599-021	ES1503599-022	ES1503599-023	ES1503599-024	ES1503599-025
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	----	**68.9**	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	----	**80.0**	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	**64.5**	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	**84.1**	----
Anthracene-d10	1719-06-8	0.1	%	----	----	----	**97.5**	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	**96.8**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH28 0.7V	WB25 0.0-0.5A	WB25 0.5-1.0A	WB25 0.0-0.5B	WB25 0.5-1.0B
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503599-026	ES1503599-027	ES1503599-028	ES1503599-029	ES1503599-030
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	**96**	**97**
+150µm	----	1	%		----	----	----	**18**	**34**
+300µm	----	1	%		----	----	----	<1	<1
+425µm	----	1	%		----	----	----	<1	<1
+600µm	----	1	%		----	----	----	<1	<1
+1180µm	----	1	%		----	----	----	<1	<1
+2.36mm	----	1	%		----	----	----	<1	<1
+4.75mm	----	1	%		----	----	----	<1	<1
+9.5mm	----	1	%		----	----	----	<1	<1
+19.0mm	----	1	%		----	----	----	<1	<1
+37.5mm	----	1	%		----	----	----	<1	<1
+75.0mm	----	1	%		----	----	----	<1	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**17.3**	**21.2**	**22.2**	----	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	**3**	**3**
Silt (2-60 µm)	----	1	%		----	----	----	<1	<1
Sand (0.06-2.00 mm)	----	1	%		----	----	----	**97**	**97**
Gravel (>2mm)	----	1	%		----	----	----	<1	<1
Cobbles (>6cm)	----	1	%		----	----	----	<1	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	**2.68**	**2.69**
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	**4170**	**4610**	----	----
Iron	7439-89-6	50	mg/kg		----	**11600**	**13800**	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	<0.50	<0.50	----	----
Arsenic	7440-38-2	1.00	mg/kg		----	**13.4**	**16.6**	----	----
Cadmium	7440-43-9	0.1	mg/kg		----	<0.1	<0.1	----	----
Chromium	7440-47-3	1.0	mg/kg		----	**11.2**	**12.8**	----	----
Copper	7440-50-8	1.0	mg/kg		----	**2.9**	**3.3**	----	----
Cobalt	7440-48-4	0.5	mg/kg		----	**6.3**	**7.3**	----	----
Lead	7439-92-1	1.0	mg/kg		----	**2.8**	**3.5**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH28 0.7V	WB25 0.0-0.5A	WB25 0.5-1.0A	WB25 0.0-0.5B	WB25 0.5-1.0B
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
					ES1503599-026	ES1503599-027	ES1503599-028	ES1503599-029	ES1503599-030
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	**424**	**567**	----	----
Nickel	7440-02-0	1.0	mg/kg		----	**4.5**	**5.0**	----	----
Selenium	7782-49-2	0.1	mg/kg		----	**0.3**	**0.3**	----	----
Silver	7440-22-4	0.1	mg/kg		----	<0.1	<0.1	----	----
Vanadium	7440-62-2	2.0	mg/kg		----	**27.9**	**36.2**	----	----
Zinc	7440-66-6	1.0	mg/kg		----	**14.8**	**16.5**	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	<0.01	<0.01	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	**60**	**50**	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	**60**	**50**	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	**232**	**253**	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	**4.8**	**5.8**	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	**0.07**	**0.06**	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	<3	<3	----	----
>C16 - C34 Fraction	----	3	mg/kg		----	**12**	**9**	----	----
>C34 - C40 Fraction	----	5	mg/kg		----	<5	<5	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	**12**	**9**	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	----	----	----	----
C10 - C14 Fraction	----	3	mg/kg		----	<3	<3	----	----
C15 - C28 Fraction	----	3	mg/kg		----	**8**	**7**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH28 0.7V	WB25 0.0-0.5A	WB25 0.5-1.0A	WB25 0.0-0.5B	WB25 0.5-1.0B
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503599-026	ES1503599-027	ES1503599-028	ES1503599-029	ES1503599-030
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	7	<5	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	15	7	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	----	----	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.2	mg/kg		<0.2	----	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	----	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	----	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	<1	<1	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	<1	<1	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	<0.5	<0.5	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	<10	<10	----	----
Carbophenothion	786-19-6	10	µg/kg		----	<10	<10	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	<10.0	<10.0	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	<10	<10	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	<10	<10	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	<10	<10	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	<10	<10	----	----
Diazinon	333-41-5	10	µg/kg		----	<10	<10	----	----
Dichlorvos	62-73-7	10	µg/kg		----	<10	<10	----	----
Dimethoate	60-51-5	10	µg/kg		----	<10	<10	----	----
Ethion	563-12-2	10	µg/kg		----	<10	<10	----	----
Fenamiphos	22224-92-6	10	µg/kg		----	<10	<10	----	----
Fenthion	55-38-9	10	µg/kg		----	<10	<10	----	----
Malathion	121-75-5	10	µg/kg		----	<10	<10	----	----
Azinphos Methyl	86-50-0	10	µg/kg		----	<10	<10	----	----
Monocrotophos	6923-22-4	10	µg/kg		----	<10	<10	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH28 0.7V	WB25 0.0-0.5A	WB25 0.5-1.0A	WB25 0.0-0.5B	WB25 0.5-1.0B
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503599-026	ES1503599-027	ES1503599-028	ES1503599-029	ES1503599-030
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	<10	<10	----	----
Parathion-methyl	298-00-0	10	µg/kg		----	<10	<10	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	<10	<10	----	----
Prothiofos	34643-46-4	10	µg/kg		----	<10	<10	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg		----	<0.50	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	<0.50	<0.50	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	<0.50	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	<0.50	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	<0.50	<0.50	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	<0.50	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	<0.50	<0.50	----	----
gamma-BHC	58-89-9	0.25	µg/kg		----	<0.25	<0.25	----	----
Methoxychlor	72-43-5	0.50	µg/kg		----	<0.50	<0.50	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	<0.25	<0.25	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	<0.25	<0.25	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		----	<0.25	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	<0.50	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	<5.0	<5.0	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH28 0.7V	WB25 0.0-0.5A	WB25 0.5-1.0A	WB25 0.0-0.5B	WB25 0.5-1.0B
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
					ES1503599-026	ES1503599-027	ES1503599-028	ES1503599-029	ES1503599-030
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	<5.0	<5.0	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	<5	<5	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	<5	<5	----	----
Acenaphthylene	208-96-8	4	µg/kg		----	<4	<4	----	----
Acenaphthene	83-32-9	4	µg/kg		----	<4	<4	----	----
Fluorene	86-73-7	4	µg/kg		----	<4	<4	----	----
Phenanthrene	85-01-8	4	µg/kg		----	<4	<4	----	----
Anthracene	120-12-7	4	µg/kg		----	<4	<4	----	----
Fluoranthene	206-44-0	4	µg/kg		----	<4	<4	----	----
Pyrene	129-00-0	4	µg/kg		----	<4	<4	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	<4	<4	----	----
Chrysene	218-01-9	4	µg/kg		----	<4	<4	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	<4	<4	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	<4	<4	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	<4	<4	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	<4	<4	----	----
Perylene	198-55-0	4	µg/kg		----	<4	<4	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	<4	<4	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	<4	<4	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	<4	<4	----	----
Coronene	191-07-1	5	µg/kg		----	<5	<5	----	----
^ **Sum of PAHs**	----	4	µg/kg		----	<4	<4	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**114**	----	----	----	----
Toluene-D8	2037-26-5	0.1	%		**93.8**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**108**	----	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	**112**	**86.2**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH28 0.7V	WB25 0.0-0.5A	WB25 0.5-1.0A	WB25 0.0-0.5B	WB25 0.5-1.0B
			Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503599-026	ES1503599-027	ES1503599-028	ES1503599-029	ES1503599-030
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	73.6	76.8	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	66.2	70.2	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	62.2	73.8	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	86.1	87.8	----	----
Anthracene-d10	1719-06-8	0.1	%	----	107	106	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	102	96.4	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB25 0.3V	WB25 0.7V	WB257 0.0-0.5A	WB27 0.5-1.0A	WB27 0.0-0.5B
			Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503599-031	ES1503599-032	ES1503599-033	ES1503599-034	ES1503599-035
EA150: Particle Sizing								
+75µm	----	1	%	----	----	----	----	97
+150µm	----	1	%	----	----	----	----	36
+300µm	----	1	%	----	----	----	----	<1
+425µm	----	1	%	----	----	----	----	<1
+600µm	----	1	%	----	----	----	----	<1
+1180µm	----	1	%	----	----	----	----	<1
+2.36mm	----	1	%	----	----	----	----	<1
+4.75mm	----	1	%	----	----	----	----	<1
+9.5mm	----	1	%	----	----	----	----	<1
+19.0mm	----	1	%	----	----	----	----	<1
+37.5mm	----	1	%	----	----	----	----	<1
+75.0mm	----	1	%	----	----	----	----	<1
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	22.2	22.2	21.8	21.8	----
EA150: Soil Classification based on Particle Size								
Clay (<2 µm)	----	1	%	----	----	----	----	2
Silt (2-60 µm)	----	1	%	----	----	----	----	1
Sand (0.06-2.00 mm)	----	1	%	----	----	----	----	97
Gravel (>2mm)	----	1	%	----	----	----	----	<1
Cobbles (>6cm)	----	1	%	----	----	----	----	<1
EA152: Soil Particle Density								
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3	----	----	----	----	2.68
EG005-SD: Total Metals in Sediments by ICP-AES								
Aluminium	7429-90-5	50	mg/kg	----	----	3880	4040	----
Iron	7439-89-6	50	mg/kg	----	----	11400	11200	----
EG020-SD: Total Metals in Sediments by ICPMS								
Antimony	7440-36-0	0.50	mg/kg	----	----	<0.50	<0.50	----
Arsenic	7440-38-2	1.00	mg/kg	----	----	21.4	17.0	----
Cadmium	7440-43-9	0.1	mg/kg	----	----	<0.1	<0.1	----
Chromium	7440-47-3	1.0	mg/kg	----	----	9.1	9.8	----
Copper	7440-50-8	1.0	mg/kg	----	----	3.0	3.0	----
Cobalt	7440-48-4	0.5	mg/kg	----	----	7.1	6.5	----
Lead	7439-92-1	1.0	mg/kg	----	----	2.8	2.8	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB25 0.3V	WB25 0.7V	WB257 0.0-0.5A	WB27 0.5-1.0A	WB27 0.0-0.5B
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
					ES1503599-031	ES1503599-032	ES1503599-033	ES1503599-034	ES1503599-035
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	**812**	**622**	----
Nickel	7440-02-0	1.0	mg/kg		----	----	**4.3**	**4.3**	----
Selenium	7782-49-2	0.1	mg/kg		----	----	**0.3**	**0.3**	----
Silver	7440-22-4	0.1	mg/kg		----	----	<0.1	<0.1	----
Vanadium	7440-62-2	2.0	mg/kg		----	----	**29.6**	**29.7**	----
Zinc	7440-66-6	1.0	mg/kg		----	----	**15.1**	**15.0**	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	<0.01	<0.01	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	<0.1	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	**0.1**	**0.1**	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	**0.1**	**0.1**	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	**70**	**60**	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	**70**	**60**	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	**230**	**201**	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	**1.7**	**2.8**	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	**0.05**	**0.05**	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	<3	<3	----
>C16 - C34 Fraction	----	3	mg/kg		----	----	**9**	**11**	----
>C34 - C40 Fraction	----	5	mg/kg		----	----	<5	<5	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	**9**	**11**	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	<3	----	----	----
C10 - C14 Fraction	----	3	mg/kg		----	----	<3	<3	----
C15 - C28 Fraction	----	3	mg/kg		----	----	**6**	**7**	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB25 0.3V	WB25 0.7V	WB257 0.0-0.5A	WB27 0.5-1.0A	WB27 0.0-0.5B
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
					ES1503599-031	ES1503599-032	ES1503599-033	ES1503599-034	ES1503599-035
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	**6**	**6**	----
^ **C10 - C36 Fraction (sum)**	----	3	mg/kg		----	----	**12**	**13**	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	<3	----	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	----	----
Toluene	108-88-3	0.2	mg/kg		<0.2	<0.2	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	<0.2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	<0.2	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	<0.2	----	----	----
^ **Total Xylenes**	1330-20-7	0.5	mg/kg		<0.5	<0.5	----	----	----
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	<0.2	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	<1	<1	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	<1	<1	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	<0.5	<0.5	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	<10	<10	----
Carbophenothion	786-19-6	10	µg/kg		----	----	<10	<10	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	<10.0	<10.0	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	<10	<10	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	<10	<10	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	<10	<10	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	<10	<10	----
Diazinon	333-41-5	10	µg/kg		----	----	<10	<10	----
Dichlorvos	62-73-7	10	µg/kg		----	----	<10	<10	----
Dimethoate	60-51-5	10	µg/kg		----	----	<10	<10	----
Ethion	563-12-2	10	µg/kg		----	----	<10	<10	----
Fenamiphos	22224-92-6	10	µg/kg		----	----	<10	<10	----
Fenthion	55-38-9	10	µg/kg		----	----	<10	<10	----
Malathion	121-75-5	10	µg/kg		----	----	<10	<10	----
Azinphos Methyl	86-50-0	10	µg/kg		----	----	<10	<10	----
Monocrotophos	6923-22-4	10	µg/kg		----	----	<10	<10	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB25 0.3V	WB25 0.7V	WB257 0.0-0.5A	WB27 0.5-1.0A	WB27 0.0-0.5B
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
					ES1503599-031	ES1503599-032	ES1503599-033	ES1503599-034	ES1503599-035
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	<10	<10	----
Parathion-methyl	298-00-0	10	µg/kg		----	----	<10	<10	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	<10	<10	----
Prothiofos	34643-46-4	10	µg/kg		----	----	<10	<10	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	<0.50	<0.50	----
alpha-BHC	319-84-6	0.50	µg/kg		----	----	<0.50	<0.50	----
beta-BHC	319-85-7	0.50	µg/kg		----	----	<0.50	<0.50	----
delta-BHC	319-86-8	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	<0.50	<0.50	----
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	----	<0.50	<0.50	----
Dieldrin	60-57-1	0.50	µg/kg		----	----	<0.50	<0.50	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	<0.50	<0.50	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	<0.50	<0.50	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	<0.50	<0.50	----
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin	72-20-8	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	<0.50	<0.50	----
Heptachlor	76-44-8	0.50	µg/kg		----	----	<0.50	<0.50	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	<0.50	<0.50	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	<0.50	<0.50	----
gamma-BHC	58-89-9	0.25	µg/kg		----	----	<0.25	<0.25	----
Methoxychlor	72-43-5	0.50	µg/kg		----	----	<0.50	<0.50	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	<0.25	<0.25	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	<0.25	<0.25	----
^ **Total Chlordane (sum)**	----	0.25	µg/kg		----	----	<0.25	<0.25	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	<0.50	<0.50	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	<5.0	<5.0	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB25 0.3V	WB25 0.7V	WB257 0.0-0.5A	WB27 0.5-1.0A	WB27 0.0-0.5B
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
					ES1503599-031	ES1503599-032	ES1503599-033	ES1503599-034	ES1503599-035
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	<5.0	<5.0	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	<5	<5	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	<5	<5	----
Acenaphthylene	208-96-8	4	µg/kg		----	----	<4	<4	----
Acenaphthene	83-32-9	4	µg/kg		----	----	<4	<4	----
Fluorene	86-73-7	4	µg/kg		----	----	<4	<4	----
Phenanthrene	85-01-8	4	µg/kg		----	----	<4	<4	----
Anthracene	120-12-7	4	µg/kg		----	----	<4	<4	----
Fluoranthene	206-44-0	4	µg/kg		----	----	<4	<4	----
Pyrene	129-00-0	4	µg/kg		----	----	<4	<4	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	<4	<4	----
Chrysene	218-01-9	4	µg/kg		----	----	<4	<4	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	<4	<4	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	<4	<4	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	<4	<4	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	<4	<4	----
Perylene	198-55-0	4	µg/kg		----	----	<4	<4	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	<4	<4	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	<4	<4	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	<4	<4	----
Coronene	191-07-1	5	µg/kg		----	----	<5	<5	----
^ **Sum of PAHs**	----	4	µg/kg		----	----	<4	<4	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**117**	**113**	----	----	----
Toluene-D8	2037-26-5	0.1	%		**94.1**	**94.1**	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**109**	**104**	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	**76.5**	**80.6**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB25 0.3V	WB25 0.7V	WB257 0.0-0.5A	WB27 0.5-1.0A	WB27 0.0-0.5B
			Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503599-031	ES1503599-032	ES1503599-033	ES1503599-034	ES1503599-035
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	73.3	68.6	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	78.6	52.7	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	82.8	86.6	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	85.4	83.6	----
Anthracene-d10	1719-06-8	0.1	%	----	----	89.6	95.0	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	97.6	107	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB27 0.5-1.0B	WB27 0.3V	WB27 0.7V	TRIPLICATE 9A	TRIPLICATE 9B
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
					ES1503599-036	ES1503599-037	ES1503599-038	ES1503599-039	ES1503599-040
EA150: Particle Sizing									
+75µm	----	1	%		**95**	----	----	----	----
+150µm	----	1	%		**53**	----	----	----	----
+300µm	----	1	%		**4**	----	----	----	----
+425µm	----	1	%		**1**	----	----	----	----
+600µm	----	1	%		<1	----	----	----	----
+1180µm	----	1	%		<1	----	----	----	----
+2.36mm	----	1	%		<1	----	----	----	----
+4.75mm	----	1	%		<1	----	----	----	----
+9.5mm	----	1	%		<1	----	----	----	----
+19.0mm	----	1	%		<1	----	----	----	----
+37.5mm	----	1	%		<1	----	----	----	----
+75.0mm	----	1	%		<1	----	----	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	**21.9**	**22.8**	**19.2**	**21.1**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		**3**	----	----	----	----
Silt (2-60 µm)	----	1	%		<1	----	----	----	----
Sand (0.06-2.00 mm)	----	1	%		**97**	----	----	----	----
Gravel (>2mm)	----	1	%		<1	----	----	----	----
Cobbles (>6cm)	----	1	%		<1	----	----	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		**2.70**	----	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	----	**3790**	**2570**
Iron	7439-89-6	50	mg/kg		----	----	----	**8240**	**5410**
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	----	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	----	----	**3.39**	**4.95**
Cadmium	7440-43-9	0.1	mg/kg		----	----	----	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	----	----	**7.1**	**4.0**
Copper	7440-50-8	1.0	mg/kg		----	----	----	**5.7**	**2.5**
Cobalt	7440-48-4	0.5	mg/kg		----	----	----	**3.0**	**2.6**
Lead	7439-92-1	1.0	mg/kg		----	----	----	**2.4**	**1.9**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB27 0.5-1.0B	WB27 0.3V	WB27 0.7V	TRIPLICATE 9A	TRIPLICATE 9B
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
					ES1503599-036	ES1503599-037	ES1503599-038	ES1503599-039	ES1503599-040
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	----	**106**	**87**
Nickel	7440-02-0	1.0	mg/kg		----	----	----	**3.5**	**2.1**
Selenium	7782-49-2	0.1	mg/kg		----	----	----	**0.2**	**0.2**
Silver	7440-22-4	0.1	mg/kg		----	----	----	<0.1	<0.1
Vanadium	7440-62-2	2.0	mg/kg		----	----	----	**19.4**	**13.4**
Zinc	7440-66-6	1.0	mg/kg		----	----	----	**14.2**	**7.6**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	----	<0.01	<0.01
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	----	<0.1	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	<0.1	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	<0.1	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	----	**30**	**130**
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	----	**30**	**130**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	----	**186**	**250**
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	----	**0.4**	**1.5**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	----	**0.04**	**0.09**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	----	<3	<3
>C16 - C34 Fraction	----	3	mg/kg		----	----	----	**11**	**15**
>C34 - C40 Fraction	----	5	mg/kg		----	----	----	<5	**5**
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	----	**11**	**20**
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	<3	<3	----	----
C10 - C14 Fraction	----	3	mg/kg		----	----	----	<3	<3
C15 - C28 Fraction	----	3	mg/kg		----	----	----	**7**	**9**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB27 0.5-1.0B	WB27 0.3V	WB27 0.7V	TRIPLICATE 9A	TRIPLICATE 9B
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
					ES1503599-036	ES1503599-037	ES1503599-038	ES1503599-039	ES1503599-040
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	----	6	10
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	----	13	19
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	<3	<3	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	<0.2	<0.2	----	----
Toluene	108-88-3	0.2	mg/kg		----	<0.2	<0.2	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	<0.2	<0.2	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	<0.2	<0.2	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	<0.2	<0.2	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	<0.5	<0.5	----	----
^ Sum of BTEX	----	0.2	mg/kg		----	<0.2	<0.2	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	----	<1	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	----	<1	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	----	<0.5	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	----	<10	<10
Carbophenothion	786-19-6	10	µg/kg		----	----	----	<10	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	----	<10.0	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	----	<10	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	----	<10	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	----	<10	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	----	<10	<10
Diazinon	333-41-5	10	µg/kg		----	----	----	<10	<10
Dichlorvos	62-73-7	10	µg/kg		----	----	----	<10	<10
Dimethoate	60-51-5	10	µg/kg		----	----	----	<10	<10
Ethion	563-12-2	10	µg/kg		----	----	----	<10	<10
Fenamiphos	22224-92-6	10	µg/kg		----	----	----	<10	<10
Fenthion	55-38-9	10	µg/kg		----	----	----	<10	<10
Malathion	121-75-5	10	µg/kg		----	----	----	<10	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	----	----	<10	<10
Monocrotophos	6923-22-4	10	µg/kg		----	----	----	<10	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB27 0.5-1.0B	WB27 0.3V	WB27 0.7V	TRIPLICATE 9A	TRIPLICATE 9B
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
					ES1503599-036	ES1503599-037	ES1503599-038	ES1503599-039	ES1503599-040
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	----	<10	<10
Parathion-methyl	298-00-0	10	µg/kg		----	----	----	<10	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	----	<10	<10
Prothiofos	34643-46-4	10	µg/kg		----	----	----	<10	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	----	<0.50	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	----	----	<0.50	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	----	----	<0.50	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	----	----	<0.50	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	----	<0.50	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	----	<0.50	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	----	<0.50	<0.50
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	----	----	<0.50	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	----	----	<0.50	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	----	<0.50	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	----	<0.50	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	----	<0.50	<0.50
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	----	----	<0.50	<0.50
Endrin	72-20-8	0.50	µg/kg		----	----	----	<0.50	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	----	<0.50	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	----	<0.50	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	----	----	<0.50	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	----	<0.50	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	----	<0.50	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	----	----	<0.25	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	----	----	<0.50	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	----	<0.25	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	----	<0.25	<0.25
^ Total Chlordane (sum)	----	0.25	µg/kg		----	----	----	<0.25	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	----	<0.50	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	----	<5.0	<5.0

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB27 0.5-1.0B	WB27 0.3V	WB27 0.7V	TRIPLICATE 9A	TRIPLICATE 9B
				Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
					ES1503599-036	ES1503599-037	ES1503599-038	ES1503599-039	ES1503599-040
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	----	<5.0	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	----	<5	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	----	<5	<5
Acenaphthylene	208-96-8	4	µg/kg		----	----	----	<4	<4
Acenaphthene	83-32-9	4	µg/kg		----	----	----	<4	<4
Fluorene	86-73-7	4	µg/kg		----	----	----	<4	<4
Phenanthrene	85-01-8	4	µg/kg		----	----	----	<4	<4
Anthracene	120-12-7	4	µg/kg		----	----	----	<4	<4
Fluoranthene	206-44-0	4	µg/kg		----	----	----	<4	<4
Pyrene	129-00-0	4	µg/kg		----	----	----	<4	<4
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	----	<4	<4
Chrysene	218-01-9	4	µg/kg		----	----	----	<4	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	----	<4	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	----	<4	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	----	<4	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	----	<4	<4
Perylene	198-55-0	4	µg/kg		----	----	----	<4	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	----	<4	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	----	<4	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	----	<4	<4
Coronene	191-07-1	5	µg/kg		----	----	----	<5	<5
^ **Sum of PAHs**	----	4	µg/kg		----	----	----	<4	<4
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	**106**	**104**	----	----
Toluene-D8	2037-26-5	0.1	%		----	**88.3**	**86.7**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	**102**	**98.7**	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	----	**86.9**	**85.5**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB27 0.5-1.0B	WB27 0.3V	WB27 0.7V	TRIPLICATE 9A	TRIPLICATE 9B
			Client sampling date / time	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503599-036	ES1503599-037	ES1503599-038	ES1503599-039	ES1503599-040
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	----	81.3	77.7
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	----	65.6	93.6
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	98.5	103
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	94.7	99.4
Anthracene-d10	1719-06-8	0.1	%	----	----	----	111	116
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	94.6	102

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TRIP BLANK 9	----	----	----	----
				Client sampling date / time	12-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1503599-041	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	----	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		<3	----	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	----	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	----	----	----	----
C10 - C14 Fraction	----	3	mg/kg		<3	----	----	----	----
C15 - C28 Fraction	----	3	mg/kg		<3	----	----	----	----
C29 - C36 Fraction	----	5	mg/kg		<5	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	3	mg/kg		<3	----	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	----	----	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.2	mg/kg		<0.2	----	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	----	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	----	----	----	----
^ **Total Xylenes**	1330-20-7	0.5	mg/kg		<0.5	----	----	----	----
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	----	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**124**	----	----	----	----
Toluene-D8	2037-26-5	0.1	%		**106**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**120**	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 8	----	----	----	----
				Client sampling date / time	12-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1503599-042	----	----	----	----
EG020T: Total Metals by ICP-MS									
Antimony	7440-36-0	0.001	mg/L		<0.001	----	----	----	----
Arsenic	7440-38-2	0.001	mg/L		<0.001	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	----	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	----	----	----	----
Manganese	7439-96-5	0.001	mg/L		<0.001	----	----	----	----
Nickel	7440-02-0	0.001	mg/L		<0.001	----	----	----	----
Silver	7440-22-4	0.001	mg/L		<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L		<0.005	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	----	----	----	----
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**0.02**	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	----	0.01	mg/L		<0.01	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		<0.01	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		<0.01	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L		<0.1	----	----	----	----
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser									
^ Total Nitrogen as N	----	0.1	mg/L		<0.1	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		<0.01	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	1	µg/L		<1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.5	µg/L		<0.5	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L		<0.5	----	----	----	----
beta-BHC	319-85-7	0.5	µg/L		<0.5	----	----	----	----
gamma-BHC	58-89-9	0.5	µg/L		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 8	----	----	----	----
				Client sampling date / time	12-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1503599-042	----	----	----	----
EP068A: Organochlorine Pesticides (OC) - Continued									
delta-BHC	319-86-8	0.5	µg/L		<0.5	----	----	----	----
Heptachlor	76-44-8	0.5	µg/L		<0.5	----	----	----	----
Aldrin	309-00-2	0.5	µg/L		<0.5	----	----	----	----
Heptachlor epoxide	1024-57-3	0.5	µg/L		<0.5	----	----	----	----
trans-Chlordane	5103-74-2	0.5	µg/L		<0.5	----	----	----	----
alpha-Endosulfan	959-98-8	0.5	µg/L		<0.5	----	----	----	----
cis-Chlordane	5103-71-9	0.5	µg/L		<0.5	----	----	----	----
Dieldrin	60-57-1	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDE	72-55-9	0.5	µg/L		<0.5	----	----	----	----
Endrin	72-20-8	0.5	µg/L		<0.5	----	----	----	----
beta-Endosulfan	33213-65-9	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDD	72-54-8	0.5	µg/L		<0.5	----	----	----	----
Endrin aldehyde	7421-93-4	0.5	µg/L		<0.5	----	----	----	----
Endosulfan sulfate	1031-07-8	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDT	50-29-3	2.0	µg/L		<2.0	----	----	----	----
Endrin ketone	53494-70-5	0.5	µg/L		<0.5	----	----	----	----
Methoxychlor	72-43-5	2.0	µg/L		<2.0	----	----	----	----
^ Total Chlordane (sum)	----	0.5	µg/L		<0.5	----	----	----	----
^ Sum of DDD + DDE + DDT	----	0.5	µg/L		<0.5	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L		<0.5	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.5	µg/L		<0.5	----	----	----	----
Demeton-S-methyl	919-86-8	0.5	µg/L		<0.5	----	----	----	----
Monocrotophos	6923-22-4	2.0	µg/L		<2.0	----	----	----	----
Dimethoate	60-51-5	0.5	µg/L		<0.5	----	----	----	----
Diazinon	333-41-5	0.5	µg/L		<0.5	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L		<0.5	----	----	----	----
Parathion-methyl	298-00-0	2.0	µg/L		<2.0	----	----	----	----
Malathion	121-75-5	0.5	µg/L		<0.5	----	----	----	----
Fenthion	55-38-9	0.5	µg/L		<0.5	----	----	----	----
Chlorpyrifos	2921-88-2	0.5	µg/L		<0.5	----	----	----	----
Parathion	56-38-2	2.0	µg/L		<2.0	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	µg/L		<0.5	----	----	----	----
Chlorfenvinphos	470-90-6	0.5	µg/L		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	RINSATE 8	----	----	----	----
			Client sampling date / time	12-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1503599-042	----	----	----	----
EP068B: Organophosphorus Pesticides (OP) - Continued								
Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	----	----	----	----
Fenamiphos	22224-92-6	0.5	µg/L	<0.5	----	----	----	----
Prothiofos	34643-46-4	0.5	µg/L	<0.5	----	----	----	----
Ethion	563-12-2	0.5	µg/L	<0.5	----	----	----	----
Carbophenothion	786-19-6	0.5	µg/L	<0.5	----	----	----	----
Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L	<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L	<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L	<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L	<1.0	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L	<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L	<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L	<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L	<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L	<50	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 8	----	----	----	----
				Client sampling date / time	12-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1503599-042	----	----	----	----	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L	<20	----	----	----	----	
>C10 - C16 Fraction	>C10_C16	100	µg/L	<100	----	----	----	----	
>C16 - C34 Fraction	----	100	µg/L	<100	----	----	----	----	
>C34 - C40 Fraction	----	100	µg/L	<100	----	----	----	----	
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L	<100	----	----	----	----	
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L	<100	----	----	----	----	
EP080: BTEXN									
Benzene	71-43-2	1	µg/L	<1	----	----	----	----	
Toluene	108-88-3	2	µg/L	<2	----	----	----	----	
Ethylbenzene	100-41-4	2	µg/L	<2	----	----	----	----	
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	----	----	----	----	
ortho-Xylene	95-47-6	2	µg/L	<2	----	----	----	----	
^ **Total Xylenes**	1330-20-7	2	µg/L	<2	----	----	----	----	
^ **Sum of BTEX**	----	1	µg/L	<1	----	----	----	----	
Naphthalene	91-20-3	5	µg/L	<5	----	----	----	----	
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	5	ngSn/L	<5	----	----	----	----	
Dibutyltin	1002-53-5	5	ngSn/L	<5	----	----	----	----	
Tributyltin	56573-85-4	2	ngSn/L	<2	----	----	----	----	
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	**79.8**	----	----	----	----	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.1	%	**85.8**	----	----	----	----	
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%	**62.7**	----	----	----	----	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%	**25.2**	----	----	----	----	
2-Chlorophenol-D4	93951-73-6	0.1	%	**40.7**	----	----	----	----	
2.4.6-Tribromophenol	118-79-6	0.1	%	**36.4**	----	----	----	----	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%	**63.7**	----	----	----	----	
Anthracene-d10	1719-06-8	0.1	%	**72.2**	----	----	----	----	

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 8	----	----	----	----
				Client sampling date / time	12-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1503599-042	----	----	----	----
EP075(SIM)T: PAH Surrogates - Continued									
4-Terphenyl-d14	1718-51-0	0.1	%		68.9	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		90.7	----	----	----	----
Toluene-D8	2037-26-5	0.1	%		98.3	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		95.0	----	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		91.7	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
EP080-SD: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	67	137
Toluene-D8	2037-26-5	74	134
4-Bromofluorobenzene	460-00-4	73	137
EP090S: Organotin Surrogate			
Tripropyltin	----	35	130
EP130S: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	14.4	102
EP131S: OC Pesticide Surrogate			
Dibromo-DDE	21655-73-2	10	119
EP131T: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	10	106
EP132T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	55	135
Anthracene-d10	1719-06-8	70	136
4-Terphenyl-d14	1718-51-0	57	127
EP202S: Phenoxyacetic Acid Herbicide Surrogate			
2.4-Dichlorophenyl Acetic Acid	19719-28-9	45	139

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	28.5	129
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	30	120
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	26.8	129
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10.0	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27.4	113
4-Terphenyl-d14	1718-51-0	32	112
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	Recovery Limits (%) High
EP090S: Organotin Surrogate			
Tripropyltin	----	8.2	108

QUALITY CONTROL REPORT

Work Order	: **ES1503599**	Page	: 1 of 30
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 17-FEB-2015
Sampler	: GK	Issue Date	: 03-MAR-2015
Order number	: 245553		
		No. of samples received	: 42
Quote number	: SY/1021/14 V2	No. of samples analysed	: 42

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Ashesh Patel	Inorganic Chemist	Sydney Inorganics
Lana Nguyen	Senior LCMS Chemist	Sydney Organics
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
		Sydney Organics
Peter Keyte	Newcastle Manager	Newcastle - Inorganics
Ryan Story	2IC Organic Instrument Chemist	Brisbane Organics
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils
Shobhna Chandra	Metals Coordinator	Sydney Inorganics
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA055: Moisture Content (QC Lot: 3833480)									
ES1503599-005	BH14 0.3V	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	10.0	10.9	8.4	0% - 50%
ES1503599-023	WB26 0.7V	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	22.1	23.2	4.7	0% - 20%
EA055: Moisture Content (QC Lot: 3833481)									
ES1503599-034	WB27 0.5-1.0A	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	21.8	22.4	2.6	0% - 20%
ES1503684-008	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	24.6	22.5	9.0	0% - 20%
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3832719)									
ES1503461-061	Anonymous	EG005-SD: Aluminium	7429-90-5	50	mg/kg	3990	4210	5.3	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	9260	9780	5.5	0% - 20%
ES1503599-007	BH14 0.0-0.05E	EG005-SD: Aluminium	7429-90-5	50	mg/kg	2770	2580	7.2	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	7350	6680	9.6	0% - 20%
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3834926)									
ES1503599-018	WB26 0.0-0.5A	EG005-SD: Aluminium	7429-90-5	50	mg/kg	4340	4220	2.7	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	11600	11800	1.8	0% - 20%
ES1503683-004	Anonymous	EG005-SD: Aluminium	7429-90-5	50	mg/kg	5940	5990	0.9	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	18100	17400	3.8	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3832718)									
ES1503461-061	Anonymous	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.2	0.2	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.5	<0.5	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	5.1	5.5	7.7	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	9.3	10.0	7.2	No Limit
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	2.4	2.5	4.1	No Limit
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	2.4	2.5	7.1	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	3.5	3.8	5.9	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	13.2	13.7	4.1	0% - 50%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	11.5	11.8	2.5	0% - 50%
		EG020-SD: Manganese	7439-96-5	10	mg/kg	329	324	1.4	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	24.3	26.0	6.5	0% - 50%
ES1503599-007	BH14 0.0-0.05E	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.1	0.2	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.5	<0.5	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	4.2	4.4	5.6	No Limit
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	5.0	3.4	37.9	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3832718) - continued									
ES1503599-007	BH14 0.0-0.05E	EG020-SD: Copper	7440-50-8	1.0	mg/kg	3.4	3.0	12.5	No Limit
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	1.3	1.4	0.0	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	2.8	2.8	0.0	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	8.1	8.1	0.0	No Limit
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	8.49	8.40	1.0	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	359	306	15.9	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	21.5	19.1	11.7	0% - 50%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3834925)									
ES1503599-018	WB26 0.0-0.5A	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.3	0.3	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	6.0	6.2	4.0	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	10.4	10.9	4.2	0% - 50%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	3.0	3.0	0.0	No Limit
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	2.9	3.0	0.0	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	4.3	4.4	3.0	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	14.2	14.2	0.0	0% - 50%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	13.0	13.5	3.2	0% - 50%
		EG020-SD: Manganese	7439-96-5	10	mg/kg	509	442	14.0	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	28.4	28.9	1.7	0% - 50%
ES1503683-004	Anonymous	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.8	0.9	12.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	7.8	7.8	0.0	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	11.1	10.4	6.2	0% - 50%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	14.5	14.9	2.9	0% - 50%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	2.8	3.1	8.1	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	6.3	5.9	6.1	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	23.0	24.2	4.8	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	4.73	4.04	15.8	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	93	95	2.4	No Limit
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	55.5	56.8	2.4	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3832717)									
ES1503461-061	Anonymous	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit
ES1503599-007	BH14 0.0-0.05E	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3834924)									
ES1503599-018	WB26 0.0-0.5A	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit
ES1503683-004	Anonymous	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3834700)									
ES1503599-002	BH14 0.4-0.7A	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1503599-028	WB25 0.5-1.0A	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3834701)									
ES1503599-002	BH14 0.4-0.7A	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1503599-028	WB25 0.5-1.0A	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3833644)									
ES1503599-002	BH14 0.4-0.7A	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	200	180	9.8	0% - 50%
ES1503599-028	WB25 0.5-1.0A	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	50	50	0.0	No Limit
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3833645)									
ES1503599-002	BH14 0.4-0.7A	EK067G: Total Phosphorus as P	----	2	mg/kg	331	327	1.4	0% - 20%
ES1503599-028	WB25 0.5-1.0A	EK067G: Total Phosphorus as P	----	2	mg/kg	253	260	2.8	0% - 20%
EK255A SD: Ammonia in Sediment (QC Lot: 3828209)									
ES1503461-061	Anonymous	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	3.7	3.5	3.9	0% - 50%
ES1503599-008	BH23 0.4-0.9A	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	0.9	1.0	0.0	No Limit
EK255A SD: Ammonia in Sediment (QC Lot: 3828210)									
ES1503599-039	TRIPLICATE 9A	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	0.4	0.4	0.0	No Limit
ES1503683-026	Anonymous	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	0.8	0.7	0.0	No Limit
EP003: Total Organic Carbon (TOC) in Soil (QC Lot: 3830016)									
EM1501452-002	Anonymous	EP003: Total Organic Carbon	----	0.02	%	0.68	0.66	2.7	0% - 20%
EM1501452-024	Anonymous	EP003: Total Organic Carbon	----	0.02	%	0.03	0.04	0.0	No Limit
EP003: Total Organic Carbon (TOC) in Soil (QC Lot: 3830018)									
ES1503599-008	BH23 0.4-0.9A	EP003: Total Organic Carbon	----	0.02	%	0.31	0.31	0.0	0% - 50%
ES1503599-039	TRIPLICATE 9A	EP003: Total Organic Carbon	----	0.02	%	0.04	0.04	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3828231)									
ES1503599-001	BH14 0.0-0.5A	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	4	4	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	4	4	0.0	No Limit
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
ES1503599-028	WB25 0.5-1.0A	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	9	9	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	9	9	0.0	No Limit
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3828153)									
ES1503599-005	BH14 0.3V	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
ES1503599-026	BH28 0.7V	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3828231)									
ES1503599-001	BH14 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3828231) - continued									
ES1503599-001	BH14 0.0-0.5A	EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
ES1503599-028	WB25 0.5-1.0A	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	7	6	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	7	11	44.4	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	5	0.0	No Limit
EP080-SD: BTEXN (QC Lot: 3828153)									
ES1503599-005	BH14 0.3V	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
ES1503599-026	BH28 0.7V	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP090: Organotin Compounds (QC Lot: 3828138)									
ES1503599-012	BH25 0.0-0.5A	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
ES1503599-033	WB257 0.0-0.5A	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3828205)									
ES1503599-001	BH14 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3828205) - continued									
ES1503599-001	BH14 0.0-0.5A	EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
ES1503599-028	WB25 0.5-1.0A	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
EP131A: Organochlorine Pesticides (QC Lot: 3828206)									
ES1503599-001	BH14 0.0-0.5A	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP131A: Organochlorine Pesticides (QC Lot: 3828206) - continued									
ES1503599-001	BH14 0.0-0.5A	EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
ES1503599-028	WB25 0.5-1.0A	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 3828207)									
ES1503599-001	BH14 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 3828207) - continued									
ES1503599-001	BH14 0.0-0.5A	EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
ES1503599-028	WB25 0.5-1.0A	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3828230)									
ES1503599-002	BH14 0.4-0.7A	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	5	22.2	No Limit
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	5	0.0	No Limit
ES1503599-028	WB25 0.5-1.0A	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3828230) - continued									
ES1503599-028	WB25 0.5-1.0A	EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QC Lot: 3827881)									
ES1503599-007	BH14 0.0-0.05E	EP202: 4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: 2.4-DB	94-82-6	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: Dicamba	1918-00-9	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: Mecoprop	93-65-2	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: MCPA	94-74-6	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: 2.4-DP	120-36-5	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: 2.4-D	94-75-7	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: Triclopyr	55335-06-3	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: 2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: 2.4.5-T	93-76-5	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: MCPB	94-81-5	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: Picloram	1918-02-1	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: Clopyralid	1702-17-6	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
		EP202: Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	<0.02	0.0	No Limit
ES1503737-010	Anonymous	EP202: 4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.10	<0.10	0.0	No Limit
		EP202: 2.4-DB	94-82-6	0.02	mg/kg	<0.10	<0.10	0.0	No Limit
		EP202: Dicamba	1918-00-9	0.02	mg/kg	<0.10	<0.10	0.0	No Limit
		EP202: Mecoprop	93-65-2	0.02	mg/kg	<0.10	<0.10	0.0	No Limit
		EP202: MCPA	94-74-6	0.02	mg/kg	<0.10	<0.10	0.0	No Limit
		EP202: 2.4-DP	120-36-5	0.02	mg/kg	<0.10	<0.10	0.0	No Limit
		EP202: 2.4-D	94-75-7	0.02	mg/kg	<0.10	<0.10	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QC Lot: 3827881) - continued									
ES1503737-010	Anonymous	EP202: Triclopyr	55335-06-3	0.02	mg/kg	<0.10	<0.10	0.0	No Limit
		EP202: 2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.10	<0.10	0.0	No Limit
		EP202: 2.4.5-T	93-76-5	0.02	mg/kg	<0.10	<0.10	0.0	No Limit
		EP202: MCPB	94-81-5	0.02	mg/kg	<0.10	<0.10	0.0	No Limit
		EP202: Picloram	1918-02-1	0.02	mg/kg	<0.10	<0.10	0.0	No Limit
		EP202: Clopyralid	1702-17-6	0.02	mg/kg	<0.10	<0.10	0.0	No Limit
		EP202: Fluroxypyr	69377-81-7	0.02	mg/kg	<0.10	<0.10	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020T: Total Metals by ICP-MS (QC Lot: 3832712)									
ES1503599-042	RINSATE 8	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Manganese	7439-96-5	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.007	28.9	No Limit
ES1504015-003	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	0.003	0.003	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	0.005	0.005	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	0.007	0.005	34.6	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	0.001	<0.001	0.0	No Limit
		EG020A-T: Manganese	7439-96-5	0.001	mg/L	0.115	0.109	4.9	0% - 20%
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	0.006	0.005	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	0.011	0.009	17.4	No Limit
EG020T: Total Metals by ICP-MS (QC Lot: 3832713)									
ES1503599-042	RINSATE 8	EG020B-T: Silver	7440-22-4	0.001	mg/L	<0.001	<0.001	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3836487)									
ES1503599-042	RINSATE 8	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
ES1503991-005	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EK055G: Ammonia as N by Discrete Analyser (QC Lot: 3831167)									
ES1503461-074	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	0.04	0.04	0.0	No Limit
ES1503831-004	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	0.04	0.04	0.0	No Limit
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3828571)									
ES1503599-042	RINSATE 8	EK057G: Nitrite as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1503837-008	Anonymous	EK057G: Nitrite as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3831166)									
ES1503461-074	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1503831-004	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	0.03	0.03	0.0	No Limit
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3831159)									
ES1503461-074	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	<0.1	<0.1	0.0	No Limit
ES1503831-005	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	1.2	1.1	0.0	0% - 50%
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3831160)									
ES1503461-074	Anonymous	EK067G: Total Phosphorus as P	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1503831-005	Anonymous	EK067G: Total Phosphorus as P	----	0.01	mg/L	0.19	0.19	0.0	0% - 50%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3831479)									
ES1503874-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
ES1503874-008	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3831479)									
ES1503874-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
ES1503874-008	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 3831479)									
ES1503874-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
ES1503874-008	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3832719)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	115	86	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	77.5	70	130
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3834926)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	119	86	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	87.3	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3832718)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	4.6 mg/kg	113	70	130
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	97.2	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	95.1	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	93.8	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	96.2	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	95.6	84	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	90.9	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	115	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	102	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	113	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.5	2.10 mg/kg	110	64	148
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	104	87	131
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	105	83	137
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3834925)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	4.6 mg/kg	102	70	130
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	105	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	103	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	107	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	99.7	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	107	84	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	104	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	115	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	111	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	124	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	2.10 mg/kg	114	64	148
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	111	87	131

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3834925) - continued								
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	119	83	137
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3832717)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.090 mg/kg	80.0	72	116
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3834924)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.090 mg/kg	81.7	72	116
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3834700)								
EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	95.6	82	120
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3834701)								
EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	104	89	115
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3833644)								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	<20	1000 mg/kg	86.4	64	114
				----	500 mg/kg	98.2	70	122
				----	100 mg/kg	108	70	127
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3833645)								
EK067G: Total Phosphorus as P	----	2	mg/kg	<2	442 mg/kg	95.4	68	116
				----	100 mg/kg	97.3	69	123
				----	44.2 mg/kg	91.4	64	124
EK255A SD: Ammonia in Sediment (QCLot: 3828209)								
EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	<0.2	0.1 mg/kg	98.1	70	130
EK255A SD: Ammonia in Sediment (QCLot: 3828210)								
EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	<0.2	0.1 mg/kg	104	70	130
EP003: Total Organic Carbon (TOC) in Soil (QCLot: 3830016)								
EP003: Total Organic Carbon	----	0.02	%	<0.02	0.11 %	100	70	130
EP003: Total Organic Carbon (TOC) in Soil (QCLot: 3830018)								
EP003: Total Organic Carbon	----	0.02	%	<0.02	0.11 %	99.1	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3828231)								
EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	6.25 mg/kg	96.8	70	130
EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	8.75 mg/kg	98.3	74	138
EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	3.75 mg/kg	96.0	63	131
EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3828153)								
EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	6.2 mg/kg	78.7	61	133
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3828231)								
EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	5 mg/kg	100	78	118
EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	7.5 mg/kg	100	84	118
EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	5 mg/kg	91.0	73	119

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3828231) - continued								
EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD: BTEXN (QCLot: 3828153)								
EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	0.2 mg/kg	91.2	66	122
EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	0.2 mg/kg	93.2	69	122
EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.2 mg/kg	85.1	66	126
EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	0.4 mg/kg	85.3	59	129
EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.2 mg/kg	96.2	66	126
EP090: Organotin Compounds (QCLot: 3828138)								
EP090: Monobutyltin	78763-54-9	1.0	µgSn/kg	<1	1.25 µgSn/kg	98.5	36	128
EP090: Dibutyltin	1002-53-5	1.0	µgSn/kg	<1	1.25 µgSn/kg	89.8	42	132
EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	1.25 µgSn/kg	102	52	139
EP090: Organotin Compounds (QCLot: 3828958)								
EP090: Monobutyltin	78763-54-9	1.0	µgSn/kg	<1	1.25 µgSn/kg	114	36	128
EP090: Dibutyltin	1002-53-5	1.0	µgSn/kg	<1	1.25 µgSn/kg	106	42	132
EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	1.25 µgSn/kg	108	52	139
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3828205)								
EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	50 µg/kg	89.1	45	139
EP130: Carbophenothion	786-19-6	10	µg/kg	<10	50 µg/kg	100	47	117
EP130: Chlorfenvinphos (E)	18708-86-6	10	µg/kg	<10.0	5 µg/kg	143	48	156
EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	50 µg/kg	80.2	62	136
EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	50 µg/kg	93.9	57	137
EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	50 µg/kg	97.8	57	121
EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	50 µg/kg	84.1	20.4	142
EP130: Diazinon	333-41-5	10	µg/kg	<10	50 µg/kg	85.0	57	121
EP130: Dichlorvos	62-73-7	10	µg/kg	<10	50 µg/kg	81.9	47	115
EP130: Dimethoate	60-51-5	10	µg/kg	<10	50 µg/kg	110	55	133
EP130: Ethion	563-12-2	10	µg/kg	<10	50 µg/kg	104	54	130
EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	50 µg/kg	117	57	131
EP130: Fenthion	55-38-9	10	µg/kg	<10	50 µg/kg	92.0	38	130
EP130: Malathion	121-75-5	10	µg/kg	<10	50 µg/kg	79.0	62	138
EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	50 µg/kg	90.4	33	137
EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	50 µg/kg	101	50	148
EP130: Parathion	56-38-2	10	µg/kg	<10	50 µg/kg	110	64	140
EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	50 µg/kg	77.2	56	136
EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	50 µg/kg	93.4	50	132

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3828205) - continued								
EP130: Prothiofos	34643-46-4	10	µg/kg	<10	50 µg/kg	87.4	55	135
EP131A: Organochlorine Pesticides (QCLot: 3828206)								
EP131A: Aldrin	309-00-2	0.5	µg/kg	<0.50	5 µg/kg	63.0	38	150
EP131A: alpha-BHC	319-84-6	0.5	µg/kg	<0.50	5 µg/kg	74.8	17.6	156
EP131A: beta-BHC	319-85-7	0.5	µg/kg	<0.50	5 µg/kg	67.4	30.5	152
EP131A: delta-BHC	319-86-8	0.5	µg/kg	<0.50	5 µg/kg	81.6	37	151
EP131A: 4.4`-DDD	72-54-8	0.5	µg/kg	<0.50	5 µg/kg	124	25.9	150
EP131A: 4.4`-DDE	72-55-9	0.5	µg/kg	<0.50	5 µg/kg	73.7	35	129
EP131A: 4.4`-DDT	50-29-3	0.5	µg/kg	<0.50	5 µg/kg	90.4	23.4	163
EP131A: Sum of DDD + DDE + DDT	----	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Dieldrin	60-57-1	0.5	µg/kg	<0.50	5 µg/kg	74.0	30.2	140
EP131A: alpha-Endosulfan	959-98-8	0.5	µg/kg	<0.50	5 µg/kg	51.5	38	140
EP131A: beta-Endosulfan	33213-65-9	0.5	µg/kg	<0.50	5 µg/kg	72.5	32	152
EP131A: Endosulfan sulfate	1031-07-8	0.5	µg/kg	<0.50	5 µg/kg	58.4	36	162
EP131A: Endosulfan (sum)	115-29-7	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Endrin	72-20-8	0.5	µg/kg	<0.50	5 µg/kg	50.7	25.8	166
EP131A: Endrin aldehyde	7421-93-4	0.5	µg/kg	<0.50	5 µg/kg	67.1	20.1	116
EP131A: Endrin ketone	53494-70-5	0.5	µg/kg	<0.50	5 µg/kg	52.5	13.4	151
EP131A: Heptachlor	76-44-8	0.5	µg/kg	<0.50	5 µg/kg	80.9	39	173
EP131A: Heptachlor epoxide	1024-57-3	0.5	µg/kg	<0.50	5 µg/kg	72.0	34	148
EP131A: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/kg	<0.50	5 µg/kg	51.0	26.1	152
EP131A: gamma-BHC	58-89-9	0.5	µg/kg	<0.50	5 µg/kg	71.3	31.2	159
EP131A: Methoxychlor	72-43-5	0.5	µg/kg	<0.50	5 µg/kg	64.6	36	160
EP131A: cis-Chlordane	5103-71-9	0.5	µg/kg	<0.50	5 µg/kg	69.0	36	142
EP131A: trans-Chlordane	5103-74-2	0.5	µg/kg	<0.50	5 µg/kg	72.0	29.5	138
EP131A: Total Chlordane (sum)	----	0.5	µg/kg	<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3828207)								
EP131B: Total Polychlorinated biphenyls	----	5	µg/kg	<5.0	50 µg/kg	91.2	44	136
EP131B: Aroclor 1016	12674-11-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1221	11104-28-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1232	11141-16-5	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1242	53469-21-9	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1248	12672-29-6	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1254	11097-69-1	5	µg/kg	<5.0	50 µg/kg	91.2	44	136
EP131B: Aroclor 1260	11096-82-5	5	µg/kg	<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3828230)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3828230) - continued								
EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	25 µg/kg	99.4	67	133
EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	25 µg/kg	98.2	63	135
EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	25 µg/kg	103	68	132
EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	25 µg/kg	98.8	67	133
EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	25 µg/kg	101	69	131
EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	25 µg/kg	102	66	138
EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	25 µg/kg	102	67	133
EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	25 µg/kg	102	64	130
EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	25 µg/kg	104	67	133
EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	25 µg/kg	100	65	133
EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	25 µg/kg	96.5	70	134
EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	25 µg/kg	89.3	63	133
EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	25 µg/kg	98.3	67	133
EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	25 µg/kg	106	64	130
EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	25 µg/kg	104	72	130
EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	25 µg/kg	104	70	132
EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	25 µg/kg	96.8	65	127
EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	25 µg/kg	93.9	67	135
EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	25 µg/kg	95.1	62	126
EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	25 µg/kg	97.7	66	134
EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	----	----	----	----
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 3827881)								
EP202: 4-Chlorophenoxy acetic acid	122-88-3	0.02	mg/kg	<0.02	0.1 mg/kg	95.9	54.4	136
EP202: 2.4-DB	94-82-6	0.02	mg/kg	<0.02	0.1 mg/kg	70.9	45.5	144
EP202: Dicamba	1918-00-9	0.02	mg/kg	<0.02	0.1 mg/kg	110	51.7	146
EP202: Mecoprop	93-65-2	0.02	mg/kg	<0.02	0.1 mg/kg	100	60	140
EP202: MCPA	94-74-6	0.02	mg/kg	<0.02	0.1 mg/kg	105	56.8	143
EP202: 2.4-DP	120-36-5	0.02	mg/kg	<0.02	0.1 mg/kg	100	50	141
EP202: 2.4-D	94-75-7	0.02	mg/kg	<0.02	0.1 mg/kg	92.3	68.5	139
EP202: Triclopyr	55335-06-3	0.02	mg/kg	<0.02	0.1 mg/kg	109	50.8	145
EP202: 2.4.5-TP (Silvex)	93-72-1	0.02	mg/kg	<0.02	0.1 mg/kg	78.2	40.8	135
EP202: 2.4.5-T	93-76-5	0.02	mg/kg	<0.02	0.1 mg/kg	113	57.4	142
EP202: MCPB	94-81-5	0.02	mg/kg	<0.02	0.1 mg/kg	81.7	38.9	147
EP202: Picloram	1918-02-1	0.02	mg/kg	<0.02	0.1 mg/kg	85.2	48.7	138
EP202: Clopyralid	1702-17-6	0.02	mg/kg	<0.02	0.1 mg/kg	64.8	59.4	149
EP202: Fluroxypyr	69377-81-7	0.02	mg/kg	<0.02	0.1 mg/kg	97.8	53.2	145

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 3832712)								
EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	----	----	----	----
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	104	79	121
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	103	83	113
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	105	84	116
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	103	83	117
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	101	84	116
EG020A-T: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	103	85	115
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	97.9	84	116
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	104	77	117
EG020T: Total Metals by ICP-MS (QCLot: 3832713)								
EG020B-T: Silver	7440-22-4	0.001	mg/L	<0.001	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3836487)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	87.6	77	115
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3831167)								
EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	1.0 mg/L	103	86	112
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3828571)								
EK057G: Nitrite as N	----	0.01	mg/L	<0.01	0.5 mg/L	90.1	83	119
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3831166)								
EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	0.5 mg/L	102	87	119
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3831159)								
EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	<0.1	10 mg/L	88.4	66	114
				----	1.0 mg/L	77.3	66	126
				----	5 mg/L	101	66	119
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3831160)								
EK067G: Total Phosphorus as P	----	0.01	mg/L	<0.01	4.42 mg/L	89.3	67	117
				----	0.442 mg/L	82.7	63	123
				----	1.0 mg/L	98.7	66	124
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3828237)								
EP066: Total Polychlorinated biphenyls	----	1	µg/L	<1	10 µg/L	82.1	61.6	107
EP068A: Organochlorine Pesticides (OC) (QCLot: 3828236)								
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	5 µg/L	90.9	65	107
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	5 µg/L	74.9	51	119
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	5 µg/L	103	63	113
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	5 µg/L	101	62	112
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	5 µg/L	92.9	60	106
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	5 µg/L	74.8	58	108

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 3828236) - continued								
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	5 µg/L	85.8	58	114
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	5 µg/L	108	59	111
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	5 µg/L	94.1	62	114
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	5 µg/L	107	64	114
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	5 µg/L	90.1	62	114
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	5 µg/L	110	59	111
EP068: 4.4`-DDE	72-55-9	0.5	µg/L	<0.5	5 µg/L	101	63	111
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	5 µg/L	104	61	119
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	5 µg/L	104	71	119
EP068: 4.4`-DDD	72-54-8	0.5	µg/L	<0.5	5 µg/L	107	70	118
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	5 µg/L	91.6	62	112
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	5 µg/L	61.6	53	113
EP068: 4.4`-DDT	50-29-3	2.0	µg/L	<2.0	5 µg/L	81.8	52	120
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	5 µg/L	77.3	51	117
EP068: Methoxychlor	72-43-5	2.0	µg/L	<2.0	5 µg/L	85.0	53	127
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3828236)								
EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	5 µg/L	88.0	52	122
EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	5 µg/L	99.1	51	123
EP068: Monocrotophos	6923-22-4	0.5	µg/L	<2.0	5 µg/L	38.0	10	89.1
EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	5 µg/L	89.8	61	119
EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	5 µg/L	103	67	113
EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	5 µg/L	104	60	116
EP068: Parathion-methyl	298-00-0	2.0	µg/L	<2.0	5 µg/L	98.5	64	120
EP068: Malathion	121-75-5	0.5	µg/L	<0.5	5 µg/L	74.5	67	115
EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	5 µg/L	101	64	110
EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	5 µg/L	90.4	63	109
EP068: Parathion	56-38-2	2.0	µg/L	<2.0	5 µg/L	94.1	63	121
EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	5 µg/L	106	60	110
EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	5 µg/L	79.5	68	114
EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	5 µg/L	104	61	109
EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	5 µg/L	87.1	63	117
EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	5 µg/L	108	63	111
EP068: Ethion	563-12-2	0.5	µg/L	<0.5	5 µg/L	96.7	65	115
EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	5 µg/L	87.9	55	115
EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	5 µg/L	69.2	44	124
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3828239)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3828239) - continued								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	<1.0	5 µg/L	84.0	58.6	119
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	<1.0	5 µg/L	65.4	63.6	114
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	<1.0	5 µg/L	66.1	62.2	113
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	<1.0	5 µg/L	69.7	63.9	115
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	<1.0	5 µg/L	79.8	62.6	116
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	<1.0	5 µg/L	83.6	64.3	116
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	<1.0	5 µg/L	95.6	63.6	118
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	<1.0	5 µg/L	94.2	63.1	118
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	<1.0	5 µg/L	82.7	64.1	117
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	<1.0	5 µg/L	84.0	62.5	116
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.2	µg/L	<1.0	5 µg/L	82.5	61.7	119
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	<1.0	5 µg/L	91.2	61.7	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	<0.5	5 µg/L	84.6	63.3	117
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.2	µg/L	<1.0	5 µg/L	77.8	59.9	118
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.2	µg/L	<1.0	5 µg/L	81.6	61.2	117
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.2	µg/L	<1.0	5 µg/L	74.1	59.1	118
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3828238)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	2000 µg/L	89.1	59	129
EP071: C15 - C28 Fraction	----	100	µg/L	<100	3000 µg/L	98.8	71	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	2000 µg/L	92.2	62	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3831479)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	76.2	75	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3828238)								
EP071: >C10 - C16 Fraction	>C10_C16	100	µg/L	<100	2500 µg/L	98.6	58.9	131
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	3500 µg/L	101	73.9	138
EP071: >C34 - C40 Fraction	----	50	µg/L	<100	1500 µg/L	105	67	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3831479)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	75.4	75	127
EP080: BTEXN (QCLot: 3831479)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	90.0	70	124
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	89.8	65	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	90.3	70	120
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	91.8	69	121
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	91.2	72	122
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	94.7	70	124

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP090: Organotin Compounds (QCLot: 3828241)								
EP090H: Monobutyltin	78763-54-9	2	ngSn/L	<5	50 ngSn/L	63.2	25	139
EP090H: Dibutyltin	1002-53-5	2	ngSn/L	<5	50 ngSn/L	60.9	50	114
EP090H: Tributyltin	56573-85-4	1	ngSn/L	<2	50 ngSn/L	54.6	39	120

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3832718)							
ES1503461-062	Anonymous	EG020-SD: Arsenic	7440-38-2	50 mg/kg	92.6	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	92.6	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	99.0	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	92.2	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	97.5	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	92.9	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	95.1	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3834925)							
ES1503599-019	WB26 0.5-1.0A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	105	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	107	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	110	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	101	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	102	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	105	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	108	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3832717)							
ES1503461-061	Anonymous	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	102	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3834924)							
ES1503599-018	WB26 0.0-0.5A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	130	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3834700)							
ES1503599-002	BH14 0.4-0.7A	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	101	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3834701)							
ES1503599-002	BH14 0.4-0.7A	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	115	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3833644)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3833644) - continued							
ES1503599-002	BH14 0.4-0.7A	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	90.5	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3833645)							
ES1503599-002	BH14 0.4-0.7A	EK067G: Total Phosphorus as P	----	100 mg/kg	99.3	70	130
EK255A SD: Ammonia in Sediment (QCLot: 3828209)							
ES1503461-061	Anonymous	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	# Not Determined	70	130
EK255A SD: Ammonia in Sediment (QCLot: 3828210)							
ES1503599-034	WB27 0.5-1.0A	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	# Not Determined	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3828153)							
ES1503599-005	BH14 0.3V	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	114	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3828231)							
ES1503599-001	BH14 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	98.6	70	130
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	98.6	70	130
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	95.0	70	130
EP080-SD: BTEXN (QCLot: 3828153)							
ES1503599-005	BH14 0.3V	EP080-SD: Benzene	71-43-2	0.5 mg/kg	97.6	70	130
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	98.9	70	130
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	97.5	70	130
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	96.7	70	130
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	103	70	130
EP090: Organotin Compounds (QCLot: 3828138)							
ES1503599-002	BH14 0.4-0.7A	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	# 7.9	35	130
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	67.8	20	130
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	96.4	20	130
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3828205)							
ES1503599-001	BH14 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	86.6	36	144
		EP130: Carbophenothion	786-19-6	50 µg/kg	79.0	38	120
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	93.8	49	157
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	80.6	53	145
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	71.2	60	140
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	72.4	56	126
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	86.3	9.7	148
		EP130: Diazinon	333-41-5	50 µg/kg	78.6	60	122

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3828205) - continued							
ES1503599-001	BH14 0.0-0.5A	EP130: Dichlorvos	62-73-7	50 µg/kg	78.4	33	123
		EP130: Dimethoate	60-51-5	50 µg/kg	76.2	36	142
		EP130: Ethion	563-12-2	50 µg/kg	70.9	48	136
		EP130: Fenamiphos	22224-92-6	50 µg/kg	80.9	42	136
		EP130: Fenthion	55-38-9	50 µg/kg	74.2	35	131
		EP130: Malathion	121-75-5	50 µg/kg	81.3	55	141
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	90.0	23.5	132
		EP130: Monocrotophos	6923-22-4	50 µg/kg	75.5	35	153
		EP130: Parathion	56-38-2	50 µg/kg	79.6	57	147
		EP130: Parathion-methyl	298-00-0	50 µg/kg	72.9	48	140
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	79.4	45	137
		EP130: Prothiofos	34643-46-4	50 µg/kg	82.1	51	137
EP131A: Organochlorine Pesticides (QCLot: 3828206)							
ES1503599-001	BH14 0.0-0.5A	EP131A: Aldrin	309-00-2	5 µg/kg	45.2	23.4	153
		EP131A: alpha-BHC	319-84-6	5 µg/kg	50.6	17.6	156
		EP131A: beta-BHC	319-85-7	5 µg/kg	60.4	24.9	153
		EP131A: delta-BHC	319-86-8	5 µg/kg	99.4	25.2	147
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	99.1	25.9	150
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	41.0	31.2	125
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	85.9	23.4	163
		EP131A: Dieldrin	60-57-1	5 µg/kg	56.2	30.2	140
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	38.9	28.8	135
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	43.4	22.6	141
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	52.4	16.1	156
		EP131A: Endrin	72-20-8	5 µg/kg	60.1	17.7	162
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	43.2	20.1	116
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	46.5	13.4	151
		EP131A: Heptachlor	76-44-8	5 µg/kg	47.4	23.8	170
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	53.4	28.3	140
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	23.2	17.7	144
		EP131A: gamma-BHC	58-89-9	5 µg/kg	50.8	21.8	158
		EP131A: Methoxychlor	72-43-5	5 µg/kg	91.0	24.4	158
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	45.3	27.3	139
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	73.8	29.5	138
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3828207)							
ES1503599-001	BH14 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	86.2	44	136
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	86.2	44	136

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Recovery Limits (%): Low	Recovery Limits (%): High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3828230)							
ES1503599-002	BH14 0.4-0.7A	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	84.5	70	130
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	76.2	70	130
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	84.1	70	130
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	81.2	70	130
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	82.9	70	130
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	81.5	70	130
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	84.1	70	130
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	82.2	70	130
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	85.7	70	130
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	80.9	70	130
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	77.5	70	130
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	76.6	70	130
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	92.0	70	130
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	84.0	70	130
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	77.3	70	130
		EP132B-SD: Perylene	198-55-0	25 µg/kg	82.2	70	130
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	83.1	70	130
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	81.8	70	130
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	81.8	70	130
		EP132B-SD: Coronene	191-07-1	25 µg/kg	112	70	130
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 3827881)							
ES1503599-007	BH14 0.0-0.05E	EP202: Mecoprop	93-65-2	0.1 mg/kg	67.9	60	140
		EP202: MCPA	94-74-6	0.1 mg/kg	76.7	57	143
		EP202: 2.4-D	94-75-7	0.1 mg/kg	70.7	68	139
		EP202: Triclopyr	55335-06-3	0.1 mg/kg	75.1	51	145
		EP202: 2.4.5-T	93-76-5	0.1 mg/kg	90.2	57	142
		EP202: Picloram	1918-02-1	0.1 mg/kg	72.4	49	138
		EP202: Clopyralid	1702-17-6	0.1 mg/kg	63.6	59	149

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 3832712)							
ES1503683-048	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	102	70	130
		EG020A-T: Cadmium	7440-43-9	0.250 mg/L	110	70	130
		EG020A-T: Chromium	7440-47-3	1 mg/L	103	70	130
		EG020A-T: Copper	7440-50-8	1 mg/L	101	70	130

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 3832712) - continued							
ES1503683-048	Anonymous	EG020A-T: Lead	7439-92-1	1 mg/L	105	70	130
		EG020A-T: Manganese	7439-96-5	1 mg/L	109	70	130
		EG020A-T: Nickel	7440-02-0	1 mg/L	96.8	70	130
		EG020A-T: Zinc	7440-66-6	1 mg/L	106	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3836487)							
ES1503683-048	Anonymous	EG035T: Mercury	7439-97-6	0.010 mg/L	91.8	70	130
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3831167)							
ES1503461-074	Anonymous	EK055G: Ammonia as N	7664-41-7	1 mg/L	102	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3828571)							
ES1503599-042	RINSATE 8	EK057G: Nitrite as N	----	0.5 mg/L	97.1	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3831166)							
ES1503461-074	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.5 mg/L	102	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3831159)							
ES1503599-042	RINSATE 8	EK061G: Total Kjeldahl Nitrogen as N	----	5 mg/L	104	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3831160)							
ES1503599-042	RINSATE 8	EK067G: Total Phosphorus as P	----	1.0 mg/L	95.4	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3831479)							
ES1503874-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	98.4	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3831479)							
ES1503874-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	95.3	70	130
EP080: BTEXN (QCLot: 3831479)							
ES1503874-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	97.3	70	130
		EP080: Toluene	108-88-3	25 µg/L	99.8	70	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	102	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	100	70	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	101	70	130
		EP080: Naphthalene	91-20-3	25 µg/L	115	70	130

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

The quality control term Matrix Spike (MS) and Matrix Spike Duplicate (MSD) refers to intralaboratory split samples spiked with a representative set of target analytes. The purpose of these QC parameters are to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			
Spike	Spike Recovery (%)	Recovery Limits (%)	RPDs (%)

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP202A: Phenoxyacetic Acid Herbicides by LCMS (QCLot: 3827881)										
ES1503599-007	BH14 0.0-0.05E	EP202: Mecoprop	93-65-2	0.1 mg/kg	67.9	----	60	140	----	----
		EP202: MCPA	94-74-6	0.1 mg/kg	76.7	----	57	143	----	----
		EP202: 2.4-D	94-75-7	0.1 mg/kg	70.7	----	68	139	----	----
		EP202: Triclopyr	55335-06-3	0.1 mg/kg	75.1	----	51	145	----	----
		EP202: 2.4.5-T	93-76-5	0.1 mg/kg	90.2	----	57	142	----	----
		EP202: Picloram	1918-02-1	0.1 mg/kg	72.4	----	49	138	----	----
		EP202: Clopyralid	1702-17-6	0.1 mg/kg	63.6	----	59	149	----	----
EP090: Organotin Compounds (QCLot: 3828138)										
ES1503599-002	BH14 0.4-0.7A	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	# 7.9	----	35	130	----	----
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	67.8	----	20	130	----	----
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	96.4	----	20	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3828153)										
ES1503599-005	BH14 0.3V	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	114	----	70	130	----	----
EP080-SD: BTEXN (QCLot: 3828153)										
ES1503599-005	BH14 0.3V	EP080-SD: Benzene	71-43-2	0.5 mg/kg	97.6	----	70	130	----	----
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	98.9	----	70	130	----	----
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	97.5	----	70	130	----	----
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	96.7	----	70	130	----	----
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	103	----	70	130	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3828205)										
ES1503599-001	BH14 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	86.6	----	36	144	----	----
		EP130: Carbophenothion	786-19-6	50 µg/kg	79.0	----	38	120	----	----
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	93.8	----	49	157	----	----
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	80.6	----	53	145	----	----
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	71.2	----	60	140	----	----
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	72.4	----	56	126	----	----
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	86.3	----	9.7	148	----	----
		EP130: Diazinon	333-41-5	50 µg/kg	78.6	----	60	122	----	----
		EP130: Dichlorvos	62-73-7	50 µg/kg	78.4	----	33	123	----	----
		EP130: Dimethoate	60-51-5	50 µg/kg	76.2	----	36	142	----	----
		EP130: Ethion	563-12-2	50 µg/kg	70.9	----	48	136	----	----
		EP130: Fenamiphos	22224-92-6	50 µg/kg	80.9	----	42	136	----	----
		EP130: Fenthion	55-38-9	50 µg/kg	74.2	----	35	131	----	----
		EP130: Malathion	121-75-5	50 µg/kg	81.3	----	55	141	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3828205) - continued										
ES1503599-001	BH14 0.0-0.5A	EP130: Azinphos Methyl	86-50-0	50 µg/kg	90.0	----	23.5	132	----	----
		EP130: Monocrotophos	6923-22-4	50 µg/kg	75.5	----	35	153	----	----
		EP130: Parathion	56-38-2	50 µg/kg	79.6	----	57	147	----	----
		EP130: Parathion-methyl	298-00-0	50 µg/kg	72.9	----	48	140	----	----
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	79.4	----	45	137	----	----
		EP130: Prothiofos	34643-46-4	50 µg/kg	82.1	----	51	137	----	----
EP131A: Organochlorine Pesticides (QCLot: 3828206)										
ES1503599-001	BH14 0.0-0.5A	EP131A: Aldrin	309-00-2	5 µg/kg	45.2	----	23.4	153	----	----
		EP131A: alpha-BHC	319-84-6	5 µg/kg	50.6	----	17.6	156	----	----
		EP131A: beta-BHC	319-85-7	5 µg/kg	60.4	----	24.9	153	----	----
		EP131A: delta-BHC	319-86-8	5 µg/kg	99.4	----	25.2	147	----	----
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	99.1	----	25.9	150	----	----
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	41.0	----	31.2	125	----	----
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	85.9	----	23.4	163	----	----
		EP131A: Dieldrin	60-57-1	5 µg/kg	56.2	----	30.2	140	----	----
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	38.9	----	28.8	135	----	----
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	43.4	----	22.6	141	----	----
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	52.4	----	16.1	156	----	----
		EP131A: Endrin	72-20-8	5 µg/kg	60.1	----	17.7	162	----	----
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	43.2	----	20.1	116	----	----
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	46.5	----	13.4	151	----	----
		EP131A: Heptachlor	76-44-8	5 µg/kg	47.4	----	23.8	170	----	----
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	53.4	----	28.3	140	----	----
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	23.2	----	17.7	144	----	----
		EP131A: gamma-BHC	58-89-9	5 µg/kg	50.8	----	21.8	158	----	----
		EP131A: Methoxychlor	72-43-5	5 µg/kg	91.0	----	24.4	158	----	----
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	45.3	----	27.3	139	----	----
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	73.8	----	29.5	138	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3828207)										
ES1503599-001	BH14 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	86.2	----	44	136	----	----
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	86.2	----	44	136	----	----
EK255A SD: Ammonia in Sediment (QCLot: 3828209)										
ES1503461-061	Anonymous	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	# Not Determined	----	70	130	----	----
EK255A SD: Ammonia in Sediment (QCLot: 3828210)										

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EK255A SD: Ammonia in Sediment (QCLot: 3828210) - continued										
ES1503599-034	WB27 0.5-1.0A	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	# Not Determined	----	70	130	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3828230)										
ES1503599-002	BH14 0.4-0.7A	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	84.5	----	70	130	----	----
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	76.2	----	70	130	----	----
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	84.1	----	70	130	----	----
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	81.2	----	70	130	----	----
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	82.9	----	70	130	----	----
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	81.5	----	70	130	----	----
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	84.1	----	70	130	----	----
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	82.2	----	70	130	----	----
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	85.7	----	70	130	----	----
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	80.9	----	70	130	----	----
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	77.5	----	70	130	----	----
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	76.6	----	70	130	----	----
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	92.0	----	70	130	----	----
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	84.0	----	70	130	----	----
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	77.3	----	70	130	----	----
		EP132B-SD: Perylene	198-55-0	25 µg/kg	82.2	----	70	130	----	----
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	83.1	----	70	130	----	----
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	81.8	----	70	130	----	----
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	81.8	----	70	130	----	----
		EP132B-SD: Coronene	191-07-1	25 µg/kg	112	----	70	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3828231)										
ES1503599-001	BH14 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	98.6	----	70	130	----	----
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	98.6	----	70	130	----	----
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	95.0	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3832717)										
ES1503461-061	Anonymous	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	102	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3832718)										
ES1503461-062	Anonymous	EG020-SD: Arsenic	7440-38-2	50 mg/kg	92.6	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	92.6	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	99.0	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	92.2	----	70	130	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3832718) - continued										
ES1503461-062	Anonymous	EG020-SD: Lead	7439-92-1	250 mg/kg	97.5	----	70	130	----	----
		EG020-SD: Nickel	7440-02-0	50 mg/kg	92.9	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	95.1	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3833644)										
ES1503599-002	BH14 0.4-0.7A	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	90.5	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3833645)										
ES1503599-002	BH14 0.4-0.7A	EK067G: Total Phosphorus as P	----	100 mg/kg	99.3	----	70	130	----	----
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3834700)										
ES1503599-002	BH14 0.4-0.7A	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	101	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3834701)										
ES1503599-002	BH14 0.4-0.7A	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	115	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3834924)										
ES1503599-018	WB26 0.0-0.5A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	130	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3834925)										
ES1503599-019	WB26 0.5-1.0A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	105	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	107	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	110	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	101	----	70	130	----	----
		EG020-SD: Lead	7439-92-1	250 mg/kg	102	----	70	130	----	----
		EG020-SD: Nickel	7440-02-0	50 mg/kg	105	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	108	----	70	130	----	----

Sub-Matrix: **WATER**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3828571)										
ES1503599-042	RINSATE 8	EK057G: Nitrite as N	----	0.5 mg/L	97.1	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3831159)										
ES1503599-042	RINSATE 8	EK061G: Total Kjeldahl Nitrogen as N	----	5 mg/L	104	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3831160)										
ES1503599-042	RINSATE 8	EK067G: Total Phosphorus as P	----	1.0 mg/L	95.4	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3831166)										
ES1503461-074	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.5 mg/L	102	----	70	130	----	----
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3831167)										
ES1503461-074	Anonymous	EK055G: Ammonia as N	7664-41-7	1 mg/L	102	----	70	130	----	----

Sub-Matrix: **WATER**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3831479)										
ES1503874-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	98.4	----	70	130	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3831479)										
ES1503874-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	95.3	----	70	130	----	----
EP080: BTEXN (QCLot: 3831479)										
ES1503874-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	97.3	----	70	130	----	----
		EP080: Toluene	108-88-3	25 µg/L	99.8	----	70	130	----	----
		EP080: Ethylbenzene	100-41-4	25 µg/L	102	----	70	130	----	----
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	100	----	70	130	----	----
		EP080: ortho-Xylene	95-47-6	25 µg/L	101	----	70	130	----	----
		EP080: Naphthalene	91-20-3	25 µg/L	115	----	70	130	----	----
EG020T: Total Metals by ICP-MS (QCLot: 3832712)										
ES1503683-048	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	102	----	70	130	----	----
		EG020A-T: Cadmium	7440-43-9	0.250 mg/L	110	----	70	130	----	----
		EG020A-T: Chromium	7440-47-3	1 mg/L	103	----	70	130	----	----
		EG020A-T: Copper	7440-50-8	1 mg/L	101	----	70	130	----	----
		EG020A-T: Lead	7439-92-1	1 mg/L	105	----	70	130	----	----
		EG020A-T: Manganese	7439-96-5	1 mg/L	109	----	70	130	----	----
		EG020A-T: Nickel	7440-02-0	1 mg/L	96.8	----	70	130	----	----
		EG020A-T: Zinc	7440-66-6	1 mg/L	106	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3836487)										
ES1503683-048	Anonymous	EG035T: Mercury	7439-97-6	0.010 mg/L	91.8	----	70	130	----	----

ALS Environmental

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1503599**	Page	: 1 of 17
Client	: AURECON AUSTRALASIA PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 17-FEB-2015
Sampler	: GK	Issue Date	: 03-MAR-2015
Order number	: 245553		
		No. of samples received	: 42
Quote number	: SY/1021/14 V2	No. of samples analysed	: 42

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with recommended holding times (USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content							
Soil Glass Jar - Unpreserved (EA055-103)							
BH25 0.7V	**12-FEB-2015**	**----**	----	----	**20-FEB-2015**	26-FEB-2015	✓
Soil Glass Jar - Unpreserved (EA055-103)							
BH14 0.0-0.5A, BH14 0.4-0.7A, BH14 0.3V, BH14 0.7V, BH14 0.0-0.05E, BH23 0.4-0.9A, BH23 0.3V, BH23 0.7V, BH25 0.0-0.5A, BH25 0.5-1.0A, BH25 0.3V, WB26 0.0-0.5A, WB26 0.5-1.0A, WB26 0.3V, WB26 0.7V, BH28 0.2-0.7A, BH28 0.3V, BH28 0.7V, WB25 0.0-0.5A, WB25 0.5-1.0A, WB25 0.3V, WB25 0.7V, WB257 0.0-0.5A, WB27 0.5-1.0A, WB27 0.3V, WB27 0.7V, TRIPLICATE 9A, TRIPLICATE 9B	**12-FEB-2015**	**----**	----	----	**23-FEB-2015**	26-FEB-2015	✓
EA150: Particle Sizing							
Snap Lock Bag (EA150H)							
BH14 0.0-0.5B, BH14 0.4-0.7B, BH23 0.4-0.9B, BH25 0.0-0.5B, BH25 0.5-1.0B, WB26 0.0-0.5B, WB26 0.5-1.0B, WB25 0.0-0.5B, WB25 0.5-1.0B, WB27 0.0-0.5B, WB27 0.5-1.0B	**12-FEB-2015**	**---**	11-AUG-2015	----	**26-FEB-2015**	11-AUG-2015	✓
EA150: Soil Classification based on Particle Size							
Snap Lock Bag (EA150H)							
BH14 0.0-0.5B, BH14 0.4-0.7B, BH23 0.4-0.9B, BH25 0.0-0.5B, BH25 0.5-1.0B, WB26 0.0-0.5B, WB26 0.5-1.0B, WB25 0.0-0.5B, WB25 0.5-1.0B, WB27 0.0-0.5B, WB27 0.5-1.0B	**12-FEB-2015**	**---**	11-AUG-2015	----	**26-FEB-2015**	11-AUG-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA152: Soil Particle Density							
Snap Lock Bag (EA152)							
BH14 0.0-0.5B, BH14 0.4-0.7B, BH23 0.4-0.9B, BH25 0.0-0.5B, BH25 0.5-1.0B, WB26 0.0-0.5B, WB26 0.5-1.0B, WB25 0.0-0.5B, WB25 0.5-1.0B, WB27 0.0-0.5B, WB27 0.5-1.0B	**12-FEB-2015**	---	11-AUG-2015	----	**27-FEB-2015**	11-AUG-2015	✓
EG005-SD: Total Metals in Sediments by ICP-AES							
Soil Glass Jar - Unpreserved (EG005-SD)							
BH14 0.0-0.5A, BH14 0.4-0.7A, BH14 0.0-0.05E, BH23 0.4-0.9A, BH25 0.0-0.5A, BH25 0.5-1.0A	**12-FEB-2015**	**23-FEB-2015**	11-AUG-2015	✓	**23-FEB-2015**	11-AUG-2015	✓
Soil Glass Jar - Unpreserved (EG005-SD)							
WB26 0.0-0.5A, WB26 0.5-1.0A, BH28 0.2-0.7A, WB25 0.0-0.5A, WB25 0.5-1.0A, WB257 0.0-0.5A, WB27 0.5-1.0A, TRIPLICATE 9A, TRIPLICATE 9B	**12-FEB-2015**	**24-FEB-2015**	11-AUG-2015	✓	**25-FEB-2015**	11-AUG-2015	✓
EG020-SD: Total Metals in Sediments by ICPMS							
Soil Glass Jar - Unpreserved (EG020-SD)							
BH14 0.0-0.5A, BH14 0.4-0.7A, BH14 0.0-0.05E, BH23 0.4-0.9A, BH25 0.0-0.5A, BH25 0.5-1.0A	**12-FEB-2015**	**23-FEB-2015**	11-AUG-2015	✓	**23-FEB-2015**	11-AUG-2015	✓
Soil Glass Jar - Unpreserved (EG020-SD)							
WB26 0.0-0.5A, WB26 0.5-1.0A, BH28 0.2-0.7A, WB25 0.0-0.5A, WB25 0.5-1.0A, WB257 0.0-0.5A, WB27 0.5-1.0A, TRIPLICATE 9A, TRIPLICATE 9B	**12-FEB-2015**	**24-FEB-2015**	11-AUG-2015	✓	**25-FEB-2015**	11-AUG-2015	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T-LL)							
BH14 0.0-0.5A, BH14 0.4-0.7A, BH14 0.0-0.05E, BH23 0.4-0.9A, BH25 0.0-0.5A, BH25 0.5-1.0A	**12-FEB-2015**	**23-FEB-2015**	12-MAR-2015	✓	**25-FEB-2015**	12-MAR-2015	✓
Soil Glass Jar - Unpreserved (EG035T-LL)							
WB26 0.0-0.5A, WB26 0.5-1.0A, BH28 0.2-0.7A, WB25 0.0-0.5A, WB25 0.5-1.0A, WB257 0.0-0.5A, WB27 0.5-1.0A, TRIPLICATE 9A, TRIPLICATE 9B	**12-FEB-2015**	**24-FEB-2015**	12-MAR-2015	✓	**25-FEB-2015**	12-MAR-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK057G: Nitrite as N by Discrete Analyser								
Soil Glass Jar - Unpreserved (EK057G)								
BH14 0.0-0.5A,	BH14 0.4-0.7A,	**12-FEB-2015**	**24-FEB-2015**	11-AUG-2015	✓	**24-FEB-2015**	11-AUG-2015	✓
BH23 0.4-0.9A,	BH25 0.0-0.5A,							
BH25 0.5-1.0A,	WB26 0.0-0.5A,							
WB26 0.5-1.0A,	BH28 0.2-0.7A,							
WB25 0.0-0.5A,	WB25 0.5-1.0A,							
WB257 0.0-0.5A,	WB27 0.5-1.0A,							
TRIPLICATE 9A,	TRIPLICATE 9B							
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser								
Soil Glass Jar - Unpreserved (EK059G)								
BH14 0.0-0.5A,	BH14 0.4-0.7A,	**12-FEB-2015**	**24-FEB-2015**	11-AUG-2015	✓	**24-FEB-2015**	11-AUG-2015	✓
BH23 0.4-0.9A,	BH25 0.0-0.5A,							
BH25 0.5-1.0A,	WB26 0.0-0.5A,							
WB26 0.5-1.0A,	BH28 0.2-0.7A,							
WB25 0.0-0.5A,	WB25 0.5-1.0A,							
WB257 0.0-0.5A,	WB27 0.5-1.0A,							
TRIPLICATE 9A,	TRIPLICATE 9B							
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser								
Soil Glass Jar - Unpreserved (EK061G)								
BH14 0.0-0.5A,	BH14 0.4-0.7A,	**12-FEB-2015**	**23-FEB-2015**	11-AUG-2015	✓	**23-FEB-2015**	11-AUG-2015	✓
BH23 0.4-0.9A,	BH25 0.0-0.5A,							
BH25 0.5-1.0A,	WB26 0.0-0.5A,							
WB26 0.5-1.0A,	BH28 0.2-0.7A,							
WB25 0.0-0.5A,	WB25 0.5-1.0A,							
WB257 0.0-0.5A,	WB27 0.5-1.0A,							
TRIPLICATE 9A,	TRIPLICATE 9B							
EK067G: Total Phosphorus as P by Discrete Analyser								
Soil Glass Jar - Unpreserved (EK067G)								
BH14 0.0-0.5A,	BH14 0.4-0.7A,	**12-FEB-2015**	**23-FEB-2015**	11-AUG-2015	✓	**23-FEB-2015**	11-AUG-2015	✓
BH23 0.4-0.9A,	BH25 0.0-0.5A,							
BH25 0.5-1.0A,	WB26 0.0-0.5A,							
WB26 0.5-1.0A,	BH28 0.2-0.7A,							
WB25 0.0-0.5A,	WB25 0.5-1.0A,							
WB257 0.0-0.5A,	WB27 0.5-1.0A,							
TRIPLICATE 9A,	TRIPLICATE 9B							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK255A SD Ammonia in Sediment								
Soil Glass Jar - Unpreserved (EK255A SD)								
BH14 0.0-0.5A,	BH14 0.4-0.7A,	**12-FEB-2015**	**----**	----	----	**18-FEB-2015**	11-AUG-2015	✓
BH23 0.4-0.9A,	BH25 0.0-0.5A,							
BH25 0.5-1.0A,	WB26 0.0-0.5A,							
WB26 0.5-1.0A,	BH28 0.2-0.7A,							
WB25 0.0-0.5A,	WB25 0.5-1.0A,							
WB257 0.0-0.5A,	WB27 0.5-1.0A,							
TRIPLICATE 9A,	TRIPLICATE 9B							
EP003: Total Organic Carbon (TOC) in Soil								
Pulp Bag (EP003)								
BH14 0.0-0.5A,	BH14 0.4-0.7A,	**12-FEB-2015**	**19-FEB-2015**	12-MAR-2015	✓	**19-FEB-2015**	12-MAR-2015	✓
BH14 0.0-0.05E,	BH23 0.4-0.9A,							
BH25 0.0-0.5A,	BH25 0.5-1.0A,							
WB26 0.0-0.5A,	WB26 0.5-1.0A,							
BH28 0.2-0.7A,	WB25 0.0-0.5A,							
WB25 0.5-1.0A,	WB257 0.0-0.5A,							
WB27 0.5-1.0A,	TRIPLICATE 9A,							
TRIPLICATE 9B								
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013								
Soil Glass Jar - Unpreserved (EP071-SD)								
BH14 0.0-0.5A,	BH14 0.4-0.7A,	**12-FEB-2015**	**23-FEB-2015**	26-FEB-2015	✓	**25-FEB-2015**	04-APR-2015	✓
BH23 0.4-0.9A,	BH25 0.0-0.5A,							
BH25 0.5-1.0A,	WB26 0.0-0.5A,							
WB26 0.5-1.0A,	BH28 0.2-0.7A,							
WB25 0.0-0.5A,	WB25 0.5-1.0A,							
WB257 0.0-0.5A,	WB27 0.5-1.0A,							
TRIPLICATE 9A,	TRIPLICATE 9B,							
TRIP BLANK 9								
EP080-SD: BTEXN								
Soil Glass Jar - Unpreserved (EP080-SD)								
BH14 0.3V,	BH14 0.7V,	**12-FEB-2015**	**19-FEB-2015**	26-FEB-2015	✓	**25-FEB-2015**	26-FEB-2015	✓
BH14 0.0-0.05E,	BH23 0.3V,							
BH23 0.7V,	BH25 0.3V,							
BH25 0.7V,	WB26 0.3V,							
WB26 0.7V,	BH28 0.3V,							
BH28 0.7V,	WB25 0.3V,							
WB25 0.7V,	WB27 0.3V,							
WB27 0.7V,	TRIP BLANK 9							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080-SD)							
BH14 0.3V, BH14 0.7V, BH14 0.0-0.05E, BH23 0.3V, BH23 0.7V, BH25 0.3V, BH25 0.7V, WB26 0.3V, WB26 0.7V, BH28 0.3V, BH28 0.7V, WB25 0.3V, WB25 0.7V, WB27 0.3V, WB27 0.7V, TRIP BLANK 9	**12-FEB-2015**	**19-FEB-2015**	26-FEB-2015	✓	**25-FEB-2015**	26-FEB-2015	✓
EP090: Organotin Compounds							
Soil Glass Jar - Unpreserved (EP090)							
BH14 0.4-0.7A, BH23 0.4-0.9A, BH25 0.0-0.5A, BH25 0.5-1.0A, WB26 0.0-0.5A, WB26 0.5-1.0A, BH28 0.2-0.7A, WB25 0.0-0.5A, WB25 0.5-1.0A, WB257 0.0-0.5A, WB27 0.5-1.0A, TRIPLICATE 9A, TRIPLICATE 9B	**12-FEB-2015**	**18-FEB-2015**	26-FEB-2015	✓	**23-FEB-2015**	30-MAR-2015	✓
Soil Glass Jar - Unpreserved (EP090)							
BH14 0.0-0.5A	**12-FEB-2015**	**23-FEB-2015**	26-FEB-2015	✓	**24-FEB-2015**	04-APR-2015	✓
EP130A: Organophosphorus Pesticides (Ultra-trace)							
Soil Glass Jar - Unpreserved (EP130)							
BH14 0.0-0.5A, BH14 0.4-0.7A, BH14 0.0-0.05E, BH23 0.4-0.9A, BH25 0.0-0.5A, BH25 0.5-1.0A, WB26 0.0-0.5A, WB26 0.5-1.0A, BH28 0.2-0.7A, WB25 0.0-0.5A, WB25 0.5-1.0A, WB257 0.0-0.5A, WB27 0.5-1.0A, TRIPLICATE 9A, TRIPLICATE 9B	**12-FEB-2015**	**23-FEB-2015**	26-FEB-2015	✓	**25-FEB-2015**	04-APR-2015	✓
EP131A: Organochlorine Pesticides							
Soil Glass Jar - Unpreserved (EP131A)							
BH14 0.0-0.5A, BH14 0.4-0.7A, BH14 0.0-0.05E, BH23 0.4-0.9A, BH25 0.0-0.5A, BH25 0.5-1.0A, WB26 0.0-0.5A, WB26 0.5-1.0A, BH28 0.2-0.7A, WB25 0.0-0.5A, WB25 0.5-1.0A, WB257 0.0-0.5A, WB27 0.5-1.0A, TRIPLICATE 9A, TRIPLICATE 9B	**12-FEB-2015**	**23-FEB-2015**	26-FEB-2015	✓	**25-FEB-2015**	04-APR-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP131B: Polychlorinated Biphenyls (as Aroclors)							
Soil Glass Jar - Unpreserved (EP131B)							
BH14 0.0-0.5A, BH14 0.4-0.7A, BH14 0.0-0.05E, BH23 0.4-0.9A, BH25 0.0-0.5A, BH25 0.5-1.0A, WB26 0.0-0.5A, WB26 0.5-1.0A, BH28 0.2-0.7A, WB25 0.0-0.5A, WB25 0.5-1.0A, WB257 0.0-0.5A, WB27 0.5-1.0A, TRIPLICATE 9A, TRIPLICATE 9B	**12-FEB-2015**	**23-FEB-2015**	26-FEB-2015	✓	**25-FEB-2015**	04-APR-2015	✓
EP132B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP132B-SD)							
BH14 0.0-0.5A, BH14 0.4-0.7A, BH23 0.4-0.9A, BH25 0.0-0.5A, BH25 0.5-1.0A, WB26 0.0-0.5A, WB26 0.5-1.0A, BH28 0.2-0.7A, WB25 0.0-0.5A, WB25 0.5-1.0A, WB257 0.0-0.5A, WB27 0.5-1.0A, TRIPLICATE 9A, TRIPLICATE 9B	**12-FEB-2015**	**23-FEB-2015**	26-FEB-2015	✓	**25-FEB-2015**	04-APR-2015	✓
EP202A: Phenoxyacetic Acid Herbicides by LCMS							
Soil Glass Jar - Unpreserved (EP202)							
BH14 0.0-0.05E	**12-FEB-2015**	**19-FEB-2015**	26-FEB-2015	✓	**19-FEB-2015**	31-MAR-2015	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG020A-T)							
RINSATE 8	**12-FEB-2015**	**23-FEB-2015**	11-AUG-2015	✓	**23-FEB-2015**	11-AUG-2015	✓
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG020B-T)							
RINSATE 8	**12-FEB-2015**	**23-FEB-2015**	11-AUG-2015	✓	**23-FEB-2015**	11-AUG-2015	✓
EG035T: Total Recoverable Mercury by FIMS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG035T)							
RINSATE 8	**12-FEB-2015**	**----**	----	----	**26-FEB-2015**	12-MAR-2015	✓
EK055G: Ammonia as N by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK055G)							
RINSATE 8	**12-FEB-2015**	**---**	12-MAR-2015	----	**20-FEB-2015**	12-MAR-2015	✓
EK057G: Nitrite as N by Discrete Analyser							
Clear Plastic Bottle - Natural (EK057G)							
RINSATE 8	**12-FEB-2015**	**---**	14-FEB-2015	----	**18-FEB-2015**	14-FEB-2015	✗

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK059G)							
RINSATE 8	**12-FEB-2015**	---	12-MAR-2015	----	**20-FEB-2015**	12-MAR-2015	✓
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK061G)							
RINSATE 8	**12-FEB-2015**	**20-FEB-2015**	12-MAR-2015	✓	**20-FEB-2015**	12-MAR-2015	✓
EK067G: Total Phosphorus as P by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK067G)							
RINSATE 8	**12-FEB-2015**	**20-FEB-2015**	12-MAR-2015	✓	**20-FEB-2015**	12-MAR-2015	✓
EP066: Polychlorinated Biphenyls (PCB)							
Amber Glass Bottle - Unpreserved (EP066)							
RINSATE 8	**12-FEB-2015**	**19-FEB-2015**	19-FEB-2015	✓	**20-FEB-2015**	01-APR-2015	✓
EP068A: Organochlorine Pesticides (OC)							
Amber Glass Bottle - Unpreserved (EP068)							
RINSATE 8	**12-FEB-2015**	**19-FEB-2015**	19-FEB-2015	✓	**20-FEB-2015**	01-APR-2015	✓
EP068B: Organophosphorus Pesticides (OP)							
Amber Glass Bottle - Unpreserved (EP068)							
RINSATE 8	**12-FEB-2015**	**19-FEB-2015**	19-FEB-2015	✓	**20-FEB-2015**	01-APR-2015	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
RINSATE 8	**12-FEB-2015**	**19-FEB-2015**	19-FEB-2015	✓	**20-FEB-2015**	01-APR-2015	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
RINSATE 8	**12-FEB-2015**	**19-FEB-2015**	19-FEB-2015	✓	**20-FEB-2015**	01-APR-2015	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
RINSATE 8	**12-FEB-2015**	**24-FEB-2015**	26-FEB-2015	✓	**24-FEB-2015**	26-FEB-2015	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber VOC Vial - Sulfuric Acid (EP080)							
RINSATE 8	**12-FEB-2015**	**24-FEB-2015**	26-FEB-2015	✓	**24-FEB-2015**	26-FEB-2015	✓
EP090: Organotin Compounds							
Amber Glass Bottle - Unpreserved (EP090H)							
RINSATE 8	**12-FEB-2015**	**18-FEB-2015**	19-FEB-2015	✓	**19-FEB-2015**	30-MAR-2015	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Ammonia in Sediments	EK255A SD	4	40	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Moisture Content	EA055-103	4	38	**10.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	2	19	**10.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	2	19	**10.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	2	17	**11.8**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	2	18	**11.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	2	19	**10.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	2	21	**9.5**	**9.5**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	4	34	**11.8**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	4	34	**11.8**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	4	34	**11.8**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	4	36	**11.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	2	18	**11.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Ammonia in Sediments	EK255A SD	2	40	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	2	18	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	3	21	**14.3**	**14.3**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	34	**5.9**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	34	**5.9**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	34	**5.9**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	2	36	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	3	20	**15.0**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Control Samples (LCS) - Continued							
TPH - Semivolatile Fraction	EP071-SD	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Ammonia in Sediments	EK255A SD	2	40	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	2	18	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	1	21	**4.8**	**4.8**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	34	**5.9**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	34	**5.9**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	34	**5.9**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	2	36	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia in Sediments	EK255A SD	2	40	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	1	17	**5.9**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	1	21	**4.8**	**4.8**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	34	**5.9**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	34	**5.9**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Ammonia as N by Discrete analyser	EK055G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	2	18	**11.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	5	**20.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Ammonia as N by Discrete analyser	EK055G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Compounds (Soluble)	EP090H	1	3	**33.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	11	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	4	**25.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	4	**25.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	3	20	**15.0**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	5	**20.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	3	20	**15.0**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	10	**10.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Ammonia as N by Discrete analyser	EK055G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Compounds (Soluble)	EP090H	1	3	**33.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	11	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	4	**25.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	4	**25.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	5	**20.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	10	**10.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Matrix Spikes (MS) - Continued							
Ammonia as N by Discrete analyser	EK055G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055-103	SOIL	In-house. A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Particle Size Analysis by Hydrometer	EA150H	SOIL	Particle Size Analysis by Hydrometer according to AS1289.3.6.3 - 2003
Soil Particle Density	* EA152	SOIL	Soil Particle Density by AS 1289.3.5.1-2006 : Methods of testing soils for engineering purposes - Soil classification tests - Determination of the soil particle density of a soil - Standard method A modification of the AS 1289.3.5.1 method may apply when testing dispersed soils also tested by AS1289.3.6.3. This modification uses the dispersion solution from AS1289.3.6.3 in place of water for density determinations
Total Fe and Al in Sediments by ICPAES	EG005-SD	SOIL	In house: Referenced to APHA 21st ed., 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3). LORs per NODG
Total Metals in Sediments by ICPMS	EG020-SD	SOIL	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector. Analyte list and LORs per NODG.
Total Mercury by FIMS (Low Level)	EG035T-LL	SOIL	In house: Referenced to AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Nitrite as N - Soluble by Discrete Analyser	EK057G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3- B. Nitrite in a water extract is determined by direct colourimetry by Discrete Analyser.
Nitrate as N - Soluble by Discrete Analyser	EK058G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3--F. Nitrate in the 1:5 soil:water extract is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results.
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3- F. Combined oxidised Nitrogen (NO2+NO3) in a water extract is determined by Chemical Reduction, and direct colourimetry by Discrete Analyser.
TKN as N By Discrete Analyser	EK061G	SOIL	In house: Referenced to APHA 21st ed., 4500-Norg-D Soil samples are digested using Kjeldahl digestion followed by determination by Discrete Analyser.
Total Nitrogen as N (TKN + NOx) By Discrete Analyser	EK062G	SOIL	In house: Referenced to APHA 21st ed., 4500 Norg/NO3- Total Nitrogen is determined as the sum of TKN and Oxidised Nitrrogen, each determined seperately as N.
Total Phosporus By Discrete Analyser	EK067G	SOIL	In house: Referenced to APHA 21st ed., 4500 P-B&F This procedure involves sulfuric acid digestion and quantification using Discrete Analyser.
Ammonia in Sediments	EK255A SD	SOIL	Rayment and Higginson (1992) Method 7C1 and 7C2. This method measures exchangeable ammonium which is defined by the amount of ammonium released by shaking sediment with an un-buffered 2M potassium chloride solution.

Analytical Methods	Method	Matrix	Method Descriptions
Total Organic Carbon	EP003	SOIL	In-house C-IR17. Dried and pulverised sample is reacted with acid to remove inorganic Carbonates, then combusted in a LECO furnace in the presence of strong oxidants / catalysts. The evolved (Organic) Carbon (as CO2) is automaticaly measured by infra-red detector.
TPH - Semivolatile Fraction	EP071-SD	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 504)
TRH Volatiles/BTEX in Sediments	EP080-SD	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve.
Organotin Analysis	EP090	SOIL	(USEPA SW 846 - 8270D) Prepared sample extracts are analysed by GC/MS coupled with high volume injection, and quanitified against an established calibration curve.
Organophosphorus Pesticides (Ultra-trace)	EP130	SOIL	USEPA Method 3640 (GPC cleanup), 8141 (GC/FPD - Capillary Column) This technique is compliant with NEPM (2013) Schedule B(3) (Method 505)
Organochlorine Pesticides (Ultra-trace)	EP131A	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (2013) Schedule B(3) (Method 504)
PCB's (Ultra-trace)	EP131B	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (2013) Schedule B(3) (Method 504)
PAHs in Sediments by GCMS(SIM)	EP132B-SD	SOIL	USEPA 8270 GCMS Capillary column, SIM mode using large volume programmed temperature vaporisation injection.
Phenoxyacetic Acid Herbicides (LCMS - Standard DL)	EP202	SOIL	In-House, LCMS (Electrospray in negative mode). Residues of acid herbicides are extracted from soil samples under the alkaline condition. An aliquot of the alkaline aqueous phase is taken and acidified before a SPE cleanup. After eluting off from the SPE cartridge, residues of acid herbicides are dissolved in HPLC mobile phase prior to instrument analysis.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Metals by ICP-MS - Suite B	EG020B-T	WATER	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Mercury by FIMS	EG035T	WATER	In house: Referenced to AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Ammonia as N by Discrete analyser	EK055G	WATER	In house: Referenced to APHA 21st ed., 4500-NH3 G Ammonia is determined by direct colorimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Nitrite as N by Discrete Analyser	EK057G	WATER	In house: Referenced to APHA 21st ed., 4500-NO2- B. Nitrite is determined by direct colourimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
Nitrate as N by Discrete Analyser	EK058G	WATER	In house: Referenced to APHA 21st ed., 4500-NO3- F. Nitrate is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results. This method is compliant with NEPM (2013) Schedule B(3)
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	WATER	In house: Referenced to APHA 21st ed., 4500-NO3- F. Combined oxidised Nitrogen (NO2+NO3) is determined by Chemical Reduction and direct colourimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	WATER	In house: Referenced to APHA 21st ed., 4500-Norg D (In house). An aliquot of sample is digested using a high temperature Kjeldahl digestion to convert nitrogenous compounds to ammonia. Ammonia is determined colorimetrically by discrete analyser. This method is compliant with NEPM (2013) Schedule B(3)
Total Nitrogen as N (TKN + Nox) By Discrete Analyser	EK062G	WATER	In house: Referenced to APHA 21st ed., 4500-Norg / 4500-NO3-. This method is compliant with NEPM (2013) Schedule B(3)
Total Phosphorus as P By Discrete Analyser	EK067G	WATER	In house: Referenced to APHA 21st ed., 4500-P H, Jirka et al (1976), Zhang et al (2006). This procedure involves sulphuric acid digestion of a sample aliquot to break phosphorus down to orthophosphate. The orthophosphate reacts with ammonium molybdate and antimony potassium tartrate to form a complex which is then reduced and its concentration measured at 880nm using discrete analyser. This method is compliant with NEPM (2013) Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Pesticides by GCMS	EP068	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
Organotin Compounds (Soluble)	EP090H	WATER	(USEPA SW 846 - 8270D, ALS QWI-ORG/EP090) Sample extracts (ALS QWI-ORG/035) are analysed by GC/MS coupled with high volume injection (10-50µL). Quantitation is achieved using internal standard and average response factor quantitation techniques against an established five-point curve. Butyltin results are reported in either "as tin" units eg. ng Sn/L or "ng TBT+/L". The analytical standards are prepared in "as tin" units. Sample results are converted to TBT+ results as required.

Preparation Methods	Method	Matrix	Method Descriptions
TKN/TP Digestion	EK061/EK067	SOIL	APHA 21st ed., 4500 Norg- D; APHA 21st ed., 4500 P - H. Macro Kjeldahl digestion.
1:5 solid / water leach for soluble analytes	EN34	SOIL	10 g of soil is mixed with 50 mL of distilled water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.

Preparation Methods	Method	Matrix	Method Descriptions
Extraction for Phenoxy Acid Herbicides in Soils.	EP202-PR	SOIL	In-House: Alkaline extract followed by SPE clean up of acidified portion of the sample extract.
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids/ Sample Cleanup	ORG17A-UTP	SOIL	In-house, Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. Samples are extracted, concentrated (by KD) and exchanged into an appropriate solvent for GPC and florisil cleanup as required.
Tumbler Extraction of Solids for LVI (Non-concentrating)	ORG17D	SOIL	In house: 10g of sample, Na2SO4 and surrogate are extracted with 50mL 1:1 DCM/Acetone by end over end tumbling. An aliquot is concentrated by nitrogen blowdown to a reduced volume for analysis if required.
Organotin Sample Preparation	ORG35	SOIL	In house. 20g sample is spiked with surrogate and leached in a methanol:acetic acid:UHP water mix and vacuum filtered. Reagents and solvents are added to the sample and the mixture tumbled. The butyltin compounds are simultaneously derivatised and extracted. The extract is further extracted with petroleum ether. The resultant extracts are combined and concentrated for analysis.
TKN/TP Digestion	EK061/EK067	WATER	APHA 21st ed., 4500 Norg - D; APHA 21st ed., 4500 P - H. This method is compliant with NEPM (2013) Schedule B(3)
Digestion for Total Recoverable Metals	EN25	WATER	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (2013) Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (2013) Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Organotin Sample Preparation	ORG34H	WATER	(IN HOUSE, ALS QWI-ORG/35) A specified volume (determined by the detection limit requirement) of sample is spiked with surrogate, acidified and vacuum filtered. Reagents and solvent are added to the sample and the mixture tumbled for 20 minutes. The butyltin compounds is derivitisated, extracted and the subtitution reaction is completed. The extracts is transferred to a separatory funnel and further extracted two times using petroleum ether. The resultant extracts are combined and concentrated to the desired volume for analysis.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW 846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EK255A SD: Ammonia in Sediment	ES1503599-034	WB27 0.5-1.0A	**Ammonia as N**	7664-41-7	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EK255A SD: Ammonia in Sediment	ES1503461-061	Anonymous	**Ammonia as N**	7664-41-7	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP090: Organotin Compounds	ES1503599-002	BH14 0.4-0.7A	**Monobutyltin**	78763-54-9	7.9 %	35-130%	**Recovery less than lower data quality objective**

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Duplicate outliers occur.**
- **For all matrices, no Laboratory Control outliers occur.**

Regular Sample Surrogates

- **For all regular sample matrices, no surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

Matrix: **WATER**

Method / Container / Client Sample ID(s)	Extraction / Preparation: Date extracted	Extraction / Preparation: Due for extraction	Extraction / Preparation: Days overdue	Analysis: Date analysed	Analysis: Due for analysis	Analysis: Days overdue
EK057G: Nitrite as N by Discrete Analyser						
Clear Plastic Bottle - Natural						
RINSATE 8	----	----	----	18-FEB-2015	14-FEB-2015	**4**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

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Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: environmental.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle): Custody Seal Intact? Yes No N/A; Free ice / frozen ice bricks present upon receipt? Yes No N/A; Random Sample Temperature on Receipt: °C; Other comment:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: (1) 2 3 4 5 6 7	
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (7)	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 13 February 2015	DATE/TIME: 13 February 2015 1730
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: K Schafer	RECEIVED BY: Ravi
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 16-2-15 1600	DATE/TIME: 17/2/15 14:30

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	BH1 0.0-0.5 A	13/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
2	BH1 0.0-0.5 B	13/02/2015	S	Bag (White label)	1		1							
3	BH1 0.3V	13/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

150ml Jars and 500ml Amber sent direct to Brisbane fo TOC/TBT

Environmental Division
Sydney
Work Order
ES1503683

Telephone : +61-2-8784 8555

150 ml Jar from sample #13 missing Sydney – can you please split after Volatiles and send to EB for TBT/TOC

ALS Environmental

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BRISBANE 32 Shand Street Stafford QLD 4053
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GLADSTONE 46 Callemondah Drive Clinton QLD 4680
Ph: 07 7471 5800 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
SUBIACO 27 Sydney Road Muchea WA 6501
Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
ORANGE 4/13 Geary Place North Orange NSW 2541
Ph: 024423 2063 E: orange@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
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Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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Ph: 07 4796 0600 E: townsville@environmental.alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle): Custody Seal Intact? Yes No N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Free ice / frozen ice bricks present upon receipt? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6	Random Sample Temperature on Receipt: °C
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6	Other comment:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*		
DATE/TIME: 13 February 2015	DATE/TIME: 13 February 2015 1730	DATE/TIME: 16-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
4	BH6 0.0-0.8 A	13/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
5	BH6 0.0-0.8 B	13/02/2015	S	Bag (White label)	1		1							
6	BH6 0.3V	13/02/2015	S	Glass Jar (150 ml)	1			1						
7	BH6 0.7V	13/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	5	1	1	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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☐BRISBANE 32 Shand Street Stafford QLD 4053 Ph 07 3243 7222 E samples.brisbane@alsglobal.com
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☐MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph 03 8549 9600 E samples.melbourne@alsglobal.com
☐MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph 02 6372 6735 E mudgee.mail@alsglobal.com
☐NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph 02 4968 9433 E samples.newcastle@alsglobal.com
☐NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph 024423 2063 E nowra@alsglobal.com
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☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph 02 4225 3125 E portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) **Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround	Custody Seal Intact?	Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 (3) 4 5 6 7	Random Sample Temperature on Receipt	°C
PROJECT MANAGER: Sally Leyland — **CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comments:	
SAMPLER: Georgina Kerr — **SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~) — **EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*	KS	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com	DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com	13 February 2015	13 February 2015 1730	16-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS — MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
8	BH10 0.0-0.3A	13/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
9	BH10 0.0-0.3B	13/02/2015	S	Bag (White label)	1		1							
10	BH10 0.0V	13/02/2015	S	Glass Jar (150 ml)	1			1						
11	BH10 0.3V	13/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	3		1	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Environmental

ALS Laboratory: please tick →

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☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph 02 4225 3125 E portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround		Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free Ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 (4) 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (13)	Other comment:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		13 February 2015	13 February 2015 1730	16-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
12	BH15 0.0-0.5A	13/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
13	BH15 0.5-1.0A	13/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
14	BH15 0.0-0.5B	13/02/2015	S	Bag (White label)	1		1							
15	BH15 0.3V	13/02/2015	S	Glass Jar (150 ml)	1			1						
16	BH15 0.7V	13/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	5	1	1	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date):	5 day turnaround
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	
ORDER NUMBER: 245553		COC: 1 2 3 4 (5) 6 7	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (7)	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact?	Yes	No	N/A
Free Ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comment:			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	Kelly Schafer	45	
DATE/TIME: 13 February 2015	DATE/TIME: 13 February 2015 1730	DATE/TIME: 16-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
17	BH17 0.0-0.1A	13/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
18	BH17 0.0-0.1B	13/02/2015	S	Bag (White label)	1		1							
19	BH17 0.0V	13/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

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Unit 6 6/67 Steel Road South Eight Mile Plains QLD 4113
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NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (12)	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		13 February 2015	13 February 2015 1730

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 16-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
20	BH21 0.0-0.6A	13/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
21	BH21 0.0-0.6B	13/02/2015	S	Bag (White label)	1		1							
22	BH21 0.3V	13/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	**FOR LABORATORY USE ONLY (Circle)** Custody Seal Intact? Yes No N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Free ice / frozen ice bricks present upon receipt? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)** COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 (7)	Other comment:
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006		
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 13 February 2015	DATE/TIME: 13 February 2015 1730
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		**RELINQUISHED BY:** KS	**RECEIVED BY:**
		DATE/TIME: 16-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
23	BH22 0.0-0.6 A	13/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
24	BH22 0.0-0.6B	13/02/2015	S	Bag (White label)	1		1							
25	BH22 0.3 B (should say ' V')	13/02/2015	S	Bag (White label)	1		1							Please change the name of this sample to BH22 0.3 V
				TOTAL	4	1	2							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (8)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (8)	Other comment:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*	KS	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		13 February 2015	13 February 2015 1730	16-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
26	BH27 0.0-0.35 A	13/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
27	BH27 0.0-0.35 B	13/02/2015	S	Bag (White label)	1		1							
28	BH27 0.3V	13/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle): Custody Seal Intact? Yes / No / N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 9	Random Sample Temperature on Receipt: °C
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 12	Other comment:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		13 February 2015	13 February 2015 1730

RELINQUISHED BY:	RECEIVED BY:
KS	
DATE/TIME: 16-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
29	WB21 0.0-0.5 A	13/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
30	WB21 0.5-1.0 A	13/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
31	WB21 0.0-0.5 B	13/02/2015	S	Bag (White label)	1		1							
32	WB21 0.5-1.0 B	13/02/2015	S	Bag (White label)	1		1							
33	WB21 0.3V	13/02/2015	S	Glass Jar (150 ml)	1			1						
34	WB21 0.7V	13/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle): Custody Seal Intact? Yes No N/A; Free ice / frozen ice bricks present upon receipt? Yes No N/A; Random Sample Temperature on Receipt: °C; Other comment:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (10) OF: 1 2 3 4 5 6 (12)	
ORDER NUMBER: 245563			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 13 February 2015	DATE/TIME: 13 February 2015 1730
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: KS	RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 16-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
35	WB22 0.0-0.5 A	13/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
36	WB22 0.5-1.0 A	13/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
37	WB22 0.0-0.5 B	13/02/2015	S	Bag (White label)	1		1							
38	WB22 0.5-1.0 B	13/02/2015	S	Bag (White label)	1		1							
39	WB22 0.3V	13/02/2015	S	Glass Jar (150 ml)	1			1						
40	WB22 0.7V	13/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle): Custody Seal Intact? Yes No N/A; Free ice / frozen ice bricks present upon receipt? Yes No N/A; Random Sample Temperature on Receipt: °C; Other comment:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (4) OF: 1 2 3 4 5 6 (12)	
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr DATE/TIME: 13 February 2015	RECEIVED BY: Kelly Schafer DATE/TIME: 13 February 2015 1730
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 16-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
41	WB24 0.0-0.5 A	13/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
42	WB24 0.5-0.8 A	13/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
43	WB24 0.0-0.5 B	13/02/2015	S	Bag (White label)	1		1							
44	WB24 0.5-0.8 B	13/02/2015	S	Bag (White label)	1		1							
45	WB24 0.3V	13/02/2015	S	Glass Jar (150 ml)	1			1						
46	WB24 0.7V	13/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS: ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle):
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date):	5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (12)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (13)	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		13 February 2015	13 February 2015 1730

RELINQUISHED BY:	RECEIVED BY:
KS	
DATE/TIME: 16-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	Rinsate Suite	Trip blank suite	
47	Trip Blank 10	13/02/2015	S	Pre-filled glass jar	1								1	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
48	Rinsate 10	13/02/2015	W	Bottle	8							1		
				TOTAL	9							1	1	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

CHAIN OF CUSTODY

ALS Laboratory: please tick →

☐ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
☐BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
☐GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
☐MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
☐MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
☐MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
☐NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
☐NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
☐PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
☐SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
☐TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townesville.environmental@alsglobal.com
☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround		Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (3)	Random Sample Temperature on Receipt °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (3)	Other comments:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		13 February 2015	13 February 2015 1730	16-2-15 1600

RECEIVED BY:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	Rinsate Suite	Trip blank suite	
49	Triplicate 10A	12/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
50	Triplicate 10B	12/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
				TOTAL	4	2								

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

SAMPLE RECEIPT INFORMATION & BOTTLE TYPE

CONWAG

WORKORDER No: ES1503683

To be completed by Sample Receipt						Samples checked, labelled and put in trays by:	Analysis creation by: (Starlims only)
Sorting Times *(Only record for BP, Mobil & URS)*	**Temperature Details** (record if NOT on COC)		**Packaging**		**Courier Details** (Mandatory for Quarantine)		
Time Sorting Commenced:	Sample Temp	'C	Seal Intact - Y / N / NA		Con Note:	Initial:	Initial:
Time Placed in Fridge:	Chilling Method - Circle If sample temp is less than 6'C it is not necessary to complete this section		**Type**	**No.**			
Sorting to Fridge Target Time <1 Hour			Esky		*Cells shaded grey don't need to be completed on this form if they are entered directly into LIMS/ANGEL by Sample Receipt staff.*		
	Ice / Ice Bricks / No Chilling		Other				

Sample Receipt Advice Comments - To be completed by Sorting Staff

VOC analysis may be compromised as sample containers contained **headspace** *(list):*

Details of any samples damaged during transit:

Other Information (eg. Were bottles received that weren't completely filled) (eg. If sample temperature is above 6'C add further detail here - *Internal use only - Not for SRN*):

Samples oiginally received at ALS Gladstone - Date - Temp and forward to ALS Sydney for Analysis.

BOTTLES LOGGED AND LABELLED ◯

Metals Bottles: F = Field filtered. T = Total. N/S = Not Specified.
Cyanide Bottles: Tr = Treated, meaning the client has ticked the pre-treated box on the bottle. Un = Untreated, meaning the box is not ticked.
Ferrous Iron, Hexavalent Chromium & Geosmin and MIB: F = Field filtered. N/S = Not Specified.
Soil Bags: S = Small. M = Medium (~500mL asbestos or PSD bag). L = Large (~6kg FMT bag)

Lab No.	S-						SV-				Scores by	V(Vial)"					T(Vial)"			W-				P-		OG-	M-										IN-										Micro			UTW-			Crypto Lab	Other
	Soil Jar	Sediment Jar	SOIL BAG CIRCE Plastic / Paper Frozen / Not Frozen			Potential ACM Board	Glass Orange (SVOC)		Grey HDPE - No PTFE (PFOS & PFOA etc)		Red Glass (AOX)	Purple (VOC)	Dark Blue / White (Halo Acetic Acids)	Grey (Acrylamide Acrolein)	Green (Geosmin & MIB)			Purple		Black on White EDA pres'vd (Eborn)	Natural Plastic Green			White Plastic Green (Chlorine)	Plastic Purple (Nutrien, Total Phenols & COD)		Purple Glass (O&G)	Standard Metal Bottle			ORC Metal Bottle			Maroon on White Plastic (As / Se Specia'n)	Blue White Plastic (CN)		Yellow Plastic (Sulfide)	Light Blue Plastic (UHS)	Light Orange Plastic (Sulfite)	Maroon Plastic (Ferrous Iron)		Blue Plastic (Cr VI)		Brown/ Green Stripe Glass (Surf't or Alkyl Ethox's)	Sterile Micro Jar		Dark Green White Plastic (Algae)	Light Green & White Plastic (UT Nutrients - Unfiltered)	Turquoise & White Plastic (UT Nutrients - Filtered)	Plastic Carboy (Crypto & Giardia)	
																	TOC	DOC									CIRCLE Red OR Red / Green			CIRCLE Red OR Red / Green															Black	Grey						
	150	250	S	M	L	Bag	100	500	60	125	500	40	40	40	F	N/S	40	40	40mL	1L	500	250	1L	60	125	250mL	F	T	N/S	F	T	N/S	60	Tr	Un	125	250	250	F	N/S	F	N/S	500	120	250	500mL	60	60	10L	
	This line allows for an initial indication of bottle types received without specifying the exact number for each sample. When using this function tick the boxes matching the containers received for this work order.																																																
1																																																	
2																																																	
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ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1503683**	Page	: 1 of 67
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553		
C-O-C number	: ----	Date Samples Received	: 17-FEB-2015
Sampler	: GK	Issue Date	: 10-MAR-2015
Site	: ----		
		No. of samples received	: 50
Quote number	: SY/1021/14 V2	No. of samples analysed	: 50

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.**
- **EA150H: Soil Particle Density as required for Hydrometer analysis according to AS 1289.3.6.3 2003 was unable to be performed on sample #024 as insufficient sample was supplied by the client. Typical SPD values used for calculations and consequently NATA endorsement does not apply to hydrometer results.**
- **EP090: Sample 'BH6 0.0-0.8A' shows poor matrix spike recovery for Monobutyltin due to matrix interference.**

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Ashesh Patel	Inorganic Chemist	Sydney Inorganics
Dianne Blane	Laboratory Coordinator (2IC)	Newcastle - Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Organics
Phalak Inthakesone	Laboratory Manager - Organics	Sydney Inorganics
Ryan Story	2IC Organic Instrument Chemist	Brisbane Organics
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils
Shobhna Chandra	Metals Coordinator	Sydney Inorganics
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH1 0.0-0.5A	BH1 0.0-0.5B	BH1 0.3V	BH6 0.0-0.8A	BH6 0.0-0.8B
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-001	ES1503683-002	ES1503683-003	ES1503683-004	ES1503683-005
EA150: Particle Sizing									
+75µm	----	1	%		----	**16**	----	----	**71**
+150µm	----	1	%		----	**4**	----	----	**58**
+300µm	----	1	%		----	<1	----	----	**44**
+425µm	----	1	%		----	<1	----	----	**40**
+600µm	----	1	%		----	<1	----	----	**38**
+1180µm	----	1	%		----	<1	----	----	**36**
+2.36mm	----	1	%		----	<1	----	----	**34**
+4.75mm	----	1	%		----	<1	----	----	**33**
+9.5mm	----	1	%		----	<1	----	----	**29**
+19.0mm	----	1	%		----	<1	----	----	**29**
+37.5mm	----	1	%		----	<1	----	----	<1
+75.0mm	----	1	%		----	<1	----	----	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**21.4**	----	**20.0**	**21.3**	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	**33**	----	----	**12**
Silt (2-60 µm)	----	1	%		----	**40**	----	----	**11**
Sand (0.06-2.00 mm)	----	1	%		----	**27**	----	----	**42**
Gravel (>2mm)	----	1	%		----	<1	----	----	**35**
Cobbles (>6cm)	----	1	%		----	<1	----	----	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	**2.76**	----	----	**2.73**
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**16400**	----	----	**5940**	----
Iron	7439-89-6	50	mg/kg		**30600**	----	----	**18100**	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	----	----	<0.50	----
Arsenic	7440-38-2	1.00	mg/kg		**4.60**	----	----	**4.73**	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	----	----	<0.1	----
Chromium	7440-47-3	1.0	mg/kg		**22.7**	----	----	**11.1**	----
Copper	7440-50-8	1.0	mg/kg		**40.4**	----	----	**14.5**	----
Cobalt	7440-48-4	0.5	mg/kg		**14.9**	----	----	**7.8**	----
Lead	7439-92-1	1.0	mg/kg		**4.7**	----	----	**2.8**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH1 0.0-0.5A	BH1 0.0-0.5B	BH1 0.3V	BH6 0.0-0.8A	BH6 0.0-0.8B
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-001	ES1503683-002	ES1503683-003	ES1503683-004	ES1503683-005
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		**391**	----	----	**93**	----
Nickel	7440-02-0	1.0	mg/kg		**14.8**	----	----	**6.3**	----
Selenium	7782-49-2	0.1	mg/kg		**0.5**	----	----	**0.8**	----
Silver	7440-22-4	0.1	mg/kg		<0.1	----	----	<0.1	----
Vanadium	7440-62-2	2.0	mg/kg		**81.4**	----	----	**55.5**	----
Zinc	7440-66-6	1.0	mg/kg		**55.6**	----	----	**23.0**	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		**0.01**	----	----	<0.01	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	<0.1	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	<0.1	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	<0.1	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		**90**	----	----	**50**	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		**90**	----	----	**50**	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		**354**	----	----	**110**	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		**0.6**	----	----	**0.7**	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		**0.13**	----	----	**0.10**	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	----	----	<3	----
>C16 - C34 Fraction	----	3	mg/kg		<3	----	----	<3	----
>C34 - C40 Fraction	----	5	mg/kg		<5	----	----	<5	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	----	----	<3	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	<3	----	----
C10 - C14 Fraction	----	3	mg/kg		<3	----	----	<3	----
C15 - C28 Fraction	----	3	mg/kg		<3	----	----	<3	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH1 0.0-0.5A	BH1 0.0-0.5B	BH1 0.3V	BH6 0.0-0.8A	BH6 0.0-0.8B
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-001	ES1503683-002	ES1503683-003	ES1503683-004	ES1503683-005
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	----	----	<5	----
^ **C10 - C36 Fraction (sum)**	----	3	mg/kg		<3	----	----	<3	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	<3	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	<0.2	----	----
Toluene	108-88-3	0.2	mg/kg		----	----	<0.2	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	<0.2	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	<0.2	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	<0.2	----	----
^ **Total Xylenes**	1330-20-7	0.5	mg/kg		----	----	<0.5	----	----
^ **Sum of BTEX**	----	0.2	mg/kg		----	----	<0.2	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	----	----	<1	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	----	----	<1	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	----	----	<0.5	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	----	----	<10	----
Carbophenothion	786-19-6	10	µg/kg		<10	----	----	<10	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	----	----	<10.0	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	----	----	<10	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	----	----	<10	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	----	----	<10	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	----	----	<10	----
Diazinon	333-41-5	10	µg/kg		<10	----	----	<10	----
Dichlorvos	62-73-7	10	µg/kg		<10	----	----	<10	----
Dimethoate	60-51-5	10	µg/kg		<10	----	----	<10	----
Ethion	563-12-2	10	µg/kg		<10	----	----	<10	----
Fenamiphos	22224-92-6	10	µg/kg		<10	----	----	<10	----
Fenthion	55-38-9	10	µg/kg		<10	----	----	<10	----
Malathion	121-75-5	10	µg/kg		<10	----	----	<10	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	----	----	<10	----
Monocrotophos	6923-22-4	10	µg/kg		<10	----	----	<10	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH1 0.0-0.5A	BH1 0.0-0.5B	BH1 0.3V	BH6 0.0-0.8A	BH6 0.0-0.8B
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-001	ES1503683-002	ES1503683-003	ES1503683-004	ES1503683-005
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	----	----	<10	----
Parathion-methyl	298-00-0	10	µg/kg		<10	----	----	<10	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	----	----	<10	----
Prothiofos	34643-46-4	10	µg/kg		<10	----	----	<10	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	----	----	<0.50	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	----	----	<0.50	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	----	----	<0.50	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	----	----	<0.50	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	----	----	<0.50	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	----	----	<0.50	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	----	----	<0.50	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	----	----	<0.50	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	----	----	<0.50	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	----	----	<0.50	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	----	----	<0.50	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	----	----	<0.50	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	----	----	<0.50	----
Endrin	72-20-8	0.50	µg/kg		<0.50	----	----	<0.50	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	----	----	<0.50	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	----	----	<0.50	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	----	----	<0.50	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	----	----	<0.50	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	----	----	<0.50	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	----	----	<0.25	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	----	----	<0.50	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	----	----	<0.25	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	----	----	<0.25	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	----	----	<0.25	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	----	----	<0.50	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	----	----	<5.0	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH1 0.0-0.5A	BH1 0.0-0.5B	BH1 0.3V	BH6 0.0-0.8A	BH6 0.0-0.8B
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-001	ES1503683-002	ES1503683-003	ES1503683-004	ES1503683-005
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	----	----	<5.0	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	----	----	<5	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	----	----	<5	----
Acenaphthylene	208-96-8	4	µg/kg		<4	----	----	<4	----
Acenaphthene	83-32-9	4	µg/kg		<4	----	----	<4	----
Fluorene	86-73-7	4	µg/kg		<4	----	----	<4	----
Phenanthrene	85-01-8	4	µg/kg		<4	----	----	<4	----
Anthracene	120-12-7	4	µg/kg		<4	----	----	<4	----
Fluoranthene	206-44-0	4	µg/kg		<4	----	----	<4	----
Pyrene	129-00-0	4	µg/kg		<4	----	----	<4	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	----	----	<4	----
Chrysene	218-01-9	4	µg/kg		<4	----	----	<4	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	----	----	<4	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	----	----	<4	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	----	----	<4	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	----	----	<4	----
Perylene	198-55-0	4	µg/kg		<4	----	----	<4	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	----	----	<4	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	----	----	<4	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	----	----	<4	----
Coronene	191-07-1	5	µg/kg		<5	----	----	<5	----
^ **Sum of PAHs**	----	4	µg/kg		<4	----	----	<4	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	**99.9**	----	----
Toluene-D8	2037-26-5	0.1	%		----	----	**81.4**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	**93.4**	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**96.0**	----	----	**108**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH1 0.0-0.5A	BH1 0.0-0.5B	BH1 0.3V	BH6 0.0-0.8A	BH6 0.0-0.8B
			Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503683-001	ES1503683-002	ES1503683-003	ES1503683-004	ES1503683-005
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**76.1**	----	----	**85.8**	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**91.8**	----	----	**79.0**	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**96.5**	----	----	**80.0**	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**84.5**	----	----	**88.3**	----
Anthracene-d10	1719-06-8	0.1	%	**123**	----	----	**116**	----
4-Terphenyl-d14	1718-51-0	0.1	%	**109**	----	----	**110**	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH6 0.3V	BH6 0.7V	BH10 0.0-0.3A	BH10 0.0-0.3B	BH10 0.0V
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-006	ES1503683-007	ES1503683-008	ES1503683-009	ES1503683-010
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	**32**	----
+150µm	----	1	%		----	----	----	**28**	----
+300µm	----	1	%		----	----	----	**20**	----
+425µm	----	1	%		----	----	----	**17**	----
+600µm	----	1	%		----	----	----	**15**	----
+1180µm	----	1	%		----	----	----	**12**	----
+2.36mm	----	1	%		----	----	----	**9**	----
+4.75mm	----	1	%		----	----	----	**7**	----
+9.5mm	----	1	%		----	----	----	**6**	----
+19.0mm	----	1	%		----	----	----	<1	----
+37.5mm	----	1	%		----	----	----	<1	----
+75.0mm	----	1	%		----	----	----	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**24.2**	**16.6**	**22.2**	----	**23.2**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	**30**	----
Silt (2-60 µm)	----	1	%		----	----	----	**31**	----
Sand (0.06-2.00 mm)	----	1	%		----	----	----	**29**	----
Gravel (>2mm)	----	1	%		----	----	----	**10**	----
Cobbles (>6cm)	----	1	%		----	----	----	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	**2.72**	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	**13300**	----	----
Iron	7439-89-6	50	mg/kg		----	----	**25500**	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	<0.50	----	----
Arsenic	7440-38-2	1.00	mg/kg		----	----	**6.73**	----	----
Cadmium	7440-43-9	0.1	mg/kg		----	----	<0.1	----	----
Chromium	7440-47-3	1.0	mg/kg		----	----	**26.1**	----	----
Copper	7440-50-8	1.0	mg/kg		----	----	**25.9**	----	----
Cobalt	7440-48-4	0.5	mg/kg		----	----	**16.4**	----	----
Lead	7439-92-1	1.0	mg/kg		----	----	**8.1**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH6 0.3V	BH6 0.7V	BH10 0.0-0.3A	BH10 0.0-0.3B	BH10 0.0V
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-006	ES1503683-007	ES1503683-008	ES1503683-009	ES1503683-010
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	**733**	----	----
Nickel	7440-02-0	1.0	mg/kg		----	----	**15.9**	----	----
Selenium	7782-49-2	0.1	mg/kg		----	----	**0.8**	----	----
Silver	7440-22-4	0.1	mg/kg		----	----	<0.1	----	----
Vanadium	7440-62-2	2.0	mg/kg		----	----	**57.4**	----	----
Zinc	7440-66-6	1.0	mg/kg		----	----	**52.8**	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	**0.04**	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	**190**	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	**190**	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	**273**	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	**1.7**	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	**0.21**	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	<3	----	----
>C16 - C34 Fraction	----	3	mg/kg		----	----	**5**	----	----
>C34 - C40 Fraction	----	5	mg/kg		----	----	<5	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	**5**	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	<3	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		----	----	<3	----	----
C15 - C28 Fraction	----	3	mg/kg		----	----	<3	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH6 0.3V	BH6 0.7V	BH10 0.0-0.3A	BH10 0.0-0.3B	BH10 0.0V
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-006	ES1503683-007	ES1503683-008	ES1503683-009	ES1503683-010
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	<5	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	<3	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	<3	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	<0.5	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	<1	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	<1	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	<0.5	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	<10	----	----
Carbophenothion	786-19-6	10	µg/kg		----	----	<10	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	<10.0	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	<10	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	<10	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	<10	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	<10	----	----
Diazinon	333-41-5	10	µg/kg		----	----	<10	----	----
Dichlorvos	62-73-7	10	µg/kg		----	----	<10	----	----
Dimethoate	60-51-5	10	µg/kg		----	----	<10	----	----
Ethion	563-12-2	10	µg/kg		----	----	<10	----	----
Fenamiphos	22224-92-6	10	µg/kg		----	----	<10	----	----
Fenthion	55-38-9	10	µg/kg		----	----	<10	----	----
Malathion	121-75-5	10	µg/kg		----	----	<10	----	----
Azinphos Methyl	86-50-0	10	µg/kg		----	----	<10	----	----
Monocrotophos	6923-22-4	10	µg/kg		----	----	<10	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH6 0.3V	BH6 0.7V	BH10 0.0-0.3A	BH10 0.0-0.3B	BH10 0.0V
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503683-006	ES1503683-007	ES1503683-008	ES1503683-009	ES1503683-010
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	<10	----	----
Parathion-methyl	298-00-0	10	µg/kg		----	----	<10	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	<10	----	----
Prothiofos	34643-46-4	10	µg/kg		----	----	<10	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg		----	----	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg		----	----	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg		----	----	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	<0.50	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	<0.50	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	----	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		----	----	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	<0.50	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	----	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		----	----	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg		----	----	<0.50	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	<0.50	----	----
gamma-BHC	58-89-9	0.25	µg/kg		----	----	<0.25	----	----
Methoxychlor	72-43-5	0.50	µg/kg		----	----	<0.50	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	<0.25	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	<0.25	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		----	----	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	<5.0	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH6 0.3V	BH6 0.7V	BH10 0.0-0.3A	BH10 0.0-0.3B	BH10 0.0V
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-006	ES1503683-007	ES1503683-008	ES1503683-009	ES1503683-010
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	<5.0	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	<5	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	<5	----	----
Acenaphthylene	208-96-8	4	µg/kg		----	----	<4	----	----
Acenaphthene	83-32-9	4	µg/kg		----	----	<4	----	----
Fluorene	86-73-7	4	µg/kg		----	----	<4	----	----
Phenanthrene	85-01-8	4	µg/kg		----	----	<4	----	----
Anthracene	120-12-7	4	µg/kg		----	----	<4	----	----
Fluoranthene	206-44-0	4	µg/kg		----	----	<4	----	----
Pyrene	129-00-0	4	µg/kg		----	----	<4	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	<4	----	----
Chrysene	218-01-9	4	µg/kg		----	----	<4	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	<4	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	<4	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	<4	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	<4	----	----
Perylene	198-55-0	4	µg/kg		----	----	<4	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	<4	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	<4	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	<4	----	----
Coronene	191-07-1	5	µg/kg		----	----	<5	----	----
^ **Sum of PAHs**	----	4	µg/kg		----	----	<4	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**80.2**	**78.4**	----	----	**83.9**
Toluene-D8	2037-26-5	0.1	%		**74.4**	**81.9**	----	----	**87.2**
4-Bromofluorobenzene	460-00-4	0.1	%		**90.2**	**92.9**	----	----	**95.0**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	**91.8**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH6 0.3V	BH6 0.7V	BH10 0.0-0.3A	BH10 0.0-0.3B	BH10 0.0V
			Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503683-006	ES1503683-007	ES1503683-008	ES1503683-009	ES1503683-010
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	81.2	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	50.2	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	75.0	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	82.2	----	----
Anthracene-d10	1719-06-8	0.1	%	----	----	116	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	100	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH10 0.3V	BH15 0.0-0.5A	BH15 0.5-1.0A	BH15 0.0-0.5B	BH15 0.3V
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-011	ES1503683-012	ES1503683-013	ES1503683-014	ES1503683-015
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	**95**	----
+150µm	----	1	%		----	----	----	**93**	----
+300µm	----	1	%		----	----	----	**87**	----
+425µm	----	1	%		----	----	----	**80**	----
+600µm	----	1	%		----	----	----	**67**	----
+1180µm	----	1	%		----	----	----	**41**	----
+2.36mm	----	1	%		----	----	----	**26**	----
+4.75mm	----	1	%		----	----	----	**16**	----
+9.5mm	----	1	%		----	----	----	**6**	----
+19.0mm	----	1	%		----	----	----	**6**	----
+37.5mm	----	1	%		----	----	----	<1	----
+75.0mm	----	1	%		----	----	----	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**20.1**	**18.0**	**20.8**	----	**21.9**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	**3**	----
Silt (2-60 µm)	----	1	%		----	----	----	**1**	----
Sand (0.06-2.00 mm)	----	1	%		----	----	----	**65**	----
Gravel (>2mm)	----	1	%		----	----	----	**31**	----
Cobbles (>6cm)	----	1	%		----	----	----	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	**2.68**	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	**3810**	**7590**	----	----
Iron	7439-89-6	50	mg/kg		----	**9580**	**15500**	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	<0.50	<0.50	----	----
Arsenic	7440-38-2	1.00	mg/kg		----	**9.56**	**18.4**	----	----
Cadmium	7440-43-9	0.1	mg/kg		----	<0.1	<0.1	----	----
Chromium	7440-47-3	1.0	mg/kg		----	**6.4**	**12.7**	----	----
Copper	7440-50-8	1.0	mg/kg		----	**4.1**	**8.7**	----	----
Cobalt	7440-48-4	0.5	mg/kg		----	**4.5**	**6.8**	----	----
Lead	7439-92-1	1.0	mg/kg		----	**2.2**	**4.4**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH10 0.3V	BH15 0.0-0.5A	BH15 0.5-1.0A	BH15 0.0-0.5B	BH15 0.3V
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-011	ES1503683-012	ES1503683-013	ES1503683-014	ES1503683-015
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	313	268	----	----
Nickel	7440-02-0	1.0	mg/kg		----	3.9	7.1	----	----
Selenium	7782-49-2	0.1	mg/kg		----	0.3	0.4	----	----
Silver	7440-22-4	0.1	mg/kg		----	<0.1	<0.1	----	----
Vanadium	7440-62-2	2.0	mg/kg		----	24.1	33.9	----	----
Zinc	7440-66-6	1.0	mg/kg		----	10.3	21.8	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	<0.01	<0.01	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	70	160	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	70	160	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	146	193	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	0.8	1.3	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	0.10	0.15	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	<3	<3	----	----
>C16 - C34 Fraction	----	3	mg/kg		----	<3	3	----	----
>C34 - C40 Fraction	----	5	mg/kg		----	<5	<5	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	<3	3	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	----	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		----	<3	<3	----	----
C15 - C28 Fraction	----	3	mg/kg		----	<3	<3	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH10 0.3V	BH15 0.0-0.5A	BH15 0.5-1.0A	BH15 0.0-0.5B	BH15 0.3V
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-011	ES1503683-012	ES1503683-013	ES1503683-014	ES1503683-015
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	<5	<5	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	<3	<3	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	----	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		<0.2	----	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	----	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	----	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	----	----	----	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	----	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	<1	<1	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	<1	<1	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	<0.5	<0.5	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	<10	<10	----	----
Carbophenothion	786-19-6	10	µg/kg		----	<10	<10	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	<10.0	<10.0	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	<10	<10	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	<10	<10	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	<10	<10	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	<10	<10	----	----
Diazinon	333-41-5	10	µg/kg		----	<10	<10	----	----
Dichlorvos	62-73-7	10	µg/kg		----	<10	<10	----	----
Dimethoate	60-51-5	10	µg/kg		----	<10	<10	----	----
Ethion	563-12-2	10	µg/kg		----	<10	<10	----	----
Fenamiphos	22224-92-6	10	µg/kg		----	<10	<10	----	----
Fenthion	55-38-9	10	µg/kg		----	<10	<10	----	----
Malathion	121-75-5	10	µg/kg		----	<10	<10	----	----
Azinphos Methyl	86-50-0	10	µg/kg		----	<10	<10	----	----
Monocrotophos	6923-22-4	10	µg/kg		----	<10	<10	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH10 0.3V	BH15 0.0-0.5A	BH15 0.5-1.0A	BH15 0.0-0.5B	BH15 0.3V
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-011	ES1503683-012	ES1503683-013	ES1503683-014	ES1503683-015
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	<10	<10	----	----
Parathion-methyl	298-00-0	10	µg/kg		----	<10	<10	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	<10	<10	----	----
Prothiofos	34643-46-4	10	µg/kg		----	<10	<10	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg		----	<0.50	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	<0.50	<0.50	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	<0.50	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	<0.50	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	<0.50	<0.50	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	<0.50	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	<0.50	<0.50	----	----
gamma-BHC	58-89-9	0.25	µg/kg		----	<0.25	<0.25	----	----
Methoxychlor	72-43-5	0.50	µg/kg		----	<0.50	<0.50	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	<0.25	<0.25	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	<0.25	<0.25	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		----	<0.25	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	<0.50	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	<5.0	<5.0	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH10 0.3V	BH15 0.0-0.5A	BH15 0.5-1.0A	BH15 0.0-0.5B	BH15 0.3V
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-011	ES1503683-012	ES1503683-013	ES1503683-014	ES1503683-015
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	<5.0	<5.0	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	<5	<5	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	<5	<5	----	----
Acenaphthylene	208-96-8	4	µg/kg		----	<4	<4	----	----
Acenaphthene	83-32-9	4	µg/kg		----	<4	<4	----	----
Fluorene	86-73-7	4	µg/kg		----	<4	<4	----	----
Phenanthrene	85-01-8	4	µg/kg		----	<4	<4	----	----
Anthracene	120-12-7	4	µg/kg		----	<4	<4	----	----
Fluoranthene	206-44-0	4	µg/kg		----	<4	<4	----	----
Pyrene	129-00-0	4	µg/kg		----	<4	<4	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	<4	<4	----	----
Chrysene	218-01-9	4	µg/kg		----	<4	<4	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	<4	<4	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	<4	<4	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	<4	<4	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	<4	<4	----	----
Perylene	198-55-0	4	µg/kg		----	<4	<4	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	<4	<4	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	<4	<4	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	<4	<4	----	----
Coronene	191-07-1	5	µg/kg		----	<5	<5	----	----
^ **Sum of PAHs**	----	4	µg/kg		----	<4	<4	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**77.0**	----	----	----	**88.0**
Toluene-D8	2037-26-5	0.1	%		**84.7**	----	----	----	**93.7**
4-Bromofluorobenzene	460-00-4	0.1	%		**94.6**	----	----	----	**104**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	**104**	**74.5**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH10 0.3V	BH15 0.0-0.5A	BH15 0.5-1.0A	BH15 0.0-0.5B	BH15 0.3V
			Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503683-011	ES1503683-012	ES1503683-013	ES1503683-014	ES1503683-015
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	68.7	83.5	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	53.8	62.1	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	62.5	62.5	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	85.1	83.3	----	----
Anthracene-d10	1719-06-8	0.1	%	----	113	118	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	112	119	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH15 0.7V	BH17 0.0-0.1A	BH17 0.0-0.1B	BH17 0.0V	BH21 0.0-0.6A
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-016	ES1503683-017	ES1503683-018	ES1503683-019	ES1503683-020
EA150: Particle Sizing									
+75µm	----	1	%		----	----	**99**	----	----
+150µm	----	1	%		----	----	**99**	----	----
+300µm	----	1	%		----	----	**98**	----	----
+425µm	----	1	%		----	----	**97**	----	----
+600µm	----	1	%		----	----	**92**	----	----
+1180µm	----	1	%		----	----	**51**	----	----
+2.36mm	----	1	%		----	----	**22**	----	----
+4.75mm	----	1	%		----	----	**6**	----	----
+9.5mm	----	1	%		----	----	<1	----	----
+19.0mm	----	1	%		----	----	<1	----	----
+37.5mm	----	1	%		----	----	<1	----	----
+75.0mm	----	1	%		----	----	<1	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**18.2**	**20.6**	----	**15.8**	**19.0**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	<1	----	----
Silt (2-60 µm)	----	1	%		----	----	**1**	----	----
Sand (0.06-2.00 mm)	----	1	%		----	----	**68**	----	----
Gravel (>2mm)	----	1	%		----	----	**31**	----	----
Cobbles (>6cm)	----	1	%		----	----	<1	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	**2.66**	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	**3160**	----	----	**5970**
Iron	7439-89-6	50	mg/kg		----	**12000**	----	----	**16600**
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	<0.50	----	----	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	**17.1**	----	----	**10.8**
Cadmium	7440-43-9	0.1	mg/kg		----	<0.1	----	----	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	**5.4**	----	----	**10.6**
Copper	7440-50-8	1.0	mg/kg		----	**5.6**	----	----	**7.8**
Cobalt	7440-48-4	0.5	mg/kg		----	**8.0**	----	----	**7.2**
Lead	7439-92-1	1.0	mg/kg		----	**2.6**	----	----	**3.3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH15 0.7V	BH17 0.0-0.1A	BH17 0.0-0.1B	BH17 0.0V	BH21 0.0-0.6A
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-016	ES1503683-017	ES1503683-018	ES1503683-019	ES1503683-020
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	**691**	----	----	**1160**
Nickel	7440-02-0	1.0	mg/kg		----	**5.4**	----	----	**6.7**
Selenium	7782-49-2	0.1	mg/kg		----	**0.3**	----	----	**0.4**
Silver	7440-22-4	0.1	mg/kg		----	<0.1	----	----	<0.1
Vanadium	7440-62-2	2.0	mg/kg		----	**33.2**	----	----	**40.2**
Zinc	7440-66-6	1.0	mg/kg		----	**13.8**	----	----	**20.7**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	<0.01	----	----	<0.01
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	<0.1	----	----	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	----	----	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	----	----	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	**80**	----	----	**160**
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	**80**	----	----	**160**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	**183**	----	----	**144**
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	**1.9**	----	----	**0.5**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	**0.05**	----	----	**0.12**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	<3	----	----	<3
>C16 - C34 Fraction	----	3	mg/kg		----	<3	----	----	**3**
>C34 - C40 Fraction	----	5	mg/kg		----	<5	----	----	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	<3	----	----	**3**
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	----	----	<3	----
C10 - C14 Fraction	----	3	mg/kg		----	<3	----	----	<3
C15 - C28 Fraction	----	3	mg/kg		----	<3	----	----	<3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH15 0.7V	BH17 0.0-0.1A	BH17 0.0-0.1B	BH17 0.0V	BH21 0.0-0.6A
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503683-016	ES1503683-017	ES1503683-018	ES1503683-019	ES1503683-020
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	<5	----	----	<5
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	<3	----	----	<3
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	----	----	<3	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	<0.2	----
Toluene	108-88-3	0.2	mg/kg		<0.2	----	----	<0.2	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	----	----	<0.2	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	----	----	<0.2	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	----	----	<0.2	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	----	----	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	<0.2	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	<1	----	----	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	<1	----	----	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	<0.5	----	----	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	<10	----	----	<10
Carbophenothion	786-19-6	10	µg/kg		----	<10	----	----	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	<10.0	----	----	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	<10	----	----	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	<10	----	----	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	<10	----	----	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	<10	----	----	<10
Diazinon	333-41-5	10	µg/kg		----	<10	----	----	<10
Dichlorvos	62-73-7	10	µg/kg		----	<10	----	----	<10
Dimethoate	60-51-5	10	µg/kg		----	<10	----	----	<10
Ethion	563-12-2	10	µg/kg		----	<10	----	----	<10
Fenamiphos	22224-92-6	10	µg/kg		----	<10	----	----	<10
Fenthion	55-38-9	10	µg/kg		----	<10	----	----	<10
Malathion	121-75-5	10	µg/kg		----	<10	----	----	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	<10	----	----	<10
Monocrotophos	6923-22-4	10	µg/kg		----	<10	----	----	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH15 0.7V	BH17 0.0-0.1A	BH17 0.0-0.1B	BH17 0.0V	BH21 0.0-0.6A
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503683-016	ES1503683-017	ES1503683-018	ES1503683-019	ES1503683-020
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	<10	----	----	<10
Parathion-methyl	298-00-0	10	µg/kg		----	<10	----	----	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	<10	----	----	<10
Prothiofos	34643-46-4	10	µg/kg		----	<10	----	----	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	<0.50	----	----	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	<0.50	----	----	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	<0.50	----	----	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	<0.50	----	----	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	<0.50	----	----	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	<0.50	----	----	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	<0.50	----	----	<0.50
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	<0.50	----	----	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	<0.50	----	----	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	<0.50	----	----	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	<0.50	----	----	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	<0.50	----	----	<0.50
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	<0.50	----	----	<0.50
Endrin	72-20-8	0.50	µg/kg		----	<0.50	----	----	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	<0.50	----	----	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	<0.50	----	----	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	<0.50	----	----	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	<0.50	----	----	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	<0.50	----	----	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	<0.25	----	----	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	<0.50	----	----	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	<0.25	----	----	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	<0.25	----	----	<0.25
^ Total Chlordane (sum)	----	0.25	µg/kg		----	<0.25	----	----	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	<0.50	----	----	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	<5.0	----	----	<5.0

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH15 0.7V	BH17 0.0-0.1A	BH17 0.0-0.1B	BH17 0.0V	BH21 0.0-0.6A
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-016	ES1503683-017	ES1503683-018	ES1503683-019	ES1503683-020
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	<5.0	----	----	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	<5	----	----	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	<5	----	----	<5
Acenaphthylene	208-96-8	4	µg/kg		----	<4	----	----	<4
Acenaphthene	83-32-9	4	µg/kg		----	<4	----	----	<4
Fluorene	86-73-7	4	µg/kg		----	<4	----	----	<4
Phenanthrene	85-01-8	4	µg/kg		----	<4	----	----	<4
Anthracene	120-12-7	4	µg/kg		----	<4	----	----	<4
Fluoranthene	206-44-0	4	µg/kg		----	<4	----	----	**6**
Pyrene	129-00-0	4	µg/kg		----	<4	----	----	**6**
Benz(a)anthracene	56-55-3	4	µg/kg		----	<4	----	----	**5**
Chrysene	218-01-9	4	µg/kg		----	<4	----	----	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	<4	----	----	**8**
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	<4	----	----	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		----	<4	----	----	**5**
Benzo(a)pyrene	50-32-8	4	µg/kg		----	<4	----	----	**6**
Perylene	198-55-0	4	µg/kg		----	<4	----	----	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	<4	----	----	**5**
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	<4	----	----	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	<4	----	----	**5**
Coronene	191-07-1	5	µg/kg		----	<5	----	----	<5
^ **Sum of PAHs**	----	4	µg/kg		----	<4	----	----	**46**
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**98.4**	----	----	**94.1**	----
Toluene-D8	2037-26-5	0.1	%		**103**	----	----	**86.5**	----
4-Bromofluorobenzene	460-00-4	0.1	%		**111**	----	----	**95.5**	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	**43.2**	----	----	**100**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH15 0.7V	BH17 0.0-0.1A	BH17 0.0-0.1B	BH17 0.0V	BH21 0.0-0.6A
			Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503683-016	ES1503683-017	ES1503683-018	ES1503683-019	ES1503683-020
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	87.1	----	----	69.6
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	64.4	----	----	30.0
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	87.5	----	----	66.5
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	85.4	----	----	84.7
Anthracene-d10	1719-06-8	0.1	%	----	115	----	----	115
4-Terphenyl-d14	1718-51-0	0.1	%	----	114	----	----	117

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH21 0.0-0.6B	BH21 0.3V	BH22 0.0-0.6A	BH22 0.0-0.6B	BH22 0.3V
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-021	ES1503683-022	ES1503683-023	ES1503683-024	ES1503683-025
EA150: Particle Sizing									
+75µm	----	1	%		**92**	----	----	**99**	----
+150µm	----	1	%		**91**	----	----	**99**	----
+300µm	----	1	%		**89**	----	----	**99**	----
+425µm	----	1	%		**86**	----	----	**98**	----
+600µm	----	1	%		**81**	----	----	**97**	----
+1180µm	----	1	%		**70**	----	----	**96**	----
+2.36mm	----	1	%		**63**	----	----	**93**	----
+4.75mm	----	1	%		**61**	----	----	**87**	----
+9.5mm	----	1	%		**52**	----	----	**82**	----
+19.0mm	----	1	%		**34**	----	----	**82**	----
+37.5mm	----	1	%		<1	----	----	**36**	----
+75.0mm	----	1	%		<1	----	----	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	**18.6**	**13.9**	----	**13.9**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		**5**	----	----	**1**	----
Silt (2-60 µm)	----	1	%		**1**	----	----	<1	----
Sand (0.06-2.00 mm)	----	1	%		**29**	----	----	**5**	----
Gravel (>2mm)	----	1	%		**65**	----	----	**65**	----
Cobbles (>6cm)	----	1	%		<1	----	----	**29**	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		**2.68**	----	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	**6410**	----	----
Iron	7439-89-6	50	mg/kg		----	----	**16800**	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	<0.50	----	----
Arsenic	7440-38-2	1.00	mg/kg		----	----	**8.45**	----	----
Cadmium	7440-43-9	0.1	mg/kg		----	----	<0.1	----	----
Chromium	7440-47-3	1.0	mg/kg		----	----	**10.0**	----	----
Copper	7440-50-8	1.0	mg/kg		----	----	**10.1**	----	----
Cobalt	7440-48-4	0.5	mg/kg		----	----	**6.6**	----	----
Lead	7439-92-1	1.0	mg/kg		----	----	**6.5**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH21 0.0-0.6B	BH21 0.3V	BH22 0.0-0.6A	BH22 0.0-0.6B	BH22 0.3V
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-021	ES1503683-022	ES1503683-023	ES1503683-024	ES1503683-025
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	**279**	----	----
Nickel	7440-02-0	1.0	mg/kg		----	----	**6.9**	----	----
Selenium	7782-49-2	0.1	mg/kg		----	----	**0.4**	----	----
Silver	7440-22-4	0.1	mg/kg		----	----	<0.1	----	----
Vanadium	7440-62-2	2.0	mg/kg		----	----	**41.1**	----	----
Zinc	7440-66-6	1.0	mg/kg		----	----	**28.4**	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	<0.01	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	**170**	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	**170**	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	**163**	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	**0.7**	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	**0.05**	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	<3	----	----
>C16 - C34 Fraction	----	3	mg/kg		----	----	**4**	----	----
>C34 - C40 Fraction	----	5	mg/kg		----	----	<5	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	**4**	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	<3	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		----	----	<3	----	----
C15 - C28 Fraction	----	3	mg/kg		----	----	<3	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH21 0.0-0.6B	BH21 0.3V	BH22 0.0-0.6A	BH22 0.0-0.6B	BH22 0.3V
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-021	ES1503683-022	ES1503683-023	ES1503683-024	ES1503683-025
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	<5	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	<3	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	<3	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	<0.2	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		----	<0.2	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	<0.2	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	<0.2	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	<0.2	----	----	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	<0.5	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	<0.2	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	<1	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	<1	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	<0.5	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	<10	----	----
Carbophenothion	786-19-6	10	µg/kg		----	----	<10	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	<10.0	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	<10	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	<10	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	<10	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	<10	----	----
Diazinon	333-41-5	10	µg/kg		----	----	<10	----	----
Dichlorvos	62-73-7	10	µg/kg		----	----	<10	----	----
Dimethoate	60-51-5	10	µg/kg		----	----	<10	----	----
Ethion	563-12-2	10	µg/kg		----	----	<10	----	----
Fenamiphos	22224-92-6	10	µg/kg		----	----	<10	----	----
Fenthion	55-38-9	10	µg/kg		----	----	<10	----	----
Malathion	121-75-5	10	µg/kg		----	----	<10	----	----
Azinphos Methyl	86-50-0	10	µg/kg		----	----	<10	----	----
Monocrotophos	6923-22-4	10	µg/kg		----	----	<10	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH21 0.0-0.6B	BH21 0.3V	BH22 0.0-0.6A	BH22 0.0-0.6B	BH22 0.3V
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-021	ES1503683-022	ES1503683-023	ES1503683-024	ES1503683-025
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	<10	----	----
Parathion-methyl	298-00-0	10	µg/kg		----	----	<10	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	<10	----	----
Prothiofos	34643-46-4	10	µg/kg		----	----	<10	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg		----	----	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg		----	----	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg		----	----	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	<0.50	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	<0.50	----	----
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	----	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		----	----	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	<0.50	----	----
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	----	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		----	----	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg		----	----	<0.50	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	<0.50	----	----
gamma-BHC	58-89-9	0.25	µg/kg		----	----	<0.25	----	----
Methoxychlor	72-43-5	0.50	µg/kg		----	----	<0.50	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	<0.25	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	<0.25	----	----
^ **Total Chlordane (sum)**	----	0.25	µg/kg		----	----	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	<5.0	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH21 0.0-0.6B	BH21 0.3V	BH22 0.0-0.6A	BH22 0.0-0.6B	BH22 0.3V
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-021	ES1503683-022	ES1503683-023	ES1503683-024	ES1503683-025
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	<5.0	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	<5	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	<5	----	----
Acenaphthylene	208-96-8	4	µg/kg		----	----	<4	----	----
Acenaphthene	83-32-9	4	µg/kg		----	----	<4	----	----
Fluorene	86-73-7	4	µg/kg		----	----	<4	----	----
Phenanthrene	85-01-8	4	µg/kg		----	----	<4	----	----
Anthracene	120-12-7	4	µg/kg		----	----	<4	----	----
Fluoranthene	206-44-0	4	µg/kg		----	----	<4	----	----
Pyrene	129-00-0	4	µg/kg		----	----	<4	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	<4	----	----
Chrysene	218-01-9	4	µg/kg		----	----	<4	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	<4	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	<4	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	<4	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	<4	----	----
Perylene	198-55-0	4	µg/kg		----	----	<4	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	<4	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	<4	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	<4	----	----
Coronene	191-07-1	5	µg/kg		----	----	<5	----	----
^ **Sum of PAHs**	----	4	µg/kg		----	----	<4	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	**80.3**	----	----	**98.1**
Toluene-D8	2037-26-5	0.1	%		----	**75.2**	----	----	**90.0**
4-Bromofluorobenzene	460-00-4	0.1	%		----	**81.0**	----	----	**97.7**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	**92.5**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH21 0.0-0.6B	BH21 0.3V	BH22 0.0-0.6A	BH22 0.0-0.6B	BH22 0.3V
			Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503683-021	ES1503683-022	ES1503683-023	ES1503683-024	ES1503683-025
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	68.3	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	60.9	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	88.3	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	85.3	----	----
Anthracene-d10	1719-06-8	0.1	%	----	----	118	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	121	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH27 0.0-0.35A	BH27 0.0-0.35B	BH27 0.3V	WB21 0.0-0.5A	WB21 0.5-1.0A
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-026	ES1503683-027	ES1503683-028	ES1503683-029	ES1503683-030
EA150: Particle Sizing									
+75µm	----	1	%		----	**85**	----	----	----
+150µm	----	1	%		----	**84**	----	----	----
+300µm	----	1	%		----	**75**	----	----	----
+425µm	----	1	%		----	**56**	----	----	----
+600µm	----	1	%		----	**45**	----	----	----
+1180µm	----	1	%		----	**41**	----	----	----
+2.36mm	----	1	%		----	**35**	----	----	----
+4.75mm	----	1	%		----	**25**	----	----	----
+9.5mm	----	1	%		----	**7**	----	----	----
+19.0mm	----	1	%		----	<1	----	----	----
+37.5mm	----	1	%		----	<1	----	----	----
+75.0mm	----	1	%		----	<1	----	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**22.1**	----	**19.7**	**22.9**	**24.1**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	**9**	----	----	----
Silt (2-60 µm)	----	1	%		----	**3**	----	----	----
Sand (0.06-2.00 mm)	----	1	%		----	**51**	----	----	----
Gravel (>2mm)	----	1	%		----	**37**	----	----	----
Cobbles (>6cm)	----	1	%		----	<1	----	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	**2.71**	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**6170**	----	----	**4220**	**4140**
Iron	7439-89-6	50	mg/kg		**13300**	----	----	**11100**	**9960**
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	----	----	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		**11.8**	----	----	**13.5**	**9.30**
Cadmium	7440-43-9	0.1	mg/kg		<0.1	----	----	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg		**10.1**	----	----	**10.3**	**9.8**
Copper	7440-50-8	1.0	mg/kg		**5.8**	----	----	**2.7**	**2.7**
Cobalt	7440-48-4	0.5	mg/kg		**5.3**	----	----	**6.2**	**5.8**
Lead	7439-92-1	1.0	mg/kg		**3.6**	----	----	**2.8**	**2.7**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH27 0.0-0.35A	BH27 0.0-0.35B	BH27 0.3V	WB21 0.0-0.5A	WB21 0.5-1.0A
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-026	ES1503683-027	ES1503683-028	ES1503683-029	ES1503683-030
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		318	----	----	552	504
Nickel	7440-02-0	1.0	mg/kg		5.5	----	----	4.1	4.0
Selenium	7782-49-2	0.1	mg/kg		0.3	----	----	0.4	0.3
Silver	7440-22-4	0.1	mg/kg		<0.1	----	----	<0.1	<0.1
Vanadium	7440-62-2	2.0	mg/kg		31.7	----	----	25.5	22.2
Zinc	7440-66-6	1.0	mg/kg		18.3	----	----	15.1	13.9
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	----	----	<0.01	<0.01
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	<0.1	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	<0.1	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	<0.1	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		140	----	----	100	90
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		140	----	----	100	90
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		159	----	----	212	195
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		0.8	----	----	5.1	7.3
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		0.14	----	----	0.07	0.09
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	----	----	<3	<3
>C16 - C34 Fraction	----	3	mg/kg		<3	----	----	<3	<3
>C34 - C40 Fraction	----	5	mg/kg		<5	----	----	<5	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	----	----	<3	<3
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	<3	----	----
C10 - C14 Fraction	----	3	mg/kg		<3	----	----	<3	<3
C15 - C28 Fraction	----	3	mg/kg		<3	----	----	<3	<3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH27 0.0-0.35A	BH27 0.0-0.35B	BH27 0.3V	WB21 0.0-0.5A	WB21 0.5-1.0A
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503683-026	ES1503683-027	ES1503683-028	ES1503683-029	ES1503683-030
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	----	----	<5	<5
^ C10 - C36 Fraction (sum)	----	3	mg/kg		<3	----	----	<3	<3
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	<3	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	<0.2	----	----
Toluene	108-88-3	0.2	mg/kg		----	----	<0.2	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	<0.2	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	<0.2	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	<0.2	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	<0.5	----	----
^ Sum of BTEX	----	0.2	mg/kg		----	----	<0.2	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	----	----	<1	<1
Dibutyltin	1002-53-5	1	µgSn/kg		<1	----	----	<1	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	----	----	<0.5	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	----	----	<10	<10
Carbophenothion	786-19-6	10	µg/kg		<10	----	----	<10	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	----	----	<10.0	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	----	----	<10	<10
Chlorpyrifos	2921-88-2	10	µg/kg		<10	----	----	<10	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	----	----	<10	<10
Demeton-S-methyl	919-86-8	10	µg/kg		<10	----	----	<10	<10
Diazinon	333-41-5	10	µg/kg		<10	----	----	<10	<10
Dichlorvos	62-73-7	10	µg/kg		<10	----	----	<10	<10
Dimethoate	60-51-5	10	µg/kg		<10	----	----	<10	<10
Ethion	563-12-2	10	µg/kg		<10	----	----	<10	<10
Fenamiphos	22224-92-6	10	µg/kg		<10	----	----	<10	<10
Fenthion	55-38-9	10	µg/kg		<10	----	----	<10	<10
Malathion	121-75-5	10	µg/kg		<10	----	----	<10	<10
Azinphos Methyl	86-50-0	10	µg/kg		<10	----	----	<10	<10
Monocrotophos	6923-22-4	10	µg/kg		<10	----	----	<10	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH27 0.0-0.35A	BH27 0.0-0.35B	BH27 0.3V	WB21 0.0-0.5A	WB21 0.5-1.0A
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-026	ES1503683-027	ES1503683-028	ES1503683-029	ES1503683-030
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	----	----	<10	<10
Parathion-methyl	298-00-0	10	µg/kg		<10	----	----	<10	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	----	----	<10	<10
Prothiofos	34643-46-4	10	µg/kg		<10	----	----	<10	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
beta-BHC	319-85-7	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
delta-BHC	319-86-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Dieldrin	60-57-1	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Endrin	72-20-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Heptachlor	76-44-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	----	----	<0.25	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	----	----	<0.25	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	----	----	<0.25	<0.25
^ **Total Chlordane (sum)**	----	0.25	µg/kg		<0.25	----	----	<0.25	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	----	----	<5.0	<5.0

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH27 0.0-0.35A	BH27 0.0-0.35B	BH27 0.3V	WB21 0.0-0.5A	WB21 0.5-1.0A
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-026	ES1503683-027	ES1503683-028	ES1503683-029	ES1503683-030
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	----	----	<5	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	----	----	<5	<5
Acenaphthylene	208-96-8	4	µg/kg		<4	----	----	<4	<4
Acenaphthene	83-32-9	4	µg/kg		<4	----	----	<4	<4
Fluorene	86-73-7	4	µg/kg		<4	----	----	<4	<4
Phenanthrene	85-01-8	4	µg/kg		<4	----	----	<4	<4
Anthracene	120-12-7	4	µg/kg		<4	----	----	<4	<4
Fluoranthene	206-44-0	4	µg/kg		<4	----	----	<4	<4
Pyrene	129-00-0	4	µg/kg		<4	----	----	<4	<4
Benz(a)anthracene	56-55-3	4	µg/kg		<4	----	----	<4	<4
Chrysene	218-01-9	4	µg/kg		<4	----	----	<4	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	----	----	<4	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	----	----	<4	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	----	----	<4	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	----	----	<4	<4
Perylene	198-55-0	4	µg/kg		<4	----	----	<4	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	----	----	<4	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	----	----	<4	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	----	----	<4	<4
Coronene	191-07-1	5	µg/kg		<5	----	----	<5	<5
^ **Sum of PAHs**	----	4	µg/kg		<4	----	----	<4	<4
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	**94.3**	----	----
Toluene-D8	2037-26-5	0.1	%		----	----	**83.7**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	**90.7**	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**89.3**	----	----	**62.1**	**92.8**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH27 0.0-0.35A	BH27 0.0-0.35B	BH27 0.3V	WB21 0.0-0.5A	WB21 0.5-1.0A
			Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503683-026	ES1503683-027	ES1503683-028	ES1503683-029	ES1503683-030
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	86.7	----	----	69.7	78.8
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	64.9	----	----	65.2	67.0
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	89.6	----	----	72.2	94.0
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	84.6	----	----	82.0	94.3
Anthracene-d10	1719-06-8	0.1	%	119	----	----	115	116
4-Terphenyl-d14	1718-51-0	0.1	%	122	----	----	119	116

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB21 0.0-0.5B	W21 0.5-1.0B	WB21 0.3V	WB21 0.7V	WB22 0.0-0.5A
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-031	ES1503683-032	ES1503683-033	ES1503683-034	ES1503683-035
EA150: Particle Sizing									
+75µm	----	1	%		**92**	**95**	----	----	----
+150µm	----	1	%		**18**	**14**	----	----	----
+300µm	----	1	%		**1**	<1	----	----	----
+425µm	----	1	%		<1	<1	----	----	----
+600µm	----	1	%		<1	<1	----	----	----
+1180µm	----	1	%		<1	<1	----	----	----
+2.36mm	----	1	%		<1	<1	----	----	----
+4.75mm	----	1	%		<1	<1	----	----	----
+9.5mm	----	1	%		<1	<1	----	----	----
+19.0mm	----	1	%		<1	<1	----	----	----
+37.5mm	----	1	%		<1	<1	----	----	----
+75.0mm	----	1	%		<1	<1	----	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	----	**23.2**	**24.5**	**21.2**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		**2**	**3**	----	----	----
Silt (2-60 µm)	----	1	%		**2**	**1**	----	----	----
Sand (0.06-2.00 mm)	----	1	%		**96**	**96**	----	----	----
Gravel (>2mm)	----	1	%		<1	<1	----	----	----
Cobbles (>6cm)	----	1	%		<1	<1	----	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		**2.68**	**2.69**	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	----	----	**3560**
Iron	7439-89-6	50	mg/kg		----	----	----	----	**8930**
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	----	----	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	----	----	----	**9.12**
Cadmium	7440-43-9	0.1	mg/kg		----	----	----	----	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	----	----	----	**9.1**
Copper	7440-50-8	1.0	mg/kg		----	----	----	----	**2.2**
Cobalt	7440-48-4	0.5	mg/kg		----	----	----	----	**5.0**
Lead	7439-92-1	1.0	mg/kg		----	----	----	----	**2.3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB21 0.0-0.5B	W21 0.5-1.0B	WB21 0.3V	WB21 0.7V	WB22 0.0-0.5A
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-031	ES1503683-032	ES1503683-033	ES1503683-034	ES1503683-035
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	----	----	**280**
Nickel	7440-02-0	1.0	mg/kg		----	----	----	----	**3.4**
Selenium	7782-49-2	0.1	mg/kg		----	----	----	----	**0.2**
Silver	7440-22-4	0.1	mg/kg		----	----	----	----	<0.1
Vanadium	7440-62-2	2.0	mg/kg		----	----	----	----	**21.1**
Zinc	7440-66-6	1.0	mg/kg		----	----	----	----	**12.0**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	----	----	<0.01
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	----	**0.1**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	----	**0.1**
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	----	----	**80**
EK062: Total Nitrogen as N (TKN + NOx)									
^ **Total Nitrogen as N**	----	20	mg/kg		----	----	----	----	**80**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	----	----	**183**
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	----	----	**2.1**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	----	----	**0.06**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	----	----	<3
>C16 - C34 Fraction	----	3	mg/kg		----	----	----	----	<3
>C34 - C40 Fraction	----	5	mg/kg		----	----	----	----	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	----	----	<3
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	<3	<3	----
C10 - C14 Fraction	----	3	mg/kg		----	----	----	----	<3
C15 - C28 Fraction	----	3	mg/kg		----	----	----	----	<3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB21 0.0-0.5B	W21 0.5-1.0B	WB21 0.3V	WB21 0.7V	WB22 0.0-0.5A
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-031	ES1503683-032	ES1503683-033	ES1503683-034	ES1503683-035
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	----	----	<5
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	----	----	<3
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	<3	<3	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	<0.2	<0.2	----
Toluene	108-88-3	0.2	mg/kg		----	----	<0.2	<0.2	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	<0.2	<0.2	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	<0.2	<0.2	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	<0.2	<0.2	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	<0.5	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg		----	----	<0.2	<0.2	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	----	----	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	----	----	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	----	----	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	----	----	<10
Carbophenothion	786-19-6	10	µg/kg		----	----	----	----	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	----	----	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	----	----	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	----	----	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	----	----	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	----	----	<10
Diazinon	333-41-5	10	µg/kg		----	----	----	----	<10
Dichlorvos	62-73-7	10	µg/kg		----	----	----	----	<10
Dimethoate	60-51-5	10	µg/kg		----	----	----	----	<10
Ethion	563-12-2	10	µg/kg		----	----	----	----	<10
Fenamiphos	22224-92-6	10	µg/kg		----	----	----	----	<10
Fenthion	55-38-9	10	µg/kg		----	----	----	----	<10
Malathion	121-75-5	10	µg/kg		----	----	----	----	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	----	----	----	<10
Monocrotophos	6923-22-4	10	µg/kg		----	----	----	----	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB21 0.0-0.5B	W21 0.5-1.0B	WB21 0.3V	WB21 0.7V	WB22 0.0-0.5A
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-031	ES1503683-032	ES1503683-033	ES1503683-034	ES1503683-035
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	----	----	<10
Parathion-methyl	298-00-0	10	µg/kg		----	----	----	----	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	----	----	<10
Prothiofos	34643-46-4	10	µg/kg		----	----	----	----	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	----	----	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	----	----	----	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	----	----	----	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	----	----	<0.50
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	----	----	----	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	----	----	----	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	----	----	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	----	----	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	----	----	<0.50
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	----	----	----	<0.50
Endrin	72-20-8	0.50	µg/kg		----	----	----	----	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	----	----	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	----	----	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	----	----	----	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	----	----	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	----	----	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	----	----	----	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	----	----	----	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	----	----	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	----	----	<0.25
^ **Total Chlordane (sum)**	----	0.25	µg/kg		----	----	----	----	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	----	----	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	----	----	<5.0

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB21 0.0-0.5B	W21 0.5-1.0B	WB21 0.3V	WB21 0.7V	WB22 0.0-0.5A
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-031	ES1503683-032	ES1503683-033	ES1503683-034	ES1503683-035
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	----	----	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	----	----	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	----	----	<5
Acenaphthylene	208-96-8	4	µg/kg		----	----	----	----	<4
Acenaphthene	83-32-9	4	µg/kg		----	----	----	----	<4
Fluorene	86-73-7	4	µg/kg		----	----	----	----	<4
Phenanthrene	85-01-8	4	µg/kg		----	----	----	----	<4
Anthracene	120-12-7	4	µg/kg		----	----	----	----	<4
Fluoranthene	206-44-0	4	µg/kg		----	----	----	----	<4
Pyrene	129-00-0	4	µg/kg		----	----	----	----	<4
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	----	----	<4
Chrysene	218-01-9	4	µg/kg		----	----	----	----	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	----	----	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	----	----	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	----	----	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	----	----	<4
Perylene	198-55-0	4	µg/kg		----	----	----	----	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	----	----	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	----	----	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	----	----	<4
Coronene	191-07-1	5	µg/kg		----	----	----	----	<5
^ **Sum of PAHs**	----	4	µg/kg		----	----	----	----	<4
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	**103**	**82.5**	----
Toluene-D8	2037-26-5	0.1	%		----	----	**81.2**	**75.8**	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	**88.5**	**84.6**	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	----	----	**84.4**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB21 0.0-0.5B	W21 0.5-1.0B	WB21 0.3V	WB21 0.7V	WB22 0.0-0.5A
			Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503683-031	ES1503683-032	ES1503683-033	ES1503683-034	ES1503683-035
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	----	----	**90.3**
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	----	----	**50.9**
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	----	**86.0**
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	----	**86.7**
Anthracene-d10	1719-06-8	0.1	%	----	----	----	----	**112**
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	----	**112**

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB22 0.5-1.0A	WB22 0.0-0.5B	WB22 0.5-1.0B	WB22 0.3V	WB22 0.7V
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-036	ES1503683-037	ES1503683-038	ES1503683-039	ES1503683-040
EA150: Particle Sizing									
+75µm	----	1	%		----	**95**	**95**	----	----
+150µm	----	1	%		----	**18**	**22**	----	----
+300µm	----	1	%		----	**1**	<1	----	----
+425µm	----	1	%		----	<1	<1	----	----
+600µm	----	1	%		----	<1	<1	----	----
+1180µm	----	1	%		----	<1	<1	----	----
+2.36mm	----	1	%		----	<1	<1	----	----
+4.75mm	----	1	%		----	<1	<1	----	----
+9.5mm	----	1	%		----	<1	<1	----	----
+19.0mm	----	1	%		----	<1	<1	----	----
+37.5mm	----	1	%		----	<1	<1	----	----
+75.0mm	----	1	%		----	<1	<1	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**20.8**	----	----	**23.2**	**22.5**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	**2**	**1**	----	----
Silt (2-60 µm)	----	1	%		----	<1	**2**	----	----
Sand (0.06-2.00 mm)	----	1	%		----	**98**	**97**	----	----
Gravel (>2mm)	----	1	%		----	<1	<1	----	----
Cobbles (>6cm)	----	1	%		----	<1	<1	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	**2.68**	**2.69**	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**3800**	----	----	----	----
Iron	7439-89-6	50	mg/kg		**9980**	----	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	----	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		**11.3**	----	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	----	----	----	----
Chromium	7440-47-3	1.0	mg/kg		**9.7**	----	----	----	----
Copper	7440-50-8	1.0	mg/kg		**2.4**	----	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		**5.6**	----	----	----	----
Lead	7439-92-1	1.0	mg/kg		**2.6**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB22 0.5-1.0A	WB22 0.0-0.5B	WB22 0.5-1.0B	WB22 0.3V	WB22 0.7V
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-036	ES1503683-037	ES1503683-038	ES1503683-039	ES1503683-040
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		352	----	----	----	----
Nickel	7440-02-0	1.0	mg/kg		3.7	----	----	----	----
Selenium	7782-49-2	0.1	mg/kg		0.3	----	----	----	----
Silver	7440-22-4	0.1	mg/kg		0.2	----	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		25.1	----	----	----	----
Zinc	7440-66-6	1.0	mg/kg		12.7	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		70	----	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		70	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		198	----	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		3.2	----	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		0.07	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	----	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		<3	----	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	----	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	<3	<3
C10 - C14 Fraction	----	3	mg/kg		<3	----	----	----	----
C15 - C28 Fraction	----	3	mg/kg		<3	----	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB22 0.5-1.0A	WB22 0.0-0.5B	WB22 0.5-1.0B	WB22 0.3V	WB22 0.7V
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-036	ES1503683-037	ES1503683-038	ES1503683-039	ES1503683-040
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	3	mg/kg		<3	----	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	<3	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	<0.2	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	<0.2	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	<0.2	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	<0.2	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	<0.2	<0.2
^ **Total Xylenes**	1330-20-7	0.5	mg/kg		----	----	----	<0.5	<0.5
^ **Sum of BTEX**	----	0.2	mg/kg		----	----	----	<0.2	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	----	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	----	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	----	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	----	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	----	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	----	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	----	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	----	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	----	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	----	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	----	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	----	----	----	----
Ethion	563-12-2	10	µg/kg		<10	----	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	----	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	----	----	----	----
Malathion	121-75-5	10	µg/kg		<10	----	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	----	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB22 0.5-1.0A	WB22 0.0-0.5B	WB22 0.5-1.0B	WB22 0.3V	WB22 0.7V
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-036	ES1503683-037	ES1503683-038	ES1503683-039	ES1503683-040
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	----	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	----	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	----	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	----	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	----	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	----	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	----	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	----	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	----	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	----	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	----	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	----	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	----	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	----	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	----	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	----	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	----	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	----	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	----	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	----	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	----	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	----	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	----	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	----	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	----	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB22 0.5-1.0A	WB22 0.0-0.5B	WB22 0.5-1.0B	WB22 0.3V	WB22 0.7V
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-036	ES1503683-037	ES1503683-038	ES1503683-039	ES1503683-040
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	----	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	----	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	----	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	----	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	----	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	----	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	----	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	----	----	----	----
Pyrene	129-00-0	4	µg/kg		**5**	----	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	----	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	----	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	----	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	----	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	----	----	----	----
Perylene	198-55-0	4	µg/kg		<4	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	----	----	----	----
Coronene	191-07-1	5	µg/kg		<5	----	----	----	----
^ **Sum of PAHs**	----	4	µg/kg		**5**	----	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	**95.7**	**77.0**
Toluene-D8	2037-26-5	0.1	%		----	----	----	**87.3**	**82.1**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	**92.3**	**90.0**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**89.2**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB22 0.5-1.0A	WB22 0.0-0.5B	WB22 0.5-1.0B	WB22 0.3V	WB22 0.7V
			Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503683-036	ES1503683-037	ES1503683-038	ES1503683-039	ES1503683-040
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**81.8**	----	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**67.3**	----	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**87.5**	----	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**88.7**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**112**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	**116**	----	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB24 0.0-0.5A	WB24 0.5-0.8A	WB24 0.0-0.5B	WB24 0.5-0.8B	WB24 0.3V
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-041	ES1503683-042	ES1503683-043	ES1503683-044	ES1503683-045
EA150: Particle Sizing									
+75µm	----	1	%		----	----	**96**	**95**	----
+150µm	----	1	%		----	----	**18**	**18**	----
+300µm	----	1	%		----	----	<1	**1**	----
+425µm	----	1	%		----	----	<1	<1	----
+600µm	----	1	%		----	----	<1	<1	----
+1180µm	----	1	%		----	----	<1	<1	----
+2.36mm	----	1	%		----	----	<1	<1	----
+4.75mm	----	1	%		----	----	<1	<1	----
+9.5mm	----	1	%		----	----	<1	<1	----
+19.0mm	----	1	%		----	----	<1	<1	----
+37.5mm	----	1	%		----	----	<1	<1	----
+75.0mm	----	1	%		----	----	<1	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**21.7**	**21.7**	----	----	**23.1**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	**1**	**1**	----
Silt (2-60 µm)	----	1	%		----	----	**1**	**1**	----
Sand (0.06-2.00 mm)	----	1	%		----	----	**98**	**98**	----
Gravel (>2mm)	----	1	%		----	----	<1	<1	----
Cobbles (>6cm)	----	1	%		----	----	<1	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	**2.69**	**2.69**	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**3670**	**4480**	----	----	----
Iron	7439-89-6	50	mg/kg		**9900**	**10300**	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		**11.9**	**11.9**	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	----	----	----
Chromium	7440-47-3	1.0	mg/kg		**9.6**	**10.0**	----	----	----
Copper	7440-50-8	1.0	mg/kg		**2.4**	**2.5**	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		**5.7**	**5.9**	----	----	----
Lead	7439-92-1	1.0	mg/kg		**2.5**	**2.7**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB24 0.0-0.5A	WB24 0.5-0.8A	WB24 0.0-0.5B	WB24 0.5-0.8B	WB24 0.3V
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-041	ES1503683-042	ES1503683-043	ES1503683-044	ES1503683-045
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		370	380	----	----	----
Nickel	7440-02-0	1.0	mg/kg		3.7	4.0	----	----	----
Selenium	7782-49-2	0.1	mg/kg		0.3	0.3	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.1	<0.1	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		23.9	24.1	----	----	----
Zinc	7440-66-6	1.0	mg/kg		13.8	14.6	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	<0.01	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	0.1	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	0.1	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		70	80	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		70	80	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		194	171	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		3.6	4.3	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		0.06	0.06	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	<3	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		<3	3	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	<5	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	3	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		<3	<3	----	----	----
C15 - C28 Fraction	----	3	mg/kg		<3	<3	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB24 0.0-0.5A	WB24 0.5-0.8A	WB24 0.0-0.5B	WB24 0.5-0.8B	WB24 0.3V
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-041	ES1503683-042	ES1503683-043	ES1503683-044	ES1503683-045
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	<5	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		<3	<3	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	----	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	<1	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	<1	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	<0.5	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	<10	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	<10	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	<10.0	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	<10	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	<10	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	<10	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	<10	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	<10	----	----	----
Ethion	563-12-2	10	µg/kg		<10	<10	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	<10	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	<10	----	----	----
Malathion	121-75-5	10	µg/kg		<10	<10	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	<10	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	<10	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	WB24 0.0-0.5A	WB24 0.5-0.8A	WB24 0.0-0.5B	WB24 0.5-0.8B	WB24 0.3V
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-041	ES1503683-042	ES1503683-043	ES1503683-044	ES1503683-045
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	<10	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	<10	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	<10	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	<10	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	<0.50	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	<0.50	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	<0.50	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	<0.50	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	<0.50	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	<0.25	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	<0.50	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	<0.25	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	<0.25	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	<0.25	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	<0.50	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	<5.0	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB24 0.0-0.5A	WB24 0.5-0.8A	WB24 0.0-0.5B	WB24 0.5-0.8B	WB24 0.3V
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					ES1503683-041	ES1503683-042	ES1503683-043	ES1503683-044	ES1503683-045
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	<5.0	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	<5	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	<5	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	<4	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	<4	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	<4	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	<4	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	<4	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	<4	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	<4	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	<4	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	<4	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	<4	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	<4	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	<4	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	<4	----	----	----
Perylene	198-55-0	4	µg/kg		<4	<4	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	<4	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	<4	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	<4	----	----	----
Coronene	191-07-1	5	µg/kg		<5	<5	----	----	----
^ **Sum of PAHs**	----	4	µg/kg		<4	<4	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	----	**77.1**
Toluene-D8	2037-26-5	0.1	%		----	----	----	----	**79.0**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	----	**87.1**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**85.5**	**87.0**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB24 0.0-0.5A	WB24 0.5-0.8A	WB24 0.0-0.5B	WB24 0.5-0.8B	WB24 0.3V
			Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503683-041	ES1503683-042	ES1503683-043	ES1503683-044	ES1503683-045
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	97.8	78.4	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	62.7	71.4	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	76.1	75.9	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	88.0	86.9	----	----	----
Anthracene-d10	1719-06-8	0.1	%	119	115	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	118	111	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB24 0.7V	TRIP BLANK 10	TRIPLICATE 10A	TRIPLICATE 10B	----
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	----
Compound	CAS Number	LOR	Unit		ES1503683-046	ES1503683-047	ES1503683-049	ES1503683-050	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		23.5	----	13.0	11.6	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	3980	3200	----
Iron	7439-89-6	50	mg/kg		----	----	10200	5700	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	<0.50	<0.50	----
Arsenic	7440-38-2	1.00	mg/kg		----	----	2.49	1.72	----
Cadmium	7440-43-9	0.1	mg/kg		----	----	<0.1	<0.1	----
Chromium	7440-47-3	1.0	mg/kg		----	----	7.2	4.9	----
Copper	7440-50-8	1.0	mg/kg		----	----	8.2	5.7	----
Cobalt	7440-48-4	0.5	mg/kg		----	----	5.6	5.7	----
Lead	7439-92-1	1.0	mg/kg		----	----	1.7	1.2	----
Manganese	7439-96-5	10	mg/kg		----	----	123	52	----
Nickel	7440-02-0	1.0	mg/kg		----	----	4.9	3.5	----
Selenium	7782-49-2	0.1	mg/kg		----	----	0.2	0.1	----
Silver	7440-22-4	0.1	mg/kg		----	----	<0.1	<0.1	----
Vanadium	7440-62-2	2.0	mg/kg		----	----	33.7	28.2	----
Zinc	7440-66-6	1.0	mg/kg		----	----	12.3	10.2	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	<0.01	<0.01	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	<0.1	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	<0.1	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	<0.1	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	40	70	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	40	70	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	130	99	----
EK255A SD Ammonia in Sediment									

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB24 0.7V	TRIP BLANK 10	TRIPLICATE 10A	TRIPLICATE 10B	----
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	----
					ES1503683-046	ES1503683-047	ES1503683-049	ES1503683-050	----
EK255A SD Ammonia in Sediment - Continued									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	**2.2**	**0.7**	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	**0.05**	**0.05**	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	<3	<3	<3	----
>C16 - C34 Fraction	----	3	mg/kg		----	<3	<3	**4**	----
>C34 - C40 Fraction	----	5	mg/kg		----	<5	<5	<5	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	<3	<3	**4**	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	<3	----	----	----
C10 - C14 Fraction	----	3	mg/kg		----	<3	<3	<3	----
C15 - C28 Fraction	----	3	mg/kg		----	<3	<3	<3	----
C29 - C36 Fraction	----	5	mg/kg		----	<5	<5	<5	----
^ **C10 - C36 Fraction (sum)**	----	3	mg/kg		----	<3	<3	<3	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	<3	----	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	----	----
Toluene	108-88-3	0.2	mg/kg		<0.2	<0.2	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	<0.2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	<0.2	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	<0.2	----	----	----
^ **Total Xylenes**	1330-20-7	0.5	mg/kg		<0.5	<0.5	----	----	----
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	<0.2	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	<1	<1	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	<1	<1	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	<0.5	<0.5	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	<10	<10	----
Carbophenothion	786-19-6	10	µg/kg		----	----	<10	<10	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	<10.0	<10.0	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	<10	<10	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB24 0.7V	TRIP BLANK 10	TRIPLICATE 10A	TRIPLICATE 10B	----
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	----
					ES1503683-046	ES1503683-047	ES1503683-049	ES1503683-050	----
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	<10	<10	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	<10	<10	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	<10	<10	----
Diazinon	333-41-5	10	µg/kg		----	----	<10	<10	----
Dichlorvos	62-73-7	10	µg/kg		----	----	<10	<10	----
Dimethoate	60-51-5	10	µg/kg		----	----	<10	<10	----
Ethion	563-12-2	10	µg/kg		----	----	<10	<10	----
Fenamiphos	22224-92-6	10	µg/kg		----	----	<10	<10	----
Fenthion	55-38-9	10	µg/kg		----	----	<10	<10	----
Malathion	121-75-5	10	µg/kg		----	----	<10	<10	----
Azinphos Methyl	86-50-0	10	µg/kg		----	----	<10	<10	----
Monocrotophos	6923-22-4	10	µg/kg		----	----	<10	<10	----
Parathion	56-38-2	10	µg/kg		----	----	<10	<10	----
Parathion-methyl	298-00-0	10	µg/kg		----	----	<10	<10	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	<10	<10	----
Prothiofos	34643-46-4	10	µg/kg		----	----	<10	<10	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	<0.50	<0.50	----
alpha-BHC	319-84-6	0.50	µg/kg		----	----	<0.50	<0.50	----
beta-BHC	319-85-7	0.50	µg/kg		----	----	<0.50	<0.50	----
delta-BHC	319-86-8	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	<0.50	<0.50	----
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	----	<0.50	<0.50	----
Dieldrin	60-57-1	0.50	µg/kg		----	----	<0.50	<0.50	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	<0.50	<0.50	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	<0.50	<0.50	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	<0.50	<0.50	----
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin	72-20-8	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	<0.50	<0.50	----
Heptachlor	76-44-8	0.50	µg/kg		----	----	<0.50	<0.50	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	WB24 0.7V	TRIP BLANK 10	TRIPLICATE 10A	TRIPLICATE 10B	----
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	----
					ES1503683-046	ES1503683-047	ES1503683-049	ES1503683-050	----
EP131A: Organochlorine Pesticides - Continued									
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	<0.50	<0.50	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	<0.50	<0.50	----
gamma-BHC	58-89-9	0.25	µg/kg		----	----	<0.25	<0.25	----
Methoxychlor	72-43-5	0.50	µg/kg		----	----	<0.50	<0.50	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	<0.25	<0.25	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	<0.25	<0.25	----
^ **Total Chlordane (sum)**	----	0.25	µg/kg		----	----	<0.25	<0.25	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	<0.50	<0.50	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	<5.0	<5.0	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	<5	<5	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	<5	<5	----
Acenaphthylene	208-96-8	4	µg/kg		----	----	<4	<4	----
Acenaphthene	83-32-9	4	µg/kg		----	----	<4	<4	----
Fluorene	86-73-7	4	µg/kg		----	----	<4	<4	----
Phenanthrene	85-01-8	4	µg/kg		----	----	<4	<4	----
Anthracene	120-12-7	4	µg/kg		----	----	<4	<4	----
Fluoranthene	206-44-0	4	µg/kg		----	----	<4	<4	----
Pyrene	129-00-0	4	µg/kg		----	----	<4	<4	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	<4	<4	----
Chrysene	218-01-9	4	µg/kg		----	----	<4	<4	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	<4	<4	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	<4	<4	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	<4	<4	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	<4	<4	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB24 0.7V	TRIP BLANK 10	TRIPLICATE 10A	TRIPLICATE 10B	----
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	12-FEB-2015 15:00	12-FEB-2015 15:00	----
Compound	CAS Number	LOR	Unit		ES1503683-046	ES1503683-047	ES1503683-049	ES1503683-050	----
EP132B: Polynuclear Aromatic Hydrocarbons - Continued									
Perylene	198-55-0	4	µg/kg		----	----	<4	<4	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	<4	<4	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	<4	<4	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	<4	<4	----
Coronene	191-07-1	5	µg/kg		----	----	<5	<5	----
^ Sum of PAHs	----	4	µg/kg		----	----	<4	<4	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		98.6	123	----	----	----
Toluene-D8	2037-26-5	0.1	%		82.5	96.3	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		92.6	114	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	70.2	78.7	----
EP130S: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%		----	----	78.5	81.3	----
EP131S: OC Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.1	%		----	----	84.5	70.3	----
EP131T: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	----	87.5	87.5	----
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		----	----	86.2	83.2	----
Anthracene-d10	1719-06-8	0.1	%		----	----	114	113	----
4-Terphenyl-d14	1718-51-0	0.1	%		----	----	114	112	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 10	----	----	----	----
				Client sampling date / time	13-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1503683-048	----	----	----	----
EG020T: Total Metals by ICP-MS									
Antimony	7440-36-0	0.001	mg/L		<0.001	----	----	----	----
Arsenic	7440-38-2	0.001	mg/L		<0.001	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	----	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	----	----	----	----
Manganese	7439-96-5	0.001	mg/L		<0.001	----	----	----	----
Nickel	7440-02-0	0.001	mg/L		<0.001	----	----	----	----
Silver	7440-22-4	0.001	mg/L		<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L		<0.005	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	----	----	----	----
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**0.02**	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	----	0.01	mg/L		<0.01	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		<0.01	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		<0.01	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L		<0.1	----	----	----	----
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser									
^ Total Nitrogen as N	----	0.1	mg/L		<0.1	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		<0.01	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	1	µg/L		<1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.5	µg/L		<0.5	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L		<0.5	----	----	----	----
beta-BHC	319-85-7	0.5	µg/L		<0.5	----	----	----	----
gamma-BHC	58-89-9	0.5	µg/L		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 10	----	----	----	----
				Client sampling date / time	13-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1503683-048	----	----	----	----
EP068A: Organochlorine Pesticides (OC) - Continued									
delta-BHC	319-86-8	0.5	µg/L		<0.5	----	----	----	----
Heptachlor	76-44-8	0.5	µg/L		<0.5	----	----	----	----
Aldrin	309-00-2	0.5	µg/L		<0.5	----	----	----	----
Heptachlor epoxide	1024-57-3	0.5	µg/L		<0.5	----	----	----	----
trans-Chlordane	5103-74-2	0.5	µg/L		<0.5	----	----	----	----
alpha-Endosulfan	959-98-8	0.5	µg/L		<0.5	----	----	----	----
cis-Chlordane	5103-71-9	0.5	µg/L		<0.5	----	----	----	----
Dieldrin	60-57-1	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDE	72-55-9	0.5	µg/L		<0.5	----	----	----	----
Endrin	72-20-8	0.5	µg/L		<0.5	----	----	----	----
beta-Endosulfan	33213-65-9	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDD	72-54-8	0.5	µg/L		<0.5	----	----	----	----
Endrin aldehyde	7421-93-4	0.5	µg/L		<0.5	----	----	----	----
Endosulfan sulfate	1031-07-8	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDT	50-29-3	2.0	µg/L		<2.0	----	----	----	----
Endrin ketone	53494-70-5	0.5	µg/L		<0.5	----	----	----	----
Methoxychlor	72-43-5	2.0	µg/L		<2.0	----	----	----	----
^ Total Chlordane (sum)	----	0.5	µg/L		<0.5	----	----	----	----
^ Sum of DDD + DDE + DDT	----	0.5	µg/L		<0.5	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L		<0.5	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.5	µg/L		<0.5	----	----	----	----
Demeton-S-methyl	919-86-8	0.5	µg/L		<0.5	----	----	----	----
Monocrotophos	6923-22-4	2.0	µg/L		<2.0	----	----	----	----
Dimethoate	60-51-5	0.5	µg/L		<0.5	----	----	----	----
Diazinon	333-41-5	0.5	µg/L		<0.5	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L		<0.5	----	----	----	----
Parathion-methyl	298-00-0	2.0	µg/L		<2.0	----	----	----	----
Malathion	121-75-5	0.5	µg/L		<0.5	----	----	----	----
Fenthion	55-38-9	0.5	µg/L		<0.5	----	----	----	----
Chlorpyrifos	2921-88-2	0.5	µg/L		<0.5	----	----	----	----
Parathion	56-38-2	2.0	µg/L		<2.0	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	µg/L		<0.5	----	----	----	----
Chlorfenvinphos	470-90-6	0.5	µg/L		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 10	----	----	----	----
				Client sampling date / time	13-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1503683-048	----	----	----	----
EP068B: Organophosphorus Pesticides (OP) - Continued									
Bromophos-ethyl	4824-78-6	0.5	µg/L		<0.5	----	----	----	----
Fenamiphos	22224-92-6	0.5	µg/L		<0.5	----	----	----	----
Prothiofos	34643-46-4	0.5	µg/L		<0.5	----	----	----	----
Ethion	563-12-2	0.5	µg/L		<0.5	----	----	----	----
Carbophenothion	786-19-6	0.5	µg/L		<0.5	----	----	----	----
Azinphos Methyl	86-50-0	0.5	µg/L		<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L		<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L		<1.0	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L		<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L		<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L		<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L		<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 10	----	----	----	----
				Client sampling date / time	13-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1503683-048	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L	<20	----	----	----	----
>C10 - C16 Fraction	>C10_C16	100	µg/L	<100	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L	<100	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L	<100	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L	<100	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L	<100	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L	<1	----	----	----	----
Toluene	108-88-3	2	µg/L	<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	----	----	----	----
^ **Total Xylenes**	1330-20-7	2	µg/L	<2	----	----	----	----
^ **Sum of BTEX**	----	1	µg/L	<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L	<5	----	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	5	ngSn/L	<5	----	----	----	----
Dibutyltin	1002-53-5	5	ngSn/L	<5	----	----	----	----
Tributyltin	56573-85-4	2	ngSn/L	<2	----	----	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	**86.9**	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.1	%	**108**	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%	**70.7**	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%	**29.8**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	**44.6**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	**40.4**	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%	**73.7**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**80.8**	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 10	----	----	----	----
				Client sampling date / time	13-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1503683-048	----	----	----	----
EP075(SIM)T: PAH Surrogates - Continued									
4-Terphenyl-d14	1718-51-0	0.1	%	77.8	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%	107	----	----	----	----
Toluene-D8	2037-26-5	0.1	%	102	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	90.8	----	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%	76.6	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
EP080-SD: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	67	137
Toluene-D8	2037-26-5	74	134
4-Bromofluorobenzene	460-00-4	73	137
EP090S: Organotin Surrogate			
Tripropyltin	----	35	130
EP130S: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	14.4	102
EP131S: OC Pesticide Surrogate			
Dibromo-DDE	21655-73-2	10	119
EP131T: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	10	106
EP132T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	55	135
Anthracene-d10	1719-06-8	70	136
4-Terphenyl-d14	1718-51-0	57	127

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	28.5	129
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	30	120
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	26.8	129
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10.0	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27.4	113
4-Terphenyl-d14	1718-51-0	32	112
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128
EP090S: Organotin Surrogate			
Tripropyltin	----	8.2	108

QUALITY CONTROL REPORT

Work Order	: **ES1503683**	Page	: 1 of 33
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 17-FEB-2015
Sampler	: GK	Issue Date	: 10-MAR-2015
Order number	: 245553		
		No. of samples received	: 50
Quote number	: SY/1021/14 V2	No. of samples analysed	: 50

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Ashesh Patel	Inorganic Chemist	Sydney Inorganics
Dianne Blane	Laboratory Coordinator (2IC)	Newcastle - Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Organics
Phalak Inthakesone	Laboratory Manager - Organics	Sydney Inorganics
Ryan Story	2IC Organic Instrument Chemist	Brisbane Organics
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils
Shobhna Chandra	Metals Coordinator	Sydney Inorganics
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA055: Moisture Content (QC Lot: 3830328)									
EM1501739-003	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	24.8	21.0	16.7	0% - 20%
ES1503683-007	BH6 0.7V	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	16.6	16.3	1.4	0% - 50%
EA055: Moisture Content (QC Lot: 3830329)									
ES1503683-019	BH17 0.0V	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	15.8	16.8	6.2	0% - 50%
ES1503683-035	WB22 0.0-0.5A	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	21.2	21.7	2.3	0% - 20%
EA055: Moisture Content (QC Lot: 3830330)									
ES1503683-049	TRIPLICATE 10A	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	13.0	13.2	1.4	0% - 50%
ES1503685-014	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	39.9	40.0	0.0	0% - 20%
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3834926)									
ES1503599-018	Anonymous	EG005-SD: Aluminium	7429-90-5	50	mg/kg	4340	4220	2.7	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	11600	11800	1.8	0% - 20%
ES1503683-004	BH6 0.0-0.8A	EG005-SD: Aluminium	7429-90-5	50	mg/kg	5940	5990	0.9	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	18100	17400	3.8	0% - 20%
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3834929)									
ES1503683-035	WB22 0.0-0.5A	EG005-SD: Aluminium	7429-90-5	50	mg/kg	3560	3530	0.9	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	8930	9350	4.6	0% - 20%
ES1503685-001	Anonymous	EG005-SD: Aluminium	7429-90-5	50	mg/kg	13800	13400	3.0	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	31500	30100	4.5	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3834925)									
ES1503599-018	Anonymous	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.3	0.3	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	6.0	6.2	4.0	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	10.4	10.9	4.2	0% - 50%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	3.0	3.0	0.0	No Limit
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	2.9	3.0	0.0	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	4.3	4.4	3.0	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	14.2	14.2	0.0	0% - 50%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	13.0	13.5	3.2	0% - 50%
		EG020-SD: Manganese	7439-96-5	10	mg/kg	509	442	14.0	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	28.4	28.9	1.7	0% - 50%
ES1503683-004	BH6 0.0-0.8A	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.8	0.9	12.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3834925) - continued									
ES1503683-004	BH6 0.0-0.8A	EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	7.8	7.8	0.0	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	11.1	10.4	6.2	0% - 50%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	14.5	14.9	2.9	0% - 50%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	2.8	3.1	8.1	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	6.3	5.9	6.1	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	23.0	24.2	4.8	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	4.73	4.04	15.8	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	93	95	2.4	No Limit
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	55.5	56.8	2.4	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3834928)									
ES1503683-035	WB22 0.0-0.5A	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.2	0.2	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	5.0	5.3	6.4	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	9.1	9.7	6.4	No Limit
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	2.2	2.2	0.0	No Limit
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	2.3	2.4	0.0	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	3.4	3.5	3.5	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	12.0	12.8	7.1	0% - 50%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	9.12	9.45	3.5	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	280	292	4.1	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	21.1	22.3	5.6	0% - 50%
ES1503685-001	Anonymous	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.8	0.8	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	15.0	15.7	4.5	0% - 20%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	24.8	24.2	2.7	0% - 20%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	18.7	17.2	8.5	0% - 50%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	9.3	8.8	6.2	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	11.8	11.4	2.9	0% - 50%
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	40.2	39.9	0.6	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	17.0	15.0	12.9	0% - 50%
		EG020-SD: Manganese	7439-96-5	10	mg/kg	245	232	5.7	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	49.6	49.7	0.3	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3834924)									
ES1503599-018	Anonymous	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit
ES1503683-004	BH6 0.0-0.8A	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3834927)									
ES1503683-035	WB22 0.0-0.5A	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit
ES1503685-001	Anonymous	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	0.02	0.02	0.0	No Limit
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3834700)									
ES1503599-002	Anonymous	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1503599-028	Anonymous	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3834702)									
ES1503683-020	BH21 0.0-0.6A	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1503683-049	TRIPLICATE 10A	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3834701)									
ES1503599-002	Anonymous	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1503599-028	Anonymous	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3834703)									
ES1503683-020	BH21 0.0-0.6A	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1503683-049	TRIPLICATE 10A	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3833644)									
ES1503599-002	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	200	180	9.8	0% - 50%
ES1503599-028	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	50	50	0.0	No Limit
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3836133)									
ES1503683-013	BH15 0.5-1.0A	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	160	260	44.5	0% - 50%
ES1503683-041	WB24 0.0-0.5A	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	70	60	24.6	No Limit
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3833645)									
ES1503599-002	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	331	327	1.4	0% - 20%
ES1503599-028	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	253	260	2.8	0% - 20%
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3836134)									
ES1503683-013	BH15 0.5-1.0A	EK067G: Total Phosphorus as P	----	2	mg/kg	193	187	2.9	0% - 20%
ES1503683-041	WB24 0.0-0.5A	EK067G: Total Phosphorus as P	----	2	mg/kg	194	215	10.4	0% - 20%
EK255A SD: Ammonia in Sediment (QC Lot: 3828210)									
ES1503599-039	Anonymous	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	0.4	0.4	0.0	No Limit
ES1503683-026	BH27 0.0-0.35A	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	0.8	0.7	0.0	No Limit
EP003: Total Organic Carbon (TOC) in Soil (QC Lot: 3833058)									
ES1503683-001	BH1 0.0-0.5A	EP003: Total Organic Carbon	----	0.02	%	0.13	0.12	8.6	No Limit
ES1503683-030	WB21 0.5-1.0A	EP003: Total Organic Carbon	----	0.02	%	0.09	0.08	14.4	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3828233)									
ES1503683-001	BH1 0.0-0.5A	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
ES1503683-030	WB21 0.5-1.0A	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3828233) - continued									
ES1503683-030	WB21 0.5-1.0A	EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3828151)									
ES1503683-003	BH1 0.3V	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
ES1503683-033	WB21 0.3V	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3828153)									
ES1503599-005	Anonymous	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
ES1503599-026	Anonymous	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3828233)									
ES1503683-001	BH1 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
ES1503683-030	WB21 0.5-1.0A	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3833084)									
ES1503683-025	BH22 0.3V	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
EP080-SD: BTEXN (QC Lot: 3828151)									
ES1503683-003	BH1 0.3V	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
ES1503683-033	WB21 0.3V	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP080-SD: BTEXN (QC Lot: 3828153)									
ES1503599-005	Anonymous	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP080-SD: BTEXN (QC Lot: 3828153) - continued									
ES1503599-005	Anonymous	EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
ES1503599-026	Anonymous	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP080-SD: BTEXN (QC Lot: 3833084)									
ES1503683-025	BH22 0.3V	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP090: Organotin Compounds (QC Lot: 3829721)									
ES1503683-001	BH1 0.0-0.5A	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
ES1503683-030	WB21 0.5-1.0A	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3828212)									
ES1503683-001	BH1 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3828212) - continued									
ES1503683-001	BH1 0.0-0.5A	EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
ES1503683-030	WB21 0.5-1.0A	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
EP131A: Organochlorine Pesticides (QC Lot: 3828213)									
ES1503683-001	BH1 0.0-0.5A	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP131A: Organochlorine Pesticides (QC Lot: 3828213) - continued									
ES1503683-001	BH1 0.0-0.5A	EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
ES1503683-030	WB21 0.5-1.0A	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 3828214)									
ES1503683-001	BH1 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 3828214) - continued									
ES1503683-030	WB21 0.5-1.0A	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3828232)									
ES1503683-001	BH1 0.0-0.5A	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit
ES1503683-030	WB21 0.5-1.0A	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3828232) - continued									
ES1503683-030	WB21 0.5-1.0A	EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020T: Total Metals by ICP-MS (QC Lot: 3832712)									
ES1503599-042	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Manganese	7439-96-5	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.007	28.9	No Limit
ES1504015-003	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	0.003	0.003	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	0.005	0.005	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	0.007	0.005	34.6	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	0.001	<0.001	0.0	No Limit
		EG020A-T: Manganese	7439-96-5	0.001	mg/L	0.115	0.109	4.9	0% - 20%
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	0.006	0.005	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	0.011	0.009	17.4	No Limit
EG020T: Total Metals by ICP-MS (QC Lot: 3832713)									
ES1503599-042	Anonymous	EG020B-T: Silver	7440-22-4	0.001	mg/L	<0.001	<0.001	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3836487)									
ES1503599-042	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
ES1503991-005	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EK055G: Ammonia as N by Discrete Analyser (QC Lot: 3832724)									

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EK055G: Ammonia as N by Discrete Analyser (QC Lot: 3832724) - continued									
ES1503683-048	RINSATE 10	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	0.02	0.02	0.0	No Limit
ES1503922-005	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	0.08	0.11	24.3	0% - 50%
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3828571)									
ES1503599-042	Anonymous	EK057G: Nitrite as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1503837-008	Anonymous	EK057G: Nitrite as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3832723)									
ES1503683-048	RINSATE 10	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	0.01	0.0	No Limit
ES1503922-005	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	1.91	1.90	0.0	0% - 20%
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3832754)									
ES1503683-048	RINSATE 10	EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	<0.1	<0.1	0.0	No Limit
ES1503922-006	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	3220	2970	8.3	0% - 20%
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3832755)									
ES1503683-048	RINSATE 10	EK067G: Total Phosphorus as P	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1503976-002	Anonymous	EK067G: Total Phosphorus as P	----	0.01	mg/L	0.05	0.09	53.1	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3831479)									
ES1503874-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
ES1503874-008	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3831479)									
ES1503874-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
ES1503874-008	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 3831479)									
ES1503874-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
ES1503874-008	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3834926)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	119	86	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	87.3	70	130
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3834929)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	125	86	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	94.1	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3834925)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	4.6 mg/kg	102	70	130
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	105	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	103	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	107	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	99.7	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	107	84	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	104	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	115	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	111	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	124	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	2.10 mg/kg	114	64	148
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	111	87	131
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	119	83	137
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3834928)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	4.6 mg/kg	111	70	130
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	108	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	106	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	115	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	112	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	115	84	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3834928) - continued								
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	108	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	124	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	116	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	129	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	2.10 mg/kg	119	64	148
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	117	87	131
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	116	83	137
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3834924)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.090 mg/kg	81.7	72	116
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3834927)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.090 mg/kg	87.8	72	116
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3834700)								
EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	95.6	82	120
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3834702)								
EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	95.8	82	120
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3834701)								
EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	104	89	115
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3834703)								
EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	108	89	115
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3833644)								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	----	500 mg/kg	98.2	70	122
				<20	1000 mg/kg	86.4	64	114
				----	100 mg/kg	108	70	127
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3836133)								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	----	100 mg/kg	98.6	70	127
				<20	1000 mg/kg	87.8	64	114
				----	500 mg/kg	96.8	70	122
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3833645)								
EK067G: Total Phosphorus as P	----	2	mg/kg	----	44.2 mg/kg	91.4	64	124
				<2	442 mg/kg	95.4	68	116
				----	100 mg/kg	97.3	69	123

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3836134)								
EK067G: Total Phosphorus as P	----	2	mg/kg	----	100 mg/kg	96.2	69	123
				<2	442 mg/kg	87.7	68	116
				----	44.2 mg/kg	94.4	64	124
EK255A SD: Ammonia in Sediment (QCLot: 3828210)								
EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	<0.2	0.1 mg/kg	104	70	130
EP003: Total Organic Carbon (TOC) in Soil (QCLot: 3833058)								
EP003: Total Organic Carbon	----	0.02	%	<0.02	0.11 %	99.1	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3828233)								
EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	6.25 mg/kg	98.4	70	130
EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	8.75 mg/kg	97.1	74	138
EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	3.75 mg/kg	100	63	131
EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3828151)								
EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	6.2 mg/kg	80.8	61	133
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3828153)								
EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	6.2 mg/kg	78.7	61	133
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3828233)								
EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	5 mg/kg	105	78	118
EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	7.5 mg/kg	103	84	118
EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	5 mg/kg	92.0	73	119
EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3833084)								
EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	6.2 mg/kg	100	61	133
EP080-SD: BTEXN (QCLot: 3828151)								
EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	0.2 mg/kg	91.8	66	122
EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	0.2 mg/kg	89.6	69	122
EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.2 mg/kg	91.8	66	126
EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	0.4 mg/kg	93.0	59	129
EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.2 mg/kg	100	66	126
EP080-SD: BTEXN (QCLot: 3828153)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP080-SD: BTEXN (QCLot: 3828153) - continued								
EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	0.2 mg/kg	91.2	66	122
EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	0.2 mg/kg	93.2	69	122
EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.2 mg/kg	85.1	66	126
EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	0.4 mg/kg	85.3	59	129
EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.2 mg/kg	96.2	66	126
EP080-SD: BTEXN (QCLot: 3833084)								
EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	0.2 mg/kg	111	66	122
EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	0.2 mg/kg	113	69	122
EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.2 mg/kg	109	66	126
EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	0.4 mg/kg	115	59	129
EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.2 mg/kg	118	66	126
EP090: Organotin Compounds (QCLot: 3829721)								
EP090: Monobutyltin	78763-54-9	1.0	µgSn/kg	<1	1.25 µgSn/kg	121	36	128
EP090: Dibutyltin	1002-53-5	1.0	µgSn/kg	<1	1.25 µgSn/kg	104	42	132
EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	1.25 µgSn/kg	102	52	139
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3828212)								
EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	50 µg/kg	75.7	45	139
EP130: Carbophenothion	786-19-6	10	µg/kg	<10	50 µg/kg	77.5	47	117
EP130: Chlorfenvinphos (E)	18708-86-6	10	µg/kg	<10.0	5 µg/kg	68.0	48	156
EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	50 µg/kg	87.2	62	136
EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	50 µg/kg	96.5	57	137
EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	50 µg/kg	73.8	57	121
EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	50 µg/kg	72.8	20.4	142
EP130: Diazinon	333-41-5	10	µg/kg	<10	50 µg/kg	79.3	57	121
EP130: Dichlorvos	62-73-7	10	µg/kg	<10	50 µg/kg	73.1	47	115
EP130: Dimethoate	60-51-5	10	µg/kg	<10	50 µg/kg	71.8	55	133
EP130: Ethion	563-12-2	10	µg/kg	<10	50 µg/kg	73.4	54	130
EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	50 µg/kg	79.1	57	131
EP130: Fenthion	55-38-9	10	µg/kg	<10	50 µg/kg	85.5	38	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3828212) - continued								
EP130: Malathion	121-75-5	10	µg/kg	<10	50 µg/kg	86.7	62	138
EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	50 µg/kg	72.1	33	137
EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	50 µg/kg	92.1	50	148
EP130: Parathion	56-38-2	10	µg/kg	<10	50 µg/kg	84.4	64	140
EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	50 µg/kg	91.8	56	136
EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	50 µg/kg	74.8	50	132
EP130: Prothiofos	34643-46-4	10	µg/kg	<10	50 µg/kg	78.6	55	135
EP131A: Organochlorine Pesticides (QCLot: 3828213)								
EP131A: Aldrin	309-00-2	0.5	µg/kg	<0.50	5 µg/kg	53.5	38	150
EP131A: alpha-BHC	319-84-6	0.5	µg/kg	<0.50	5 µg/kg	61.2	17.6	156
EP131A: beta-BHC	319-85-7	0.5	µg/kg	<0.50	5 µg/kg	61.5	30.5	152
EP131A: delta-BHC	319-86-8	0.5	µg/kg	<0.50	5 µg/kg	61.2	37	151
EP131A: 4.4`-DDD	72-54-8	0.5	µg/kg	<0.50	5 µg/kg	76.5	25.9	150
EP131A: 4.4`-DDE	72-55-9	0.5	µg/kg	<0.50	5 µg/kg	53.9	35	129
EP131A: 4.4`-DDT	50-29-3	0.5	µg/kg	<0.50	5 µg/kg	94.0	23.4	163
EP131A: Sum of DDD + DDE + DDT	----	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Dieldrin	60-57-1	0.5	µg/kg	<0.50	5 µg/kg	51.7	30.2	140
EP131A: alpha-Endosulfan	959-98-8	0.5	µg/kg	<0.50	5 µg/kg	53.0	38	140
EP131A: beta-Endosulfan	33213-65-9	0.5	µg/kg	<0.50	5 µg/kg	54.4	32	152
EP131A: Endosulfan sulfate	1031-07-8	0.5	µg/kg	<0.50	5 µg/kg	53.8	36	162
EP131A: Endosulfan (sum)	115-29-7	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Endrin	72-20-8	0.5	µg/kg	<0.50	5 µg/kg	34.4	25.8	166
EP131A: Endrin aldehyde	7421-93-4	0.5	µg/kg	<0.50	5 µg/kg	42.2	20.1	116
EP131A: Endrin ketone	53494-70-5	0.5	µg/kg	<0.50	5 µg/kg	52.1	13.4	151
EP131A: Heptachlor	76-44-8	0.5	µg/kg	<0.50	5 µg/kg	64.3	39	173
EP131A: Heptachlor epoxide	1024-57-3	0.5	µg/kg	<0.50	5 µg/kg	54.1	34	148
EP131A: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/kg	<0.50	5 µg/kg	46.0	26.1	152
EP131A: gamma-BHC	58-89-9	0.5	µg/kg	<0.50	5 µg/kg	61.5	31.2	159
EP131A: Methoxychlor	72-43-5	0.5	µg/kg	<0.50	5 µg/kg	52.0	36	160

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP131A: Organochlorine Pesticides (QCLot: 3828213) - continued								
EP131A: cis-Chlordane	5103-71-9	0.5	µg/kg	<0.50	5 µg/kg	53.1	36	142
EP131A: trans-Chlordane	5103-74-2	0.5	µg/kg	<0.50	5 µg/kg	50.7	29.5	138
EP131A: Total Chlordane (sum)	----	0.5	µg/kg	<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3828214)								
EP131B: Total Polychlorinated biphenyls	----	5	µg/kg	<5.0	50 µg/kg	82.5	44	136
EP131B: Aroclor 1016	12674-11-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1221	11104-28-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1232	11141-16-5	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1242	53469-21-9	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1248	12672-29-6	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1254	11097-69-1	5	µg/kg	<5.0	50 µg/kg	82.5	44	136
EP131B: Aroclor 1260	11096-82-5	5	µg/kg	<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3828232)								
EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	25 µg/kg	107	67	133
EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	25 µg/kg	105	63	135
EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	25 µg/kg	114	68	132
EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	25 µg/kg	112	67	133
EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	25 µg/kg	119	69	131
EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	25 µg/kg	119	66	138
EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	25 µg/kg	113	67	133
EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	25 µg/kg	118	64	130
EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	25 µg/kg	117	67	133
EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	25 µg/kg	116	65	133
EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	25 µg/kg	114	70	134
EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	25 µg/kg	106	63	133
EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	25 µg/kg	93.8	67	133
EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	25 µg/kg	104	64	130
EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	25 µg/kg	103	72	130
EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	25 µg/kg	107	70	132

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3828232) - continued								
EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	25 µg/kg	107	65	127
EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	25 µg/kg	107	67	135
EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	25 µg/kg	103	62	126
EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	25 µg/kg	111	66	134
EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 3832712)								
EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	----	----	----	----
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	104	79	121
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	103	83	113
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	105	84	116
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	103	83	117
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	101	84	116
EG020A-T: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	103	85	115
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	97.9	84	116
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	104	77	117
EG020T: Total Metals by ICP-MS (QCLot: 3832713)								
EG020B-T: Silver	7440-22-4	0.001	mg/L	<0.001	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3836487)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	87.6	77	115
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3832724)								
EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	1.0 mg/L	108	86	112
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3828571)								
EK057G: Nitrite as N	----	0.01	mg/L	<0.01	0.5 mg/L	90.1	83	119
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3832723)								
EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	0.5 mg/L	114	87	119
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3832754)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3832754) - continued								
EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	----	5 mg/L	111	66	119
				----	1.0 mg/L	104	66	126
				<0.1	10 mg/L	92.3	66	114
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3832755)								
EK067G: Total Phosphorus as P	----	0.01	mg/L	----	0.442 mg/L	92.9	63	123
				<0.01	4.42 mg/L	92.1	67	117
				----	1.0 mg/L	104	66	124
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3828237)								
EP066: Total Polychlorinated biphenyls	----	1	µg/L	<1	10 µg/L	82.1	61.6	107
EP068A: Organochlorine Pesticides (OC) (QCLot: 3828236)								
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	5 µg/L	90.9	65	107
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	5 µg/L	74.9	51	119
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	5 µg/L	103	63	113
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	5 µg/L	101	62	112
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	5 µg/L	92.9	60	106
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	5 µg/L	74.8	58	108
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	5 µg/L	85.8	58	114
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	5 µg/L	108	59	111
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	5 µg/L	94.1	62	114
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	5 µg/L	107	64	114
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	5 µg/L	90.1	62	114
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	5 µg/L	110	59	111
EP068: 4.4`-DDE	72-55-9	0.5	µg/L	<0.5	5 µg/L	101	63	111
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	5 µg/L	104	61	119
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	5 µg/L	104	71	119
EP068: 4.4`-DDD	72-54-8	0.5	µg/L	<0.5	5 µg/L	107	70	118
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	5 µg/L	91.6	62	112
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	5 µg/L	61.6	53	113
EP068: 4.4`-DDT	50-29-3	2.0	µg/L	<2.0	5 µg/L	81.8	52	120
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	5 µg/L	77.3	51	117

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 3828236) - continued								
EP068: Methoxychlor	72-43-5	2.0	µg/L	<2.0	5 µg/L	85.0	53	127
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3828236)								
EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	5 µg/L	88.0	52	122
EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	5 µg/L	99.1	51	123
EP068: Monocrotophos	6923-22-4	0.5	µg/L	<2.0	5 µg/L	38.0	10	89.1
EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	5 µg/L	89.8	61	119
EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	5 µg/L	103	67	113
EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	5 µg/L	104	60	116
EP068: Parathion-methyl	298-00-0	2.0	µg/L	<2.0	5 µg/L	98.5	64	120
EP068: Malathion	121-75-5	0.5	µg/L	<0.5	5 µg/L	74.5	67	115
EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	5 µg/L	101	64	110
EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	5 µg/L	90.4	63	109
EP068: Parathion	56-38-2	2.0	µg/L	<2.0	5 µg/L	94.1	63	121
EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	5 µg/L	106	60	110
EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	5 µg/L	79.5	68	114
EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	5 µg/L	104	61	109
EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	5 µg/L	87.1	63	117
EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	5 µg/L	108	63	111
EP068: Ethion	563-12-2	0.5	µg/L	<0.5	5 µg/L	96.7	65	115
EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	5 µg/L	87.9	55	115
EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	5 µg/L	69.2	44	124
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3828239)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	<1.0	5 µg/L	84.0	58.6	119
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	<1.0	5 µg/L	65.4	63.6	114
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	<1.0	5 µg/L	66.1	62.2	113
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	<1.0	5 µg/L	69.7	63.9	115
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	<1.0	5 µg/L	79.8	62.6	116
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	<1.0	5 µg/L	83.6	64.3	116
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	<1.0	5 µg/L	95.6	63.6	118

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3828239) - continued								
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	<1.0	5 µg/L	94.2	63.1	118
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	<1.0	5 µg/L	82.7	64.1	117
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	<1.0	5 µg/L	84.0	62.5	116
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.2	µg/L	<1.0	5 µg/L	82.5	61.7	119
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	<1.0	5 µg/L	91.2	61.7	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	<0.5	5 µg/L	84.6	63.3	117
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.2	µg/L	<1.0	5 µg/L	77.8	59.9	118
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.2	µg/L	<1.0	5 µg/L	81.6	61.2	117
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.2	µg/L	<1.0	5 µg/L	74.1	59.1	118
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3828238)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	2000 µg/L	89.1	59	129
EP071: C15 - C28 Fraction	----	100	µg/L	<100	3000 µg/L	98.8	71	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	2000 µg/L	92.2	62	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3831479)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	76.2	75	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3828238)								
EP071: >C10 - C16 Fraction	>C10_C16	100	µg/L	<100	2500 µg/L	98.6	58.9	131
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	3500 µg/L	101	73.9	138
EP071: >C34 - C40 Fraction	----	50	µg/L	<100	1500 µg/L	105	67	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3831479)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	75.4	75	127
EP080: BTEXN (QCLot: 3831479)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	90.0	70	124
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	89.8	65	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	90.3	70	120
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	91.8	69	121
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	91.2	72	122
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	94.7	70	124
EP090: Organotin Compounds (QCLot: 3831189)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP090: Organotin Compounds (QCLot: 3831189) - continued								
EP090H: Monobutyltin	78763-54-9	2	ngSn/L	<5	50 ngSn/L	91.7	25	139
EP090H: Dibutyltin	1002-53-5	2	ngSn/L	<5	50 ngSn/L	85.2	50	114
EP090H: Tributyltin	56573-85-4	1	ngSn/L	<2	50 ngSn/L	72.5	39	120

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3834925)							
ES1503599-019	Anonymous	EG020-SD: Arsenic	7440-38-2	50 mg/kg	105	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	107	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	110	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	101	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	102	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	105	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	108	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3834928)							
ES1503683-036	WB22 0.5-1.0A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	99.5	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	101	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	108	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	98.8	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	95.8	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	101	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	104	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3834924)							
ES1503599-018	Anonymous	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	130	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3834927)							
ES1503683-035	WB22 0.0-0.5A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	111	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3834700)							
ES1503599-002	Anonymous	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	101	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3834702)							
ES1503683-020	BH21 0.0-0.6A	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	103	70	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3834701)							
ES1503599-002	Anonymous	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	115	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3834703)							
ES1503683-020	BH21 0.0-0.6A	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	117	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3833644)							
ES1503599-002	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	90.5	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3836133)							
ES1503683-013	BH15 0.5-1.0A	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	90.4	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3833645)							
ES1503599-002	Anonymous	EK067G: Total Phosphorus as P	----	100 mg/kg	99.3	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3836134)							
ES1503683-013	BH15 0.5-1.0A	EK067G: Total Phosphorus as P	----	100 mg/kg	80.4	70	130
EK255A SD: Ammonia in Sediment (QCLot: 3828210)							
ES1503599-034	Anonymous	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	# Not Determined	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3828151)							
ES1503683-003	BH1 0.3V	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	122	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3828153)							
ES1503599-005	Anonymous	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	114	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3828233)							
ES1503683-001	BH1 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	102	70	130
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	88.0	70	130
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	112	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3833084)							
ES1503683-025	BH22 0.3V	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	125	70	130
EP080-SD: BTEXN (QCLot: 3828151)							
ES1503683-003	BH1 0.3V	EP080-SD: Benzene	71-43-2	0.5 mg/kg	99.7	70	130
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	110	70	130
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	109	70	130
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	103	70	130
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	102	70	130
EP080-SD: BTEXN (QCLot: 3828153)							
ES1503599-005	Anonymous	EP080-SD: Benzene	71-43-2	0.5 mg/kg	97.6	70	130
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	98.9	70	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080-SD: BTEXN (QCLot: 3828153) - continued							
ES1503599-005	Anonymous	EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	97.5	70	130
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	96.7	70	130
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	103	70	130
EP080-SD: BTEXN (QCLot: 3833084)							
ES1503683-025	BH22 0.3V	EP080-SD: Benzene	71-43-2	0.5 mg/kg	105	70	130
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	105	70	130
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	112	70	130
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	119	70	130
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	117	70	130
EP090: Organotin Compounds (QCLot: 3829721)							
ES1503683-004	BH6 0.0-0.8A	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	# 13.6	35	130
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	77.7	20	130
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	95.6	20	130
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3828212)							
ES1503683-001	BH1 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	77.5	36	144
		EP130: Carbophenothion	786-19-6	50 µg/kg	81.5	38	120
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	74.1	49	157
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	77.0	53	145
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	87.8	60	140
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	76.7	56	126
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	73.5	9.7	148
		EP130: Diazinon	333-41-5	50 µg/kg	78.3	60	122
		EP130: Dichlorvos	62-73-7	50 µg/kg	79.4	33	123
		EP130: Dimethoate	60-51-5	50 µg/kg	81.0	36	142
		EP130: Ethion	563-12-2	50 µg/kg	89.1	48	136
		EP130: Fenamiphos	22224-92-6	50 µg/kg	84.4	42	136
		EP130: Fenthion	55-38-9	50 µg/kg	84.0	35	131
		EP130: Malathion	121-75-5	50 µg/kg	72.0	55	141
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	66.7	23.5	132
		EP130: Monocrotophos	6923-22-4	50 µg/kg	87.3	35	153
		EP130: Parathion	56-38-2	50 µg/kg	81.5	57	147
		EP130: Parathion-methyl	298-00-0	50 µg/kg	79.0	48	140
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	69.5	45	137
		EP130: Prothiofos	34643-46-4	50 µg/kg	75.9	51	137

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP131A: Organochlorine Pesticides (QCLot: 3828213)							
ES1503683-001	BH1 0.0-0.5A	EP131A: Aldrin	309-00-2	5 µg/kg	75.5	23.4	153
		EP131A: alpha-BHC	319-84-6	5 µg/kg	100	17.6	156
		EP131A: beta-BHC	319-85-7	5 µg/kg	69.2	24.9	153
		EP131A: delta-BHC	319-86-8	5 µg/kg	82.4	25.2	147
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	76.4	25.9	150
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	60.1	31.2	125
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	96.3	23.4	163
		EP131A: Dieldrin	60-57-1	5 µg/kg	59.4	30.2	140
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	59.4	28.8	135
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	58.5	22.6	141
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	93.7	16.1	156
		EP131A: Endrin	72-20-8	5 µg/kg	53.9	17.7	162
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	60.0	20.1	116
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	84.1	13.4	151
		EP131A: Heptachlor	76-44-8	5 µg/kg	78.7	23.8	170
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	88.1	28.3	140
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	65.0	17.7	144
		EP131A: gamma-BHC	58-89-9	5 µg/kg	58.5	21.8	158
		EP131A: Methoxychlor	72-43-5	5 µg/kg	97.1	24.4	158
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	62.1	27.3	139
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	80.9	29.5	138
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3828214)							
ES1503683-001	BH1 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	75.0	44	136
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	75.0	44	136
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3828232)							
ES1503683-001	BH1 0.0-0.5A	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	108	70	130
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	97.5	70	130
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	116	70	130
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	116	70	130
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	117	70	130
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	113	70	130
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	119	70	130
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	109	70	130
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	108	70	130
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	116	70	130
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	111	70	130

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Matrix Spike (MS) Report: Recovery Limits (%) Low	Matrix Spike (MS) Report: Recovery Limits (%) High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3828232) - continued							
ES1503683-001	BH1 0.0-0.5A	EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	95.1	70	130
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	110	70	130
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	101	70	130
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	103	70	130
		EP132B-SD: Perylene	198-55-0	25 µg/kg	101	70	130
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	110	70	130
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	110	70	130
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	108	70	130
		EP132B-SD: Coronene	191-07-1	25 µg/kg	110	70	130

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Matrix Spike (MS) Report: Recovery Limits (%) Low	Matrix Spike (MS) Report: Recovery Limits (%) High
EG020T: Total Metals by ICP-MS (QCLot: 3832712)							
ES1503683-048	RINSATE 10	EG020A-T: Arsenic	7440-38-2	1 mg/L	102	70	130
		EG020A-T: Cadmium	7440-43-9	0.250 mg/L	110	70	130
		EG020A-T: Chromium	7440-47-3	1 mg/L	103	70	130
		EG020A-T: Copper	7440-50-8	1 mg/L	101	70	130
		EG020A-T: Lead	7439-92-1	1 mg/L	105	70	130
		EG020A-T: Manganese	7439-96-5	1 mg/L	109	70	130
		EG020A-T: Nickel	7440-02-0	1 mg/L	96.8	70	130
		EG020A-T: Zinc	7440-66-6	1 mg/L	106	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3836487)							
ES1503683-048	RINSATE 10	EG035T: Mercury	7439-97-6	0.010 mg/L	91.8	70	130
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3832724)							
ES1503683-048	RINSATE 10	EK055G: Ammonia as N	7664-41-7	1 mg/L	98.0	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3828571)							
ES1503599-042	Anonymous	EK057G: Nitrite as N	----	0.5 mg/L	97.1	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3832723)							
ES1503683-048	RINSATE 10	EK059G: Nitrite + Nitrate as N	----	0.5 mg/L	110	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3832754)							
ES1503684-014	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	5 mg/L	108	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3832755)							
ES1503684-014	Anonymous	EK067G: Total Phosphorus as P	----	1.0 mg/L	103	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3831479)							

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3831479) - continued							
ES1503874-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	98.4	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3831479)							
ES1503874-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	95.3	70	130
EP080: BTEXN (QCLot: 3831479)							
ES1503874-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	97.3	70	130
		EP080: Toluene	108-88-3	25 µg/L	99.8	70	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	102	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	100	70	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	101	70	130
		EP080: Naphthalene	91-20-3	25 µg/L	115	70	130

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

The quality control term Matrix Spike (MS) and Matrix Spike Duplicate (MSD) refers to intralaboratory split samples spiked with a representative set of target analytes. The purpose of these QC parameters are to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3828151)										
ES1503683-003	BH1 0.3V	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	122	----	70	130	----	----
EP080-SD: BTEXN (QCLot: 3828151)										
ES1503683-003	BH1 0.3V	EP080-SD: Benzene	71-43-2	0.5 mg/kg	99.7	----	70	130	----	----
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	110	----	70	130	----	----
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	109	----	70	130	----	----
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	103	----	70	130	----	----
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	102	----	70	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3828153)										
ES1503599-005	Anonymous	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	114	----	70	130	----	----
EP080-SD: BTEXN (QCLot: 3828153)										
ES1503599-005	Anonymous	EP080-SD: Benzene	71-43-2	0.5 mg/kg	97.6	----	70	130	----	----
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	98.9	----	70	130	----	----
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	97.5	----	70	130	----	----
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	96.7	----	70	130	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP080-SD: BTEXN (QCLot: 3828153) - continued										
ES1503599-005	Anonymous	EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	103	----	70	130	----	----
EK255A SD: Ammonia in Sediment (QCLot: 3828210)										
ES1503599-034	Anonymous	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	# Not Determined	----	70	130	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3828212)										
ES1503683-001	BH1 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	77.5	----	36	144	----	----
		EP130: Carbophenothion	786-19-6	50 µg/kg	81.5	----	38	120	----	----
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	74.1	----	49	157	----	----
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	77.0	----	53	145	----	----
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	87.8	----	60	140	----	----
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	76.7	----	56	126	----	----
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	73.5	----	9.7	148	----	----
		EP130: Diazinon	333-41-5	50 µg/kg	78.3	----	60	122	----	----
		EP130: Dichlorvos	62-73-7	50 µg/kg	79.4	----	33	123	----	----
		EP130: Dimethoate	60-51-5	50 µg/kg	81.0	----	36	142	----	----
		EP130: Ethion	563-12-2	50 µg/kg	89.1	----	48	136	----	----
		EP130: Fenamiphos	22224-92-6	50 µg/kg	84.4	----	42	136	----	----
		EP130: Fenthion	55-38-9	50 µg/kg	84.0	----	35	131	----	----
		EP130: Malathion	121-75-5	50 µg/kg	72.0	----	55	141	----	----
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	66.7	----	23.5	132	----	----
		EP130: Monocrotophos	6923-22-4	50 µg/kg	87.3	----	35	153	----	----
		EP130: Parathion	56-38-2	50 µg/kg	81.5	----	57	147	----	----
		EP130: Parathion-methyl	298-00-0	50 µg/kg	79.0	----	48	140	----	----
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	69.5	----	45	137	----	----
		EP130: Prothiofos	34643-46-4	50 µg/kg	75.9	----	51	137	----	----
EP131A: Organochlorine Pesticides (QCLot: 3828213)										
ES1503683-001	BH1 0.0-0.5A	EP131A: Aldrin	309-00-2	5 µg/kg	75.5	----	23.4	153	----	----
		EP131A: alpha-BHC	319-84-6	5 µg/kg	100	----	17.6	156	----	----
		EP131A: beta-BHC	319-85-7	5 µg/kg	69.2	----	24.9	153	----	----
		EP131A: delta-BHC	319-86-8	5 µg/kg	82.4	----	25.2	147	----	----
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	76.4	----	25.9	150	----	----
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	60.1	----	31.2	125	----	----
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	96.3	----	23.4	163	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP131A: Organochlorine Pesticides (QCLot: 3828213) - continued										
ES1503683-001	BH1 0.0-0.5A	EP131A: Dieldrin	60-57-1	5 µg/kg	59.4	----	30.2	140	----	----
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	59.4	----	28.8	135	----	----
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	58.5	----	22.6	141	----	----
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	93.7	----	16.1	156	----	----
		EP131A: Endrin	72-20-8	5 µg/kg	53.9	----	17.7	162	----	----
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	60.0	----	20.1	116	----	----
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	84.1	----	13.4	151	----	----
		EP131A: Heptachlor	76-44-8	5 µg/kg	78.7	----	23.8	170	----	----
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	88.1	----	28.3	140	----	----
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	65.0	----	17.7	144	----	----
		EP131A: gamma-BHC	58-89-9	5 µg/kg	58.5	----	21.8	158	----	----
		EP131A: Methoxychlor	72-43-5	5 µg/kg	97.1	----	24.4	158	----	----
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	62.1	----	27.3	139	----	----
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	80.9	----	29.5	138	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3828214)										
ES1503683-001	BH1 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	75.0	----	44	136	----	----
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	75.0	----	44	136	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3828232)										
ES1503683-001	BH1 0.0-0.5A	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	108	----	70	130	----	----
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	97.5	----	70	130	----	----
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	116	----	70	130	----	----
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	116	----	70	130	----	----
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	117	----	70	130	----	----
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	113	----	70	130	----	----
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	119	----	70	130	----	----
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	109	----	70	130	----	----
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	108	----	70	130	----	----
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	116	----	70	130	----	----
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	111	----	70	130	----	----
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	95.1	----	70	130	----	----
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	110	----	70	130	----	----
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	101	----	70	130	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3828232) - continued										
ES1503683-001	BH1 0.0-0.5A	EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	103	----	70	130	----	----
		EP132B-SD: Perylene	198-55-0	25 µg/kg	101	----	70	130	----	----
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	110	----	70	130	----	----
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	110	----	70	130	----	----
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	108	----	70	130	----	----
		EP132B-SD: Coronene	191-07-1	25 µg/kg	110	----	70	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3828233)										
ES1503683-001	BH1 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	102	----	70	130	----	----
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	88.0	----	70	130	----	----
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	112	----	70	130	----	----
EP090: Organotin Compounds (QCLot: 3829721)										
ES1503683-004	BH6 0.0-0.8A	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	# 13.6	----	35	130	----	----
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	77.7	----	20	130	----	----
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	95.6	----	20	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3833084)										
ES1503683-025	BH22 0.3V	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	125	----	70	130	----	----
EP080-SD: BTEXN (QCLot: 3833084)										
ES1503683-025	BH22 0.3V	EP080-SD: Benzene	71-43-2	0.5 mg/kg	105	----	70	130	----	----
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	105	----	70	130	----	----
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	112	----	70	130	----	----
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	119	----	70	130	----	----
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	117	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3833644)										
ES1503599-002	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	90.5	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3833645)										
ES1503599-002	Anonymous	EK067G: Total Phosphorus as P	----	100 mg/kg	99.3	----	70	130	----	----
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3834700)										
ES1503599-002	Anonymous	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	101	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3834701)										
ES1503599-002	Anonymous	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	115	----	70	130	----	----
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3834702)										
ES1503683-020	BH21 0.0-0.6A	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	103	----	70	130	----	----

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report: Spike Concentration	Spike Recovery (%): MS	Spike Recovery (%): MSD	Recovery Limits (%): Low	Recovery Limits (%): High	RPDs (%): Value	RPDs (%): Control Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3834703)										
ES1503683-020	BH21 0.0-0.6A	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	117	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3834924)										
ES1503599-018	Anonymous	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	130	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3834925)										
ES1503599-019	Anonymous	EG020-SD: Arsenic	7440-38-2	50 mg/kg	105	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	107	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	110	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	101	----	70	130	----	----
		EG020-SD: Lead	7439-92-1	250 mg/kg	102	----	70	130	----	----
		EG020-SD: Nickel	7440-02-0	50 mg/kg	105	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	108	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3834927)										
ES1503683-035	WB22 0.0-0.5A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	111	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3834928)										
ES1503683-036	WB22 0.5-1.0A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	99.5	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	101	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	108	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	98.8	----	70	130	----	----
		EG020-SD: Lead	7439-92-1	250 mg/kg	95.8	----	70	130	----	----
		EG020-SD: Nickel	7440-02-0	50 mg/kg	101	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	104	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3836133)										
ES1503683-013	BH15 0.5-1.0A	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	90.4	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3836134)										
ES1503683-013	BH15 0.5-1.0A	EK067G: Total Phosphorus as P	----	100 mg/kg	80.4	----	70	130	----	----

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report: Spike Concentration	Spike Recovery (%): MS	Spike Recovery (%): MSD	Recovery Limits (%): Low	Recovery Limits (%): High	RPDs (%): Value	RPDs (%): Control Limit
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3828571)										
ES1503599-042	Anonymous	EK057G: Nitrite as N	----	0.5 mg/L	97.1	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3831479)										
ES1503874-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	98.4	----	70	130	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3831479)										

Sub-Matrix: **WATER**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3831479) - continued										
ES1503874-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	95.3	----	70	130	----	----
EP080: BTEXN (QCLot: 3831479)										
ES1503874-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	97.3	----	70	130	----	----
		EP080: Toluene	108-88-3	25 µg/L	99.8	----	70	130	----	----
		EP080: Ethylbenzene	100-41-4	25 µg/L	102	----	70	130	----	----
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	100	----	70	130	----	----
		EP080: ortho-Xylene	95-47-6	25 µg/L	101	----	70	130	----	----
		EP080: Naphthalene	91-20-3	25 µg/L	115	----	70	130	----	----
EG020T: Total Metals by ICP-MS (QCLot: 3832712)										
ES1503683-048	RINSATE 10	EG020A-T: Arsenic	7440-38-2	1 mg/L	102	----	70	130	----	----
		EG020A-T: Cadmium	7440-43-9	0.250 mg/L	110	----	70	130	----	----
		EG020A-T: Chromium	7440-47-3	1 mg/L	103	----	70	130	----	----
		EG020A-T: Copper	7440-50-8	1 mg/L	101	----	70	130	----	----
		EG020A-T: Lead	7439-92-1	1 mg/L	105	----	70	130	----	----
		EG020A-T: Manganese	7439-96-5	1 mg/L	109	----	70	130	----	----
		EG020A-T: Nickel	7440-02-0	1 mg/L	96.8	----	70	130	----	----
		EG020A-T: Zinc	7440-66-6	1 mg/L	106	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3832723)										
ES1503683-048	RINSATE 10	EK059G: Nitrite + Nitrate as N	----	0.5 mg/L	110	----	70	130	----	----
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3832724)										
ES1503683-048	RINSATE 10	EK055G: Ammonia as N	7664-41-7	1 mg/L	98.0	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3832754)										
ES1503684-014	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	5 mg/L	108	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3832755)										
ES1503684-014	Anonymous	EK067G: Total Phosphorus as P	----	1.0 mg/L	103	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3836487)										
ES1503683-048	RINSATE 10	EG035T: Mercury	7439-97-6	0.010 mg/L	91.8	----	70	130	----	----

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1503683**	Page	: 1 of 19
Client	: AURECON AUSTRALASIA PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 17-FEB-2015
Sampler	: GK	Issue Date	: 10-MAR-2015
Order number	: 245553		
		No. of samples received	: 50
Quote number	: SY/1021/14 V2	No. of samples analysed	: 50

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with recommended holding times (USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content								
Soil Glass Jar - Unpreserved (EA055-103)								
TRIPLICATE 10A,	TRIPLICATE 10B	**12-FEB-2015**	**----**	----	----	**19-FEB-2015**	26-FEB-2015	✓
Soil Glass Jar - Unpreserved (EA055-103)								
BH1 0.0-0.5A,	BH1 0.3V,	**13-FEB-2015**	**----**	----	----	**19-FEB-2015**	27-FEB-2015	✓
BH6 0.0-0.8A,	BH6 0.3V,							
BH6 0.7V,	BH10 0.0-0.3A,							
BH10 0.0V,	BH10 0.3V,							
BH15 0.0-0.5A,	BH15 0.5-1.0A,							
BH15 0.3V,	BH15 0.7V,							
BH17 0.0-0.1A,	BH17 0.0V,							
BH21 0.0-0.6A,	BH21 0.3V,							
BH22 0.0-0.6A,	BH22 0.3V,							
BH27 0.0-0.35A,	BH27 0.3V,							
WB21 0.0-0.5A,	WB21 0.5-1.0A,							
WB21 0.3V,	WB21 0.7V,							
WB22 0.0-0.5A,	WB22 0.5-1.0A,							
WB22 0.3V,	WB22 0.7V,							
WB24 0.0-0.5A,	WB24 0.5-0.8A,							
WB24 0.3V,	WB24 0.7V							
EA150: Particle Sizing								
Snap Lock Bag (EA150H)								
BH1 0.0-0.5B,	BH6 0.0-0.8B,	**13-FEB-2015**	**---**	12-AUG-2015	----	**05-MAR-2015**	12-AUG-2015	✓
BH10 0.0-0.3B,	BH15 0.0-0.5B,							
BH17 0.0-0.1B,	BH21 0.0-0.6B,							
BH22 0.0-0.6B,	BH27 0.0-0.35B,							
WB21 0.0-0.5B,	W21 0.5-1.0B,							
WB22 0.0-0.5B,	WB22 0.5-1.0B,							
WB24 0.0-0.5B,	WB24 0.5-0.8B							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA150: Soil Classification based on Particle Size								
Snap Lock Bag (EA150H)								
BH1 0.0-0.5B,	BH6 0.0-0.8B,	**13-FEB-2015**	**---**	12-AUG-2015	----	**05-MAR-2015**	12-AUG-2015	✓
BH10 0.0-0.3B,	BH15 0.0-0.5B,							
BH17 0.0-0.1B,	BH21 0.0-0.6B,							
BH22 0.0-0.6B,	BH27 0.0-0.35B,							
WB21 0.0-0.5B,	W21 0.5-1.0B,							
WB22 0.0-0.5B,	WB22 0.5-1.0B,							
WB24 0.0-0.5B,	WB24 0.5-0.8B							
EA152: Soil Particle Density								
Snap Lock Bag (EA152)								
BH1 0.0-0.5B,	BH6 0.0-0.8B,	**13-FEB-2015**	**---**	12-AUG-2015	----	**06-MAR-2015**	12-AUG-2015	✓
BH10 0.0-0.3B,	BH15 0.0-0.5B,							
BH17 0.0-0.1B,	BH21 0.0-0.6B,							
BH27 0.0-0.35B,	WB21 0.0-0.5B,							
W21 0.5-1.0B,	WB22 0.0-0.5B,							
WB22 0.5-1.0B,	WB24 0.0-0.5B,							
WB24 0.5-0.8B								
EG005-SD: Total Metals in Sediments by ICP-AES								
Soil Glass Jar - Unpreserved (EG005-SD)								
TRIPLICATE 10A,	TRIPLICATE 10B	**12-FEB-2015**	**24-FEB-2015**	11-AUG-2015	✓	**25-FEB-2015**	11-AUG-2015	✓
Soil Glass Jar - Unpreserved (EG005-SD)								
BH1 0.0-0.5A,	BH6 0.0-0.8A,	**13-FEB-2015**	**24-FEB-2015**	12-AUG-2015	✓	**25-FEB-2015**	12-AUG-2015	✓
BH10 0.0-0.3A,	BH15 0.0-0.5A,							
BH15 0.5-1.0A,	BH17 0.0-0.1A,							
BH21 0.0-0.6A,	BH22 0.0-0.6A,							
BH27 0.0-0.35A,	WB21 0.0-0.5A,							
WB21 0.5-1.0A,	WB22 0.0-0.5A,							
WB22 0.5-1.0A,	WB24 0.0-0.5A,							
WB24 0.5-0.8A								
EG020-SD: Total Metals in Sediments by ICPMS								
Soil Glass Jar - Unpreserved (EG020-SD)								
TRIPLICATE 10A,	TRIPLICATE 10B	**12-FEB-2015**	**24-FEB-2015**	11-AUG-2015	✓	**25-FEB-2015**	11-AUG-2015	✓
Soil Glass Jar - Unpreserved (EG020-SD)								
BH1 0.0-0.5A,	BH6 0.0-0.8A,	**13-FEB-2015**	**24-FEB-2015**	12-AUG-2015	✓	**25-FEB-2015**	12-AUG-2015	✓
BH10 0.0-0.3A,	BH15 0.0-0.5A,							
BH15 0.5-1.0A,	BH17 0.0-0.1A,							
BH21 0.0-0.6A,	BH22 0.0-0.6A,							
BH27 0.0-0.35A,	WB21 0.0-0.5A,							
WB21 0.5-1.0A,	WB22 0.0-0.5A,							
WB22 0.5-1.0A,	WB24 0.0-0.5A,							
WB24 0.5-0.8A								

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T-LL)							
TRIPLICATE 10A, TRIPLICATE 10B	**12-FEB-2015**	**24-FEB-2015**	12-MAR-2015	✓	**26-FEB-2015**	12-MAR-2015	✓
Soil Glass Jar - Unpreserved (EG035T-LL)							
BH1 0.0-0.5A, BH6 0.0-0.8A, BH10 0.0-0.3A, BH15 0.0-0.5A, BH15 0.5-1.0A, BH17 0.0-0.1A, BH21 0.0-0.6A, BH22 0.0-0.6A, BH27 0.0-0.35A, WB21 0.0-0.5A, WB21 0.5-1.0A	**13-FEB-2015**	**24-FEB-2015**	13-MAR-2015	✓	**25-FEB-2015**	13-MAR-2015	✓
Soil Glass Jar - Unpreserved (EG035T-LL)							
WB22 0.0-0.5A, WB22 0.5-1.0A, WB24 0.0-0.5A, WB24 0.5-0.8A	**13-FEB-2015**	**24-FEB-2015**	13-MAR-2015	✓	**26-FEB-2015**	13-MAR-2015	✓
EK057G: Nitrite as N by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK057G)							
TRIPLICATE 10A, TRIPLICATE 10B	**12-FEB-2015**	**24-FEB-2015**	11-AUG-2015	✓	**24-FEB-2015**	11-AUG-2015	✓
Soil Glass Jar - Unpreserved (EK057G)							
BH1 0.0-0.5A, BH6 0.0-0.8A, BH10 0.0-0.3A, BH15 0.0-0.5A, BH15 0.5-1.0A, BH17 0.0-0.1A, BH21 0.0-0.6A, BH22 0.0-0.6A, BH27 0.0-0.35A, WB21 0.0-0.5A, WB21 0.5-1.0A, WB22 0.0-0.5A, WB22 0.5-1.0A, WB24 0.0-0.5A, WB24 0.5-0.8A	**13-FEB-2015**	**24-FEB-2015**	12-AUG-2015	✓	**24-FEB-2015**	12-AUG-2015	✓
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK059G)							
TRIPLICATE 10A, TRIPLICATE 10B	**12-FEB-2015**	**24-FEB-2015**	11-AUG-2015	✓	**24-FEB-2015**	11-AUG-2015	✓
Soil Glass Jar - Unpreserved (EK059G)							
BH1 0.0-0.5A, BH6 0.0-0.8A, BH10 0.0-0.3A, BH15 0.0-0.5A, BH15 0.5-1.0A, BH17 0.0-0.1A, BH21 0.0-0.6A, BH22 0.0-0.6A, BH27 0.0-0.35A, WB21 0.0-0.5A, WB21 0.5-1.0A, WB22 0.0-0.5A, WB22 0.5-1.0A, WB24 0.0-0.5A, WB24 0.5-0.8A	**13-FEB-2015**	**24-FEB-2015**	12-AUG-2015	✓	**24-FEB-2015**	12-AUG-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser							
Soil Glass Jar - Unpreserved (EK061G)							
TRIPLICATE 10A, TRIPLICATE 10B	**12-FEB-2015**	**25-FEB-2015**	11-AUG-2015	✓	**25-FEB-2015**	11-AUG-2015	✓
Soil Glass Jar - Unpreserved (EK061G)							
BH1 0.0-0.5A, BH6 0.0-0.8A, BH10 0.0-0.3A, BH15 0.0-0.5A	**13-FEB-2015**	**23-FEB-2015**	12-AUG-2015	✓	**23-FEB-2015**	12-AUG-2015	✓
Soil Glass Jar - Unpreserved (EK061G)							
BH15 0.5-1.0A, BH17 0.0-0.1A, BH21 0.0-0.6A, BH22 0.0-0.6A, BH27 0.0-0.35A, WB21 0.0-0.5A, WB21 0.5-1.0A, WB22 0.0-0.5A, WB22 0.5-1.0A, WB24 0.0-0.5A, WB24 0.5-0.8A	**13-FEB-2015**	**25-FEB-2015**	12-AUG-2015	✓	**25-FEB-2015**	12-AUG-2015	✓
EK067G: Total Phosphorus as P by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK067G)							
TRIPLICATE 10A, TRIPLICATE 10B	**12-FEB-2015**	**25-FEB-2015**	11-AUG-2015	✓	**25-FEB-2015**	11-AUG-2015	✓
Soil Glass Jar - Unpreserved (EK067G)							
BH1 0.0-0.5A, BH6 0.0-0.8A, BH10 0.0-0.3A, BH15 0.0-0.5A	**13-FEB-2015**	**23-FEB-2015**	12-AUG-2015	✓	**23-FEB-2015**	12-AUG-2015	✓
Soil Glass Jar - Unpreserved (EK067G)							
BH15 0.5-1.0A, BH17 0.0-0.1A, BH21 0.0-0.6A, BH22 0.0-0.6A, BH27 0.0-0.35A, WB21 0.0-0.5A, WB21 0.5-1.0A, WB22 0.0-0.5A, WB22 0.5-1.0A, WB24 0.0-0.5A, WB24 0.5-0.8A	**13-FEB-2015**	**25-FEB-2015**	12-AUG-2015	✓	**25-FEB-2015**	12-AUG-2015	✓
EK255A SD Ammonia in Sediment							
Soil Glass Jar - Unpreserved (EK255A SD)							
TRIPLICATE 10A, TRIPLICATE 10B	**12-FEB-2015**	**----**	----	----	**18-FEB-2015**	11-AUG-2015	✓
Soil Glass Jar - Unpreserved (EK255A SD)							
BH1 0.0-0.5A, BH6 0.0-0.8A, BH10 0.0-0.3A, BH15 0.0-0.5A, BH15 0.5-1.0A, BH17 0.0-0.1A, BH21 0.0-0.6A, BH22 0.0-0.6A, BH27 0.0-0.35A, WB21 0.0-0.5A, WB21 0.5-1.0A, WB22 0.0-0.5A, WB22 0.5-1.0A, WB24 0.0-0.5A, WB24 0.5-0.8A	**13-FEB-2015**	**----**	----	----	**18-FEB-2015**	12-AUG-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP003: Total Organic Carbon (TOC) in Soil								
Pulp Bag (EP003)								
TRIPLICATE 10A,	TRIPLICATE 10B	**12-FEB-2015**	**23-FEB-2015**	12-MAR-2015	✓	**23-FEB-2015**	12-MAR-2015	✓
Pulp Bag (EP003)								
BH1 0.0-0.5A,	BH6 0.0-0.8A,	**13-FEB-2015**	**23-FEB-2015**	13-MAR-2015	✓	**23-FEB-2015**	13-MAR-2015	✓
BH10 0.0-0.3A,	BH15 0.0-0.5A,							
BH15 0.5-1.0A,	BH17 0.0-0.1A,							
BH21 0.0-0.6A,	BH22 0.0-0.6A,							
BH27 0.0-0.35A,	WB21 0.0-0.5A,							
WB21 0.5-1.0A,	WB22 0.0-0.5A,							
WB22 0.5-1.0A,	WB24 0.0-0.5A,							
WB24 0.5-0.8A								
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013								
Soil Glass Jar - Unpreserved (EP071-SD)								
TRIPLICATE 10A,	TRIPLICATE 10B	**12-FEB-2015**	**24-FEB-2015**	26-FEB-2015	✓	**27-FEB-2015**	05-APR-2015	✓
Soil Glass Jar - Unpreserved (EP071-SD)								
BH1 0.0-0.5A,	BH6 0.0-0.8A,	**13-FEB-2015**	**24-FEB-2015**	27-FEB-2015	✓	**27-FEB-2015**	05-APR-2015	✓
BH10 0.0-0.3A,	BH15 0.0-0.5A,							
BH15 0.5-1.0A,	BH17 0.0-0.1A,							
BH21 0.0-0.6A,	BH22 0.0-0.6A,							
BH27 0.0-0.35A,	WB21 0.0-0.5A,							
WB21 0.5-1.0A,	WB22 0.0-0.5A,							
WB22 0.5-1.0A,	WB24 0.0-0.5A,							
WB24 0.5-0.8A,	TRIP BLANK 10							
EP080-SD: BTEXN								
Soil Glass Jar - Unpreserved (EP080-SD)								
WB24 0.7V,	TRIP BLANK 10	**13-FEB-2015**	**19-FEB-2015**	27-FEB-2015	✓	**25-FEB-2015**	27-FEB-2015	✓
Soil Glass Jar - Unpreserved (EP080-SD)								
BH1 0.3V,	BH6 0.3V,	**13-FEB-2015**	**19-FEB-2015**	27-FEB-2015	✓	**26-FEB-2015**	27-FEB-2015	✓
BH6 0.7V,	BH10 0.0V,							
BH10 0.3V,	BH15 0.3V,							
BH15 0.7V,	BH17 0.0V,							
BH21 0.3V,	BH27 0.3V,							
WB21 0.3V,	WB21 0.7V,							
WB22 0.3V,	WB22 0.7V,							
WB24 0.3V								
Soil Glass Jar - Unpreserved (EP080-SD)								
BH22 0.3V		**13-FEB-2015**	**24-FEB-2015**	27-FEB-2015	✓	**27-FEB-2015**	27-FEB-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080-SD)								
WB24 0.7V,	TRIP BLANK 10	**13-FEB-2015**	**19-FEB-2015**	27-FEB-2015	✓	**25-FEB-2015**	27-FEB-2015	✓
Soil Glass Jar - Unpreserved (EP080-SD)								
BH1 0.3V,	BH6 0.3V,	**13-FEB-2015**	**19-FEB-2015**	27-FEB-2015	✓	**26-FEB-2015**	27-FEB-2015	✓
BH6 0.7V,	BH10 0.0V,							
BH10 0.3V,	BH15 0.3V,							
BH15 0.7V,	BH17 0.0V,							
BH21 0.3V,	BH27 0.3V,							
WB21 0.3V,	WB21 0.7V,							
WB22 0.3V,	WB22 0.7V,							
WB24 0.3V								
Soil Glass Jar - Unpreserved (EP080-SD)								
BH22 0.3V		**13-FEB-2015**	**24-FEB-2015**	27-FEB-2015	✓	**27-FEB-2015**	27-FEB-2015	✓
EP090: Organotin Compounds								
Soil Glass Jar - Unpreserved (EP090)								
TRIPLICATE 10A,	TRIPLICATE 10B	**12-FEB-2015**	**24-FEB-2015**	26-FEB-2015	✓	**25-FEB-2015**	05-APR-2015	✓
Soil Glass Jar - Unpreserved (EP090)								
BH1 0.0-0.5A,	BH6 0.0-0.8A,	**13-FEB-2015**	**24-FEB-2015**	27-FEB-2015	✓	**25-FEB-2015**	05-APR-2015	✓
BH10 0.0-0.3A,	BH15 0.0-0.5A,							
BH15 0.5-1.0A,	BH17 0.0-0.1A,							
BH21 0.0-0.6A,	BH22 0.0-0.6A,							
BH27 0.0-0.35A,	WB21 0.0-0.5A,							
WB21 0.5-1.0A,	WB22 0.0-0.5A,							
WB22 0.5-1.0A,	WB24 0.0-0.5A,							
WB24 0.5-0.8A								
EP130A: Organophosphorus Pesticides (Ultra-trace)								
Soil Glass Jar - Unpreserved (EP130)								
TRIPLICATE 10A,	TRIPLICATE 10B	**12-FEB-2015**	**24-FEB-2015**	26-FEB-2015	✓	**27-FEB-2015**	05-APR-2015	✓
Soil Glass Jar - Unpreserved (EP130)								
BH1 0.0-0.5A,	BH6 0.0-0.8A,	**13-FEB-2015**	**24-FEB-2015**	27-FEB-2015	✓	**27-FEB-2015**	05-APR-2015	✓
BH10 0.0-0.3A,	BH15 0.0-0.5A,							
BH15 0.5-1.0A,	BH17 0.0-0.1A,							
BH21 0.0-0.6A,	BH22 0.0-0.6A,							
BH27 0.0-0.35A,	WB21 0.0-0.5A,							
WB21 0.5-1.0A,	WB22 0.0-0.5A,							
WB22 0.5-1.0A,	WB24 0.0-0.5A,							
WB24 0.5-0.8A								

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP131A: Organochlorine Pesticides							
Soil Glass Jar - Unpreserved (EP131A)							
TRIPLICATE 10A, TRIPLICATE 10B	**12-FEB-2015**	**24-FEB-2015**	26-FEB-2015	✓	**27-FEB-2015**	05-APR-2015	✓
Soil Glass Jar - Unpreserved (EP131A)							
BH1 0.0-0.5A, BH6 0.0-0.8A, BH10 0.0-0.3A, BH15 0.0-0.5A, BH15 0.5-1.0A, BH17 0.0-0.1A, BH21 0.0-0.6A, BH22 0.0-0.6A, BH27 0.0-0.35A, WB21 0.0-0.5A, WB21 0.5-1.0A, WB22 0.0-0.5A, WB22 0.5-1.0A, WB24 0.0-0.5A, WB24 0.5-0.8A	**13-FEB-2015**	**24-FEB-2015**	27-FEB-2015	✓	**27-FEB-2015**	05-APR-2015	✓
EP131B: Polychlorinated Biphenyls (as Aroclors)							
Soil Glass Jar - Unpreserved (EP131B)							
TRIPLICATE 10A, TRIPLICATE 10B	**12-FEB-2015**	**24-FEB-2015**	26-FEB-2015	✓	**27-FEB-2015**	05-APR-2015	✓
Soil Glass Jar - Unpreserved (EP131B)							
BH1 0.0-0.5A, BH6 0.0-0.8A, BH10 0.0-0.3A, BH15 0.0-0.5A, BH15 0.5-1.0A, BH17 0.0-0.1A, BH21 0.0-0.6A, BH22 0.0-0.6A, BH27 0.0-0.35A, WB21 0.0-0.5A, WB21 0.5-1.0A, WB22 0.0-0.5A, WB22 0.5-1.0A, WB24 0.0-0.5A, WB24 0.5-0.8A	**13-FEB-2015**	**24-FEB-2015**	27-FEB-2015	✓	**27-FEB-2015**	05-APR-2015	✓
EP132B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP132B-SD)							
TRIPLICATE 10A, TRIPLICATE 10B	**12-FEB-2015**	**24-FEB-2015**	26-FEB-2015	✓	**27-FEB-2015**	05-APR-2015	✓
Soil Glass Jar - Unpreserved (EP132B-SD)							
BH1 0.0-0.5A, BH6 0.0-0.8A, BH10 0.0-0.3A, BH15 0.0-0.5A, BH15 0.5-1.0A, BH17 0.0-0.1A, BH21 0.0-0.6A, BH22 0.0-0.6A, BH27 0.0-0.35A, WB21 0.0-0.5A, WB21 0.5-1.0A, WB22 0.0-0.5A, WB22 0.5-1.0A, WB24 0.0-0.5A, WB24 0.5-0.8A	**13-FEB-2015**	**24-FEB-2015**	27-FEB-2015	✓	**27-FEB-2015**	05-APR-2015	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG020A-T)							
RINSATE 10	**13-FEB-2015**	**23-FEB-2015**	12-AUG-2015	✓	**23-FEB-2015**	12-AUG-2015	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG020B-T)							
RINSATE 10	**13-FEB-2015**	**23-FEB-2015**	12-AUG-2015	✓	**23-FEB-2015**	12-AUG-2015	✓
EG035T: Total Recoverable Mercury by FIMS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG035T)							
RINSATE 10	**13-FEB-2015**	**----**	----	----	**26-FEB-2015**	13-MAR-2015	✓
EK055G: Ammonia as N by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK055G)							
RINSATE 10	**13-FEB-2015**	**---**	13-MAR-2015	----	**23-FEB-2015**	13-MAR-2015	✓
EK057G: Nitrite as N by Discrete Analyser							
Clear Plastic Bottle - Natural (EK057G)							
RINSATE 10	**13-FEB-2015**	**---**	15-FEB-2015	----	**18-FEB-2015**	15-FEB-2015	×
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK059G)							
RINSATE 10	**13-FEB-2015**	**---**	13-MAR-2015	----	**23-FEB-2015**	13-MAR-2015	✓
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK061G)							
RINSATE 10	**13-FEB-2015**	**23-FEB-2015**	13-MAR-2015	✓	**23-FEB-2015**	13-MAR-2015	✓
EK067G: Total Phosphorus as P by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK067G)							
RINSATE 10	**13-FEB-2015**	**23-FEB-2015**	13-MAR-2015	✓	**23-FEB-2015**	13-MAR-2015	✓
EP066: Polychlorinated Biphenyls (PCB)							
Amber Glass Bottle - Unpreserved (EP066)							
RINSATE 10	**13-FEB-2015**	**20-FEB-2015**	20-FEB-2015	✓	**20-FEB-2015**	01-APR-2015	✓
EP068A: Organochlorine Pesticides (OC)							
Amber Glass Bottle - Unpreserved (EP068)							
RINSATE 10	**13-FEB-2015**	**20-FEB-2015**	20-FEB-2015	✓	**20-FEB-2015**	01-APR-2015	✓
EP068B: Organophosphorus Pesticides (OP)							
Amber Glass Bottle - Unpreserved (EP068)							
RINSATE 10	**13-FEB-2015**	**20-FEB-2015**	20-FEB-2015	✓	**20-FEB-2015**	01-APR-2015	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071)							
RINSATE 10	**13-FEB-2015**	**20-FEB-2015**	20-FEB-2015	✓	**20-FEB-2015**	01-APR-2015	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
RINSATE 10	**13-FEB-2015**	**20-FEB-2015**	20-FEB-2015	✓	**20-FEB-2015**	01-APR-2015	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
RINSATE 10	**13-FEB-2015**	**24-FEB-2015**	27-FEB-2015	✓	**24-FEB-2015**	27-FEB-2015	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber VOC Vial - Sulfuric Acid (EP080)							
RINSATE 10	**13-FEB-2015**	**24-FEB-2015**	27-FEB-2015	✓	**24-FEB-2015**	27-FEB-2015	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP090: Organotin Compounds							
Amber Glass Bottle - Unpreserved (EP090H)							
RINSATE 10	**13-FEB-2015**	**20-FEB-2015**	20-FEB-2015	✓	**20-FEB-2015**	01-APR-2015	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Ammonia in Sediments	EK255A SD	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Moisture Content	EA055-103	6	59	**10.2**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	4	40	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	4	40	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	2	17	**11.8**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	2	17	**11.8**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	2	17	**11.8**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	2	17	**11.8**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	4	42	**9.5**	**9.5**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	4	33	**12.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	4	33	**12.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	4	33	**12.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	2	17	**11.8**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	4	40	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	2	18	**11.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	5	39	**12.8**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Ammonia in Sediments	EK255A SD	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	2	40	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	2	40	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	17	**5.9**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	17	**5.9**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	17	**5.9**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	17	**5.9**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	6	42	**14.3**	**14.3**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	33	**6.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	33	**6.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	33	**6.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	1	17	**5.9**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	6	40	**15.0**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	3	39	**7.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Method Blanks (MB)							
Ammonia in Sediments	EK255A SD	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	2	40	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	2	40	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	17	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	17	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	17	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	17	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	2	42	4.8	4.8	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	33	6.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	33	6.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	33	6.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	1	17	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	2	40	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	1	18	5.6	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	3	39	7.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia in Sediments	EK255A SD	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	2	40	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	2	40	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	17	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	17	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	17	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	17	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	2	42	4.8	4.8	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	33	6.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	33	6.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	2	40	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	1	18	5.6	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	3	39	7.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Ammonia as N by Discrete analyser	EK055G	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP) - Continued							
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	2	18	**11.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	5	**20.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Ammonia as N by Discrete analyser	EK055G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Compounds (Soluble)	EP090H	1	2	**50.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	11	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	4	**25.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	4	**25.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	3	20	**15.0**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	5	**20.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	3	20	**15.0**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	10	**10.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Ammonia as N by Discrete analyser	EK055G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Compounds (Soluble)	EP090H	1	2	**50.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	11	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	4	**25.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	4	**25.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	5	**20.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	10	**10.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia as N by Discrete analyser	EK055G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Matrix Spikes (MS) - Continued							
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055-103	SOIL	In-house. A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Particle Size Analysis by Hydrometer	EA150H	SOIL	Particle Size Analysis by Hydrometer according to AS1289.3.6.3 - 2003
Soil Particle Density	* EA152	SOIL	Soil Particle Density by AS 1289.3.5.1-2006 : Methods of testing soils for engineering purposes - Soil classification tests - Determination of the soil particle density of a soil - Standard method A modification of the AS 1289.3.5.1 method may apply when testing dispersed soils also tested by AS1289.3.6.3. This modification uses the dispersion solution from AS1289.3.6.3 in place of water for density determinations
Total Fe and Al in Sediments by ICPAES	EG005-SD	SOIL	In house: Referenced to APHA 21st ed., 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3). LORs per NODG
Total Metals in Sediments by ICPMS	EG020-SD	SOIL	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector. Analyte list and LORs per NODG.
Total Mercury by FIMS (Low Level)	EG035T-LL	SOIL	In house: Referenced to AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Nitrite as N - Soluble by Discrete Analyser	EK057G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3- B. Nitrite in a water extract is determined by direct colourimetry by Discrete Analyser.
Nitrate as N - Soluble by Discrete Analyser	EK058G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3--F. Nitrate in the 1:5 soil:water extract is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results.
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3- F. Combined oxidised Nitrogen (NO2+NO3) in a water extract is determined by Chemical Reduction, and direct colourimetry by Discrete Analyser.
TKN as N By Discrete Analyser	EK061G	SOIL	In house: Referenced to APHA 21st ed., 4500-Norg-D Soil samples are digested using Kjeldahl digestion followed by determination by Discrete Analyser.
Total Nitrogen as N (TKN + NOx) By Discrete Analyser	EK062G	SOIL	In house: Referenced to APHA 21st ed., 4500 Norg/NO3- Total Nitrogen is determined as the sum of TKN and Oxidised Nitrrogen, each determined seperately as N.
Total Phosporus By Discrete Analyser	EK067G	SOIL	In house: Referenced to APHA 21st ed., 4500 P-B&F This procedure involves sulfuric acid digestion and quantification using Discrete Analyser.
Ammonia in Sediments	EK255A SD	SOIL	Rayment and Higginson (1992) Method 7C1 and 7C2. This method measures exchangeable ammonium which is defined by the amount of ammonium released by shaking sediment with an un-buffered 2M potassium chloride solution.

Analytical Methods	Method	Matrix	Method Descriptions
Total Organic Carbon	EP003	SOIL	In-house C-IR17. Dried and pulverised sample is reacted with acid to remove inorganic Carbonates, then combusted in a LECO furnace in the presence of strong oxidants / catalysts. The evolved (Organic) Carbon (as CO2) is automaticaly measured by infra-red detector.
TPH - Semivolatile Fraction	EP071-SD	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 504)
TRH Volatiles/BTEX in Sediments	EP080-SD	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve.
Organotin Analysis	EP090	SOIL	(USEPA SW 846 - 8270D) Prepared sample extracts are analysed by GC/MS coupled with high volume injection, and quanitified against an established calibration curve.
Organophosphorus Pesticides (Ultra-trace)	EP130	SOIL	USEPA Method 3640 (GPC cleanup), 8141 (GC/FPD - Capillary Column) This technique is compliant with NEPM (2013) Schedule B(3) (Method 505)
Organochlorine Pesticides (Ultra-trace)	EP131A	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (2013) Schedule B(3) (Method 504)
PCB's (Ultra-trace)	EP131B	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (2013) Schedule B(3) (Method 504)
PAHs in Sediments by GCMS(SIM)	EP132B-SD	SOIL	USEPA 8270 GCMS Capillary column, SIM mode using large volume programmed temperature vaporisation injection.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Metals by ICP-MS - Suite B	EG020B-T	WATER	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Mercury by FIMS	EG035T	WATER	In house: Referenced to AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Ammonia as N by Discrete analyser	EK055G	WATER	In house: Referenced to APHA 21st ed., 4500-NH3 G Ammonia is determined by direct colorimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Nitrite as N by Discrete Analyser	EK057G	WATER	In house: Referenced to APHA 21st ed., 4500-NO2- B. Nitrite is determined by direct colourimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Nitrate as N by Discrete Analyser	EK058G	WATER	In house: Referenced to APHA 21st ed., 4500-NO3- F. Nitrate is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results. This method is compliant with NEPM (2013) Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	WATER	In house: Referenced to APHA 21st ed., 4500-NO3- F. Combined oxidised Nitrogen (NO2+NO3) is determined by Chemical Reduction and direct colourimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	WATER	In house: Referenced to APHA 21st ed., 4500-Norg D (In house). An aliquot of sample is digested using a high temperature Kjeldahl digestion to convert nitrogenous compounds to ammonia. Ammonia is determined colorimetrically by discrete analyser. This method is compliant with NEPM (2013) Schedule B(3)
Total Nitrogen as N (TKN + Nox) By Discrete Analyser	EK062G	WATER	In house: Referenced to APHA 21st ed., 4500-Norg / 4500-NO3-. This method is compliant with NEPM (2013) Schedule B(3)
Total Phosphorus as P By Discrete Analyser	EK067G	WATER	In house: Referenced to APHA 21st ed., 4500-P H, Jirka et al (1976), Zhang et al (2006). This procedure involves sulphuric acid digestion of a sample aliquot to break phosphorus down to orthophosphate. The orthophosphate reacts with ammonium molybdate and antimony potassium tartrate to form a complex which is then reduced and its concentration measured at 880nm using discrete analyser. This method is compliant with NEPM (2013) Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Pesticides by GCMS	EP068	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
Organotin Compounds (Soluble)	EP090H	WATER	(USEPA SW 846 - 8270D, ALS QWI-ORG/EP090) Sample extracts (ALS QWI-ORG/035) are analysed by GC/MS coupled with high volume injection (10-50µL). Quantitation is achieved using internal standard and average response factor quantitation techniques against an established five-point curve. Butyltin results are reported in either "as tin" units eg. ng Sn/L or "ng TBT+/L". The analytical standards are prepared in "as tin" units. Sample results are converted to TBT+ results as required.

Preparation Methods	Method	Matrix	Method Descriptions
TKN/TP Digestion	EK061/EK067	SOIL	APHA 21st ed., 4500 Norg- D; APHA 21st ed., 4500 P - H. Macro Kjeldahl digestion.
1:5 solid / water leach for soluble analytes	EN34	SOIL	10 g of soil is mixed with 50 mL of distilled water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids/ Sample Cleanup	ORG17A-UTP	SOIL	In-house, Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. Samples are extracted, concentrated (by KD) and exchanged into an appropriate solvent for GPC and florisil cleanup as required.

Preparation Methods	Method	Matrix	Method Descriptions
Tumbler Extraction of Solids for LVI (Non-concentrating)	ORG17D	SOIL	In house: 10g of sample, Na2SO4 and surrogate are extracted with 50mL 1:1 DCM/Acetone by end over end tumbling. An aliquot is concentrated by nitrogen blowdown to a reduced volume for analysis if required.
Organotin Sample Preparation	ORG35	SOIL	In house. 20g sample is spiked with surrogate and leached in a methanol:acetic acid:UHP water mix and vacuum filtered. Reagents and solvents are added to the sample and the mixture tumbled. The butyltin compounds are simultaneously derivatised and extracted. The extract is further extracted with petroleum ether. The resultant extracts are combined and concentrated for analysis.
TKN/TP Digestion	EK061/EK067	WATER	APHA 21st ed., 4500 Norg - D; APHA 21st ed., 4500 P - H. This method is compliant with NEPM (2013) Schedule B(3)
Digestion for Total Recoverable Metals	EN25	WATER	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (2013) Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (2013) Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Organotin Sample Preparation	ORG34H	WATER	(IN HOUSE, ALS QWI-ORG/35) A specified volume (determined by the detection limit requirement) of sample is spiked with surrogate, acidified and vacuum filtered. Reagents and solvent are added to the sample and the mixture tumbled for 20 minutes. The butyltin compounds is derivitisated, extracted and the subtitution reaction is completed. The extracts is transferred to a separatory funnel and further extracted two times using petroleum ether. The resultant extracts are combined and concentrated to the desired volume for analysis.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW 846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EK255A SD: Ammonia in Sediment	ES1503599-034	Anonymous	**Ammonia as N**	7664-41-7	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP090: Organotin Compounds	ES1503683-004	BH6 0.0-0.8A	**Monobutyltin**	78763-54-9	13.6 %	35-130%	**Recovery less than lower data quality objective**

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Duplicate outliers occur.**
- **For all matrices, no Laboratory Control outliers occur.**

Regular Sample Surrogates

- **For all regular sample matrices, no surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

Matrix: **WATER**

Method / Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EK057G: Nitrite as N by Discrete Analyser						
Clear Plastic Bottle - Natural						
RINSATE 10	----	----	----	18-FEB-2015	15-FEB-2015	**3**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle): Custody Seal Intact? Yes No N/A; Free ice / frozen ice bricks present upon receipt? Yes No N/A; Random Sample Temperature on Receipt: °C; Other comments:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 7	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr DATE/TIME: 14 February 2015	RECEIVED BY: Kelly Schafer DATE/TIME: 14 February 2015 1830
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:
KSchafer	Kavi
DATE/TIME: 16-2-15 1600	DATE/TIME: 17/2/15 14:30

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	BH3 0.0-0.3 A	14/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
2	BH3 0.0-0.3 B	14/02/2015	S	Bag (White label)	1		1							
3	BH3 0.1V	14/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

150ml Jars and 500ml Amber sent direct to Brisbane for TOC/TBT

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle): COC: 1 (2) 3 4 5 6 7; OF: 1 2 3 (4) 5 6 7
ORDER NUMBER: 245553		
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:	°C		
Other comments:			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	Kelly Schafer		
DATE/TIME: 14 February 2015	DATE/TIME: 14 February 2015 1830	DATE/TIME: 16-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
4	BH4 0.0-0.6A	14/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
5	BH4 0.0-0.6 B	14/02/2015	S	Bag (White label)	1		1							
6	BH4 0.3V	14/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free Ice / Frozen Ice bricks present upon receipt?	Yes No N/A
ORDER NUMBER: 245553		COC SEQUENCE NUMBER (Circle) COC: 1 2 (3) 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 (4) 5 6 7	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
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RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*		
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
14 February 2015	14 February 2015 1830	16-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
7	BH30 0.0-0.5A	14/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
08	BH30 0.5-1.1A	14/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
9	BH30 0.0-0.5B	14/02/2015	S	Bag (White label)	1		1							
10	BH30 0.5-1.1 B	14/02/2015	S	Bag (White label)	1		1							
11	BH30 0.3V	14/02/2015	S	Glass Jar (150 ml)	1			1						
12	BH30 0.7V	14/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	6	1	2	2						

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☐MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
☐MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 0735 E: mudgee.mail@alsglobal.com
☐NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
☐NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
☐PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
☐SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
☐TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date):	5 day turnaround
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.:	SY - 1021-14 V2	
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

COC SEQUENCE NUMBER (Circle)

COC: 1 2 3 (4) 5 6 7

OF: 1 2 3 (4) 5 6 7

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt		°C	
Other comment:			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	Kelly Schafer	KS	
DATE/TIME: 14 February 2015	DATE/TIME: 14 February 2015 1830	DATE/TIME: 16.2.15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	Rinsate Suite	Trip blank suite	
13	Trip Blank 11	14/02/2015	S	Pre-filled glass jar	1								1	
14	Rinsate 11	14/02/2015	W	Bottle	8							1		
				TOTAL	9							1	1	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

SAMPLE RECEIPT INFORMATION & BOTTLE TYPE

CONWAS

WORKORDER No: ES1503684

To be completed by Sample Receipt						Samples checked, labelled and put in trays by:	Analysis creation by: (Starlims only)
Sorting Times *(Only record for BP, Mobil & URS)*	**Temperature Details** (record if NOT on COC)		**Packaging**		**Courier Details** (Mandatory for Quarantine)		
Time Sorting Commenced:	Sample Temp	'C	Seal Intact - Y / N / NA		Con Note:		
Time Placed in Fridge:	Chilling Method - Circle If sample temp is less than 6'C it is not necessary to complete this section		**Type**	**No.**		Initial:	Initial:
Sorting to Fridge Target Time <1 Hour			Esky		*Cells shaded grey don't need to be completed on this form if they are entered directly into LIMS/ANGEL by Sample Receipt staff.*		
	Ice / Ice Bricks / No Chilling		Other				

Sample Receipt Advice Comments - To be completed by Sorting Staff

VOC analysis may be compromised as sample containers contained **headspace** *(list):*

Details of any samples damaged during transit:

Other Information (eg. Were bottles received that weren't completely filled) (eg. If sample temperature is above 6'C add further detail here - *Internal use only - Not for SRN*):

Samples oiginally received at ALS Gladstone - Date - Temp and forward to ALS Sydney for Analysis.

BOTTLES LOGGED AND LABELLED ◯

Metals Bottles: F = Field filtered. T = Total. N/S = Not Specified.
Cyanide Bottles: Tr = Treated, meaning the client has ticked the pre-treated box on the bottle. Un = Untreated, meaning the box is not ticked.
Ferrous Iron, Hexavalent Chromium & Geosmin and MIB: F = Field filtered. N/S = Not Specified.
Soil Bags: S = Small. M = Medium (~500mL asbestos or PSD bag). L = Large (~6kg FMT bag)

Lab No.	S-						SV-				Scores by	V(Vial)*					T(Vial)*			W-				P-		OG-	M-								IN-										Micro			UTW-		Crypto Lab	Other
	Soil jar	Sediment jar	SOIL BAG CIRCE Plastic / Paper Frozen / Not Frozen			Potential ACM Board	Glass Orange (SVOC)		Grey HDPE - No PTFE (PFOS & PFOA etc)		Red Glass (AOX)	Purple (VOC)	Dark Blue / White (Halo Acetic Acids)	Grey (Acrylamide Acrolein)	Green (Geosmin & MIB)		Purple		Black on White EDA preserved (ED013)	Natural Plastic Green			White Plastic Green (Chlorate)	Plastic Purple (Nutrien, Total Phenols & COD)		Purple Glass (O&G)	Standard Metal Bottle			ORC Metal Bottle			Maroon on White Plastic (As / Se Specia'n)	Blue White Plastic (CN)		Yellow Plastic (Sulfide)	Light Blue Plastic (UHS)	Light Orange Plastic (Sulfite)	Maroon Plastic (Ferrous Iron)		Blue Plastic (Cr VI)		Barwal Green Stripe Glass (Surf Lor Alkyl Ethox's)	Sterile Micro Jar		Dark Green White Plastic (Algae)	Light Green & White Plastic (UT Nutrients - Unfiltered)	Turquoise & White Plastic (UT Nutrients - Filtered)	Plastic Carboy (Crypto & Giardia)	
																	TOC	DOC									CIRCLE Red OR Red / Green			CIRCLE Red OR Red / Green														Black	Grey					
	150	250	S	M	L	Bag	100	500	60	125	500	40	40	40	F	N/S	40	40	40mL	1L	500	250	1L	60	125	250mL	F	T	N/S	F	T	N/S	60	Tr	Un	125	250	250	F	N/S	F	N/S	500	120	250	500mL	60	60	10L	
	This line allows for an initial indication of bottle types received without specifying the exact number for each sample. When using this function tick the boxes matching the containers received for this work order.																																															
1																																																
2																																																
3																																																
4																																																
5																																																
6																																																
7																																																
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9																																																
10																																																

BRISBANE COPY

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS: (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: (1) 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 (4) 5 6 7	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sallyleyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	Kelly Schafer	Kschafer	AM
DATE/TIME: 14 February 2015	DATE/TIME: 14 February 2015 1830	DATE/TIME: 16-2-15 1600	DATE/TIME: 08-25 17-2-15

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	BH3 0.0-0.3 A	14/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
2	BH3 0.0-0.3 B	14/02/2015	S	Bag (White label)	1		1							
3	BH3 0.1V	14/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

150ml Jars and 500ml Amber sent direct to Brisbane for TOC/TBT

Environmental Division
Sydney
Work Order
ES1503684

Telephone : +61-2-8784 8555

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Free ice / frozen ice bricks present upon receipt? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 (2) 3 4 5 6 7	Random Sample Temperature on Receipt: °C
ORDER NUMBER: 245553		OF: 1 2 3 (4) 5 6 7	Other comment:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr DATE/TIME: 14 February 2015	RECEIVED BY: Kelly Schafer DATE/TIME: 14 February 2015 18:30
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: DATE/TIME: 16-2-15 1600	RECEIVED BY: DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
4	BH4 0.0-0.6A	14/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
5	BH4 0.0-0.6 B	14/02/2015	S	Bag (White label)	1		1							
6	BH4 0.3V	14/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ALS BRISBANE 32 Shand Road Romeo QLD 4068 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
ALS MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
ALS MELBOURNE Unit 1, 2 Dalmore Drive Scoresby VIC 3179 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
ALS TOWNSVILLE 14-15 Desma Court Garbutt QLD 4814 Ph: 07 4796 0600 E: townsville@alsglobal.com
ALS GLADSTONE 2/3 Kenneth Road Manning QLD 4670 Ph: 07 4971 4600 E: gladstone@alsglobal.com
ALS SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
ALS PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
ALS WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround		Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 (3) 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 (4) 5 6 7	Other comment:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		14 February 2015	14 February 2015 1830	16.2.15 1600

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
7	BH30 0.0-0.5A	14/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
8	BH30 0.5-1.1A	14/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
9	BH30 0.0-0.5B	14/02/2015	S	Bag (White label)	1		1							
10	BH30 0.5-1.1 B	14/02/2015	S	Bag (White label)	1		1							
11	BH30 0.3V	14/02/2015	S	Glass Jar (150 ml)	1			1						
12	BH30 0.7V	14/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	6	1	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE 21 Burma Road Pooraka SA 5095
PH: 08 8359 0890 E: adelaide@alsglobal.com

BRISBANE 32 Shand Street Stafford QLD 4053
PH: 07 3243 7222 E: samples.brisbane@alsglobal.com

GLADSTONE 46 Callemondah Drive Clinton QLD 4680
PH: 07 4971 6600 E: gladstone@alsglobal.com

TOWNSVILLE 14-15 Desma Court Garbutt QLD 4814
PH: 07 4796 0600 E: townsville@alsglobal.com

NEWCASTLE 5/19 Asset Drive Tomago NSW 2322
PH: 02 4968 9433 E: newcastle@alsglobal.com

SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
PH: 02 8784 8555 E: sydney@alsglobal.com

PERTH 10 Hod Way Malaga WA 6090
PH: 08 9209 7655 E: perth@alsglobal.com

WOLLONGONG 99 Kenny Street Wollongong NSW 2500
PH: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 (4) 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 (4) 5 6 7	Other comment:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer	XS	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		14 February 2015	14 February 2015 1830	16.2.15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	Rinsate Suite	Trip blank suite	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
13	Trip Blank 11	14/02/2015	S	Pre-filled glass jar	1								1	
14	Rinsate 11	14/02/2015	W	Bottle	8							1		
				TOTAL	9							1	1	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1503684**	Page	: 1 of 21
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 24553		
C-O-C number	: ----	Date Samples Received	: 17-FEB-2015
Sampler	: GK	Issue Date	: 09-MAR-2015
Site	: ----		
		No. of samples received	: 14
Quote number	: SY/1021/14 V2	No. of samples analysed	: 14

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.**
- **EK067G: Poor duplicate precision due to sample heterogeneity. Confirmed by re-extraction and re-analysis.**
- **EP090: Sample ES1503599-002 shows poor matrix spike recovery for Monobutyltin due to matrix interference.**

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Ashesh Patel	Inorganic Chemist	Sydney Inorganics
Dianne Blane	Laboratory Coordinator (2IC)	Newcastle - Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
		Sydney Organics
Ryan Story	2IC Organic Instrument Chemist	Brisbane Organics
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH3 0.0-0.3A	BH3 0.0-0.3B	BH3 0.1V	BH4 0.0-0.6A	BH4 0.0-0.6B
				Client sampling date / time	14-FEB-2015 15:00	14-FEB-2015 15:00	14-FEB-2015 15:00	14-FEB-2015 15:00	14-FEB-2015 15:00
					ES1503684-001	ES1503684-002	ES1503684-003	ES1503684-004	ES1503684-005
EA150: Particle Sizing									
+75µm	----	1	%		----	**15**	----	----	**92**
+150µm	----	1	%		----	**10**	----	----	**90**
+300µm	----	1	%		----	**7**	----	----	**85**
+425µm	----	1	%		----	**6**	----	----	**80**
+600µm	----	1	%		----	**4**	----	----	**71**
+1180µm	----	1	%		----	**2**	----	----	**46**
+2.36mm	----	1	%		----	<1	----	----	**15**
+4.75mm	----	1	%		----	<1	----	----	**2**
+9.5mm	----	1	%		----	<1	----	----	<1
+19.0mm	----	1	%		----	<1	----	----	<1
+37.5mm	----	1	%		----	<1	----	----	<1
+75.0mm	----	1	%		----	<1	----	----	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**21.4**	----	**20.5**	**10.2**	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	**45**	----	----	**4**
Silt (2-60 µm)	----	1	%		----	**38**	----	----	**2**
Sand (0.06-2.00 mm)	----	1	%		----	**16**	----	----	**70**
Gravel (>2mm)	----	1	%		----	**1**	----	----	**24**
Cobbles (>6cm)	----	1	%		----	<1	----	----	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	**2.60**	----	----	**2.65**
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**16200**	----	----	**3840**	----
Iron	7439-89-6	50	mg/kg		**40700**	----	----	**8810**	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	----	----	<0.50	----
Arsenic	7440-38-2	1.00	mg/kg		**6.85**	----	----	**1.45**	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	----	----	<0.1	----
Chromium	7440-47-3	1.0	mg/kg		**23.6**	----	----	**9.5**	----
Copper	7440-50-8	1.0	mg/kg		**36.0**	----	----	**8.4**	----
Cobalt	7440-48-4	0.5	mg/kg		**15.4**	----	----	**7.7**	----
Lead	7439-92-1	1.0	mg/kg		**8.6**	----	----	**1.6**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH3 0.0-0.3A	BH3 0.0-0.3B	BH3 0.1V	BH4 0.0-0.6A	BH4 0.0-0.6B
				Client sampling date / time	14-FEB-2015 15:00	14-FEB-2015 15:00	14-FEB-2015 15:00	14-FEB-2015 15:00	14-FEB-2015 15:00
					ES1503684-001	ES1503684-002	ES1503684-003	ES1503684-004	ES1503684-005
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		**638**	----	----	**43**	----
Nickel	7440-02-0	1.0	mg/kg		**18.9**	----	----	**4.4**	----
Selenium	7782-49-2	0.1	mg/kg		**1.1**	----	----	**0.2**	----
Silver	7440-22-4	0.1	mg/kg		<0.1	----	----	<0.1	----
Vanadium	7440-62-2	2.0	mg/kg		**86.2**	----	----	**37.5**	----
Zinc	7440-66-6	1.0	mg/kg		**69.6**	----	----	**14.2**	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		**0.03**	----	----	<0.01	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	<0.1	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	<0.1	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	<0.1	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		**190**	----	----	<20	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		**190**	----	----	<20	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		**306**	----	----	**123**	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		**0.4**	----	----	**0.4**	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		**0.20**	----	----	**0.03**	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	----	----	<3	----
>C16 - C34 Fraction	----	3	mg/kg		<3	----	----	**10**	----
>C34 - C40 Fraction	----	5	mg/kg		<5	----	----	<5	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	----	----	**10**	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	<3	----	----
C10 - C14 Fraction	----	3	mg/kg		<3	----	----	<3	----
C15 - C28 Fraction	----	3	mg/kg		<3	----	----	**6**	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH3 0.0-0.3A	BH3 0.0-0.3B	BH3 0.1V	BH4 0.0-0.6A	BH4 0.0-0.6B
				Client sampling date / time	14-FEB-2015 15:00	14-FEB-2015 15:00	14-FEB-2015 15:00	14-FEB-2015 15:00	14-FEB-2015 15:00
					ES1503684-001	ES1503684-002	ES1503684-003	ES1503684-004	ES1503684-005
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	----	----	**6**	----
^ **C10 - C36 Fraction (sum)**	----	3	mg/kg		<3	----	----	**12**	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	<3	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	<0.2	----	----
Toluene	108-88-3	0.2	mg/kg		----	----	<0.2	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	<0.2	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	<0.2	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	<0.2	----	----
^ **Total Xylenes**	1330-20-7	0.5	mg/kg		----	----	<0.5	----	----
^ **Sum of BTEX**	----	0.2	mg/kg		----	----	<0.2	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	----	----	<1	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	----	----	<1	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	----	----	<0.5	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	----	----	<10	----
Carbophenothion	786-19-6	10	µg/kg		<10	----	----	<10	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	----	----	<10.0	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	----	----	<10	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	----	----	<10	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	----	----	<10	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	----	----	<10	----
Diazinon	333-41-5	10	µg/kg		<10	----	----	<10	----
Dichlorvos	62-73-7	10	µg/kg		<10	----	----	<10	----
Dimethoate	60-51-5	10	µg/kg		<10	----	----	<10	----
Ethion	563-12-2	10	µg/kg		<10	----	----	<10	----
Fenamiphos	22224-92-6	10	µg/kg		<10	----	----	<10	----
Fenthion	55-38-9	10	µg/kg		<10	----	----	<10	----
Malathion	121-75-5	10	µg/kg		<10	----	----	<10	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	----	----	<10	----
Monocrotophos	6923-22-4	10	µg/kg		<10	----	----	<10	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH3 0.0-0.3A	BH3 0.0-0.3B	BH3 0.1V	BH4 0.0-0.6A	BH4 0.0-0.6B
				Client sampling date / time	14-FEB-2015 15:00	14-FEB-2015 15:00	14-FEB-2015 15:00	14-FEB-2015 15:00	14-FEB-2015 15:00
					ES1503684-001	ES1503684-002	ES1503684-003	ES1503684-004	ES1503684-005
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	----	----	<10	----
Parathion-methyl	298-00-0	10	µg/kg		<10	----	----	<10	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	----	----	<10	----
Prothiofos	34643-46-4	10	µg/kg		<10	----	----	<10	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	----	----	<0.50	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	----	----	<0.50	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	----	----	<0.50	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	----	----	<0.50	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	----	----	<0.50	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	----	----	<0.50	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	----	----	<0.50	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	----	----	<0.50	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	----	----	<0.50	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	----	----	<0.50	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	----	----	<0.50	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	----	----	<0.50	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	----	----	<0.50	----
Endrin	72-20-8	0.50	µg/kg		<0.50	----	----	<0.50	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	----	----	<0.50	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	----	----	<0.50	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	----	----	<0.50	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	----	----	<0.50	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	----	----	<0.50	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	----	----	<0.25	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	----	----	<0.50	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	----	----	<0.25	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	----	----	<0.25	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	----	----	<0.25	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	----	----	<0.50	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	----	----	<5.0	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH3 0.0-0.3A	BH3 0.0-0.3B	BH3 0.1V	BH4 0.0-0.6A	BH4 0.0-0.6B
				Client sampling date / time	14-FEB-2015 15:00	14-FEB-2015 15:00	14-FEB-2015 15:00	14-FEB-2015 15:00	14-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503684-001	ES1503684-002	ES1503684-003	ES1503684-004	ES1503684-005
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	----	----	<5.0	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	----	----	<5	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	----	----	<5	----
Acenaphthylene	208-96-8	4	µg/kg		<4	----	----	<4	----
Acenaphthene	83-32-9	4	µg/kg		<4	----	----	<4	----
Fluorene	86-73-7	4	µg/kg		<4	----	----	<4	----
Phenanthrene	85-01-8	4	µg/kg		<4	----	----	<4	----
Anthracene	120-12-7	4	µg/kg		<4	----	----	<4	----
Fluoranthene	206-44-0	4	µg/kg		<4	----	----	<4	----
Pyrene	129-00-0	4	µg/kg		<4	----	----	<4	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	----	----	<4	----
Chrysene	218-01-9	4	µg/kg		<4	----	----	<4	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	----	----	<4	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	----	----	<4	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	----	----	<4	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	----	----	<4	----
Perylene	198-55-0	4	µg/kg		<4	----	----	<4	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	----	----	<4	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	----	----	<4	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	----	----	<4	----
Coronene	191-07-1	5	µg/kg		<5	----	----	<5	----
^ Sum of PAHs	----	4	µg/kg		<4	----	----	<4	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	**119**	----	----
Toluene-D8	2037-26-5	0.1	%		----	----	**94.8**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	**105**	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**73.2**	----	----	**88.3**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH3 0.0-0.3A	BH3 0.0-0.3B	BH3 0.1V	BH4 0.0-0.6A	BH4 0.0-0.6B
			Client sampling date / time	14-FEB-2015 15:00	14-FEB-2015 15:00	14-FEB-2015 15:00	14-FEB-2015 15:00	14-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503684-001	ES1503684-002	ES1503684-003	ES1503684-004	ES1503684-005
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**70.9**	----	----	**67.6**	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**78.2**	----	----	**66.2**	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**87.8**	----	----	**100**	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**107**	----	----	**94.3**	----
Anthracene-d10	1719-06-8	0.1	%	**112**	----	----	**107**	----
4-Terphenyl-d14	1718-51-0	0.1	%	**119**	----	----	**92.1**	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH4 0.3V	BH30 0.0-0.5A	BH30 0.5-1.1A	BH30 0.0-0.5B	BH30 0.5-1.1B
				Client sampling date / time	14-FEB-2015 15:00	14-FEB-2015 15:00	14-FEB-2015 15:00	14-FEB-2015 15:00	14-FEB-2015 15:00
					ES1503684-006	ES1503684-007	ES1503684-008	ES1503684-009	ES1503684-010
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	**97**	**68**
+150µm	----	1	%		----	----	----	**95**	**64**
+300µm	----	1	%		----	----	----	**85**	**31**
+425µm	----	1	%		----	----	----	**78**	**23**
+600µm	----	1	%		----	----	----	**77**	**22**
+1180µm	----	1	%		----	----	----	**76**	**21**
+2.36mm	----	1	%		----	----	----	**75**	**20**
+4.75mm	----	1	%		----	----	----	**74**	**20**
+9.5mm	----	1	%		----	----	----	**72**	**18**
+19.0mm	----	1	%		----	----	----	**70**	**18**
+37.5mm	----	1	%		----	----	----	**21**	**18**
+75.0mm	----	1	%		----	----	----	<1	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**8.8**	**22.3**	**24.6**	----	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	**2**	**17**
Silt (2-60 µm)	----	1	%		----	----	----	<1	**11**
Sand (0.06-2.00 mm)	----	1	%		----	----	----	**23**	**51**
Gravel (>2mm)	----	1	%		----	----	----	**58**	**7**
Cobbles (>6cm)	----	1	%		----	----	----	**17**	**14**
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	**2.64**	**2.63**
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	**6960**	**9890**	----	----
Iron	7439-89-6	50	mg/kg		----	**17600**	**21400**	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	<0.50	<0.50	----	----
Arsenic	7440-38-2	1.00	mg/kg		----	**12.0**	**8.83**	----	----
Cadmium	7440-43-9	0.1	mg/kg		----	<0.1	<0.1	----	----
Chromium	7440-47-3	1.0	mg/kg		----	**14.8**	**21.0**	----	----
Copper	7440-50-8	1.0	mg/kg		----	**8.1**	**12.8**	----	----
Cobalt	7440-48-4	0.5	mg/kg		----	**10.7**	**10.8**	----	----
Lead	7439-92-1	1.0	mg/kg		----	**4.2**	**5.9**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH4 0.3V	BH30 0.0-0.5A	BH30 0.5-1.1A	BH30 0.0-0.5B	BH30 0.5-1.1B
				Client sampling date / time	14-FEB-2015 15:00	14-FEB-2015 15:00	14-FEB-2015 15:00	14-FEB-2015 15:00	14-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503684-006	ES1503684-007	ES1503684-008	ES1503684-009	ES1503684-010
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	**430**	**271**	----	----
Nickel	7440-02-0	1.0	mg/kg		----	**7.4**	**9.5**	----	----
Selenium	7782-49-2	0.1	mg/kg		----	**0.3**	**0.4**	----	----
Silver	7440-22-4	0.1	mg/kg		----	<0.1	<0.1	----	----
Vanadium	7440-62-2	2.0	mg/kg		----	**37.8**	**39.3**	----	----
Zinc	7440-66-6	1.0	mg/kg		----	**24.7**	**32.7**	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	<0.01	**0.01**	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	**0.3**	<0.1	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	**0.3**	<0.1	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	**80**	**70**	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	**80**	**70**	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	**190**	**242**	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	**0.2**	**0.4**	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	**0.03**	**0.03**	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	<3	<3	----	----
>C16 - C34 Fraction	----	3	mg/kg		----	**12**	**11**	----	----
>C34 - C40 Fraction	----	5	mg/kg		----	<5	<5	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	**12**	**11**	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	----	----	----	----
C10 - C14 Fraction	----	3	mg/kg		----	<3	<3	----	----
C15 - C28 Fraction	----	3	mg/kg		----	**7**	**7**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH4 0.3V	BH30 0.0-0.5A	BH30 0.5-1.1A	BH30 0.0-0.5B	BH30 0.5-1.1B
				Client sampling date / time	14-FEB-2015 15:00	14-FEB-2015 15:00	14-FEB-2015 15:00	14-FEB-2015 15:00	14-FEB-2015 15:00
					ES1503684-006	ES1503684-007	ES1503684-008	ES1503684-009	ES1503684-010
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	8	6	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	15	13	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	----	----	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.2	mg/kg		<0.2	----	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	----	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	----	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	<1	<1	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	<1	<1	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	<0.5	<0.5	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	<10	<10	----	----
Carbophenothion	786-19-6	10	µg/kg		----	<10	<10	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	<10.0	<10.0	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	<10	<10	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	<10	<10	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	<10	<10	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	<10	<10	----	----
Diazinon	333-41-5	10	µg/kg		----	<10	<10	----	----
Dichlorvos	62-73-7	10	µg/kg		----	<10	<10	----	----
Dimethoate	60-51-5	10	µg/kg		----	<10	<10	----	----
Ethion	563-12-2	10	µg/kg		----	<10	<10	----	----
Fenamiphos	22224-92-6	10	µg/kg		----	<10	<10	----	----
Fenthion	55-38-9	10	µg/kg		----	<10	<10	----	----
Malathion	121-75-5	10	µg/kg		----	<10	<10	----	----
Azinphos Methyl	86-50-0	10	µg/kg		----	<10	<10	----	----
Monocrotophos	6923-22-4	10	µg/kg		----	<10	<10	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH4 0.3V	BH30 0.0-0.5A	BH30 0.5-1.1A	BH30 0.0-0.5B	BH30 0.5-1.1B
				Client sampling date / time	14-FEB-2015 15:00	14-FEB-2015 15:00	14-FEB-2015 15:00	14-FEB-2015 15:00	14-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503684-006	ES1503684-007	ES1503684-008	ES1503684-009	ES1503684-010
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	<10	<10	----	----
Parathion-methyl	298-00-0	10	µg/kg		----	<10	<10	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	<10	<10	----	----
Prothiofos	34643-46-4	10	µg/kg		----	<10	<10	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg		----	<0.50	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	<0.50	<0.50	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	<0.50	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	<0.50	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	<0.50	<0.50	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	<0.50	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	<0.50	<0.50	----	----
gamma-BHC	58-89-9	0.25	µg/kg		----	<0.25	<0.25	----	----
Methoxychlor	72-43-5	0.50	µg/kg		----	<0.50	<0.50	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	<0.25	<0.25	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	<0.25	<0.25	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		----	<0.25	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	<0.50	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	<5.0	<5.0	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH4 0.3V	BH30 0.0-0.5A	BH30 0.5-1.1A	BH30 0.0-0.5B	BH30 0.5-1.1B
				Client sampling date / time	14-FEB-2015 15:00	14-FEB-2015 15:00	14-FEB-2015 15:00	14-FEB-2015 15:00	14-FEB-2015 15:00
					ES1503684-006	ES1503684-007	ES1503684-008	ES1503684-009	ES1503684-010
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	<5.0	<5.0	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	<5	<5	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	<5	<5	----	----
Acenaphthylene	208-96-8	4	µg/kg		----	<4	<4	----	----
Acenaphthene	83-32-9	4	µg/kg		----	<4	<4	----	----
Fluorene	86-73-7	4	µg/kg		----	<4	<4	----	----
Phenanthrene	85-01-8	4	µg/kg		----	<4	<4	----	----
Anthracene	120-12-7	4	µg/kg		----	<4	<4	----	----
Fluoranthene	206-44-0	4	µg/kg		----	<4	<4	----	----
Pyrene	129-00-0	4	µg/kg		----	<4	<4	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	<4	<4	----	----
Chrysene	218-01-9	4	µg/kg		----	<4	<4	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	<4	<4	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	<4	<4	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	<4	<4	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	<4	<4	----	----
Perylene	198-55-0	4	µg/kg		----	<4	<4	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	<4	<4	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	<4	<4	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	<4	<4	----	----
Coronene	191-07-1	5	µg/kg		----	<5	<5	----	----
^ **Sum of PAHs**	----	4	µg/kg		----	<4	<4	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**114**	----	----	----	----
Toluene-D8	2037-26-5	0.1	%		**87.8**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**102**	----	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	**78.7**	**86.3**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH4 0.3V	BH30 0.0-0.5A	BH30 0.5-1.1A	BH30 0.0-0.5B	BH30 0.5-1.1B
			Client sampling date / time	14-FEB-2015 15:00	14-FEB-2015 15:00	14-FEB-2015 15:00	14-FEB-2015 15:00	14-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503684-006	ES1503684-007	ES1503684-008	ES1503684-009	ES1503684-010
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	70.4	66.9	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	66.0	86.0	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	105	65.3	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	101	92.9	----	----
Anthracene-d10	1719-06-8	0.1	%	----	91.4	119	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	88.1	123	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH30 0.3V	BH30 0.7V	TRIP BLANK	----	----
			Client sampling date / time	14-FEB-2015 15:00	14-FEB-2015 15:00	14-FEB-2015 15:00	----	----
Compound	CAS Number	LOR	Unit	ES1503684-011	ES1503684-012	ES1503684-013	----	----
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	**26.5**	**22.8**	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013								
>C10 - C16 Fraction	>C10_C16	3	mg/kg	----	----	<3	----	----
>C16 - C34 Fraction	----	3	mg/kg	----	----	<3	----	----
>C34 - C40 Fraction	----	5	mg/kg	----	----	<5	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg	----	----	<3	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	3	mg/kg	<3	<3	<3	----	----
C10 - C14 Fraction	----	3	mg/kg	----	----	<3	----	----
C15 - C28 Fraction	----	3	mg/kg	----	----	<3	----	----
C29 - C36 Fraction	----	5	mg/kg	----	----	<5	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg	----	----	<3	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons								
C6 - C10 Fraction	C6_C10	3	mg/kg	<3	<3	<3	----	----
EP080-SD: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	<0.5	<0.5	----	----
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
EP080-SD: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**113**	**115**	**126**	----	----
Toluene-D8	2037-26-5	0.1	%	**92.3**	**87.6**	**96.0**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	**105**	**102**	**112**	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 11	----	----	----	----
				Client sampling date / time	14-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1503684-014	----	----	----	----
EG020T: Total Metals by ICP-MS									
Antimony	7440-36-0	0.001	mg/L		<0.001	----	----	----	----
Arsenic	7440-38-2	0.001	mg/L		<0.001	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	----	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	----	----	----	----
Manganese	7439-96-5	0.001	mg/L		<0.001	----	----	----	----
Nickel	7440-02-0	0.001	mg/L		<0.001	----	----	----	----
Silver	7440-22-4	0.001	mg/L		<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L		<0.005	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	----	----	----	----
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**0.03**	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	----	0.01	mg/L		<0.01	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		<0.01	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		<0.01	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L		<0.1	----	----	----	----
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser									
^ Total Nitrogen as N	----	0.1	mg/L		<0.1	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		<0.01	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	1	µg/L		<1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.5	µg/L		<0.5	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L		<0.5	----	----	----	----
beta-BHC	319-85-7	0.5	µg/L		<0.5	----	----	----	----
gamma-BHC	58-89-9	0.5	µg/L		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 11	----	----	----	----
				Client sampling date / time	14-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1503684-014	----	----	----	----
EP068A: Organochlorine Pesticides (OC) - Continued									
delta-BHC	319-86-8	0.5	µg/L		<0.5	----	----	----	----
Heptachlor	76-44-8	0.5	µg/L		<0.5	----	----	----	----
Aldrin	309-00-2	0.5	µg/L		<0.5	----	----	----	----
Heptachlor epoxide	1024-57-3	0.5	µg/L		<0.5	----	----	----	----
trans-Chlordane	5103-74-2	0.5	µg/L		<0.5	----	----	----	----
alpha-Endosulfan	959-98-8	0.5	µg/L		<0.5	----	----	----	----
cis-Chlordane	5103-71-9	0.5	µg/L		<0.5	----	----	----	----
Dieldrin	60-57-1	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDE	72-55-9	0.5	µg/L		<0.5	----	----	----	----
Endrin	72-20-8	0.5	µg/L		<0.5	----	----	----	----
beta-Endosulfan	33213-65-9	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDD	72-54-8	0.5	µg/L		<0.5	----	----	----	----
Endrin aldehyde	7421-93-4	0.5	µg/L		<0.5	----	----	----	----
Endosulfan sulfate	1031-07-8	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDT	50-29-3	2.0	µg/L		<2.0	----	----	----	----
Endrin ketone	53494-70-5	0.5	µg/L		<0.5	----	----	----	----
Methoxychlor	72-43-5	2.0	µg/L		<2.0	----	----	----	----
^ Total Chlordane (sum)	----	0.5	µg/L		<0.5	----	----	----	----
^ Sum of DDD + DDE + DDT	----	0.5	µg/L		<0.5	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L		<0.5	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.5	µg/L		<0.5	----	----	----	----
Demeton-S-methyl	919-86-8	0.5	µg/L		<0.5	----	----	----	----
Monocrotophos	6923-22-4	2.0	µg/L		<2.0	----	----	----	----
Dimethoate	60-51-5	0.5	µg/L		<0.5	----	----	----	----
Diazinon	333-41-5	0.5	µg/L		<0.5	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L		<0.5	----	----	----	----
Parathion-methyl	298-00-0	2.0	µg/L		<2.0	----	----	----	----
Malathion	121-75-5	0.5	µg/L		<0.5	----	----	----	----
Fenthion	55-38-9	0.5	µg/L		<0.5	----	----	----	----
Chlorpyrifos	2921-88-2	0.5	µg/L		<0.5	----	----	----	----
Parathion	56-38-2	2.0	µg/L		<2.0	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	µg/L		<0.5	----	----	----	----
Chlorfenvinphos	470-90-6	0.5	µg/L		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 11	----	----	----	----
				Client sampling date / time	14-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1503684-014	----	----	----	----
EP068B: Organophosphorus Pesticides (OP) - Continued									
Bromophos-ethyl	4824-78-6	0.5	µg/L		<0.5	----	----	----	----
Fenamiphos	22224-92-6	0.5	µg/L		<0.5	----	----	----	----
Prothiofos	34643-46-4	0.5	µg/L		<0.5	----	----	----	----
Ethion	563-12-2	0.5	µg/L		<0.5	----	----	----	----
Carbophenothion	786-19-6	0.5	µg/L		<0.5	----	----	----	----
Azinphos Methyl	86-50-0	0.5	µg/L		<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L		<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L		<1.0	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L		<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	----	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		<0.5	----	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L		<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L		<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	µg/L		<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	RINSATE 11	----	----	----	----
			Client sampling date / time	14-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1503684-014	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L	<20	----	----	----	----
>C10 - C16 Fraction	>C10_C16	100	µg/L	<100	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L	<100	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L	<100	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L	<100	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L	<100	----	----	----	----
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	----	----	----	----
Toluene	108-88-3	2	µg/L	<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	----	----	----	----
^ **Total Xylenes**	1330-20-7	2	µg/L	<2	----	----	----	----
^ **Sum of BTEX**	----	1	µg/L	<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L	<5	----	----	----	----
EP090: Organotin Compounds								
Monobutyltin	78763-54-9	5	ngSn/L	<5	----	----	----	----
Dibutyltin	1002-53-5	5	ngSn/L	<5	----	----	----	----
Tributyltin	56573-85-4	2	ngSn/L	<2	----	----	----	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**87.6**	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**97.0**	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**65.5**	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	**25.8**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	**39.3**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	**37.3**	----	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**61.6**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**77.0**	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 11	----	----	----	----
				Client sampling date / time	14-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1503684-014	----	----	----	----
EP075(SIM)T: PAH Surrogates - Continued									
4-Terphenyl-d14	1718-51-0	0.1	%		76.7	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		103	----	----	----	----
Toluene-D8	2037-26-5	0.1	%		101	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		89.7	----	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		101	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
EP080-SD: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	67	137
Toluene-D8	2037-26-5	74	134
4-Bromofluorobenzene	460-00-4	73	137
EP090S: Organotin Surrogate			
Tripropyltin	----	35	130
EP130S: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	14.4	102
EP131S: OC Pesticide Surrogate			
Dibromo-DDE	21655-73-2	10	119
EP131T: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	10	106
EP132T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	55	135
Anthracene-d10	1719-06-8	70	136
4-Terphenyl-d14	1718-51-0	57	127

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	28.5	129
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	30	120
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	26.8	129
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10.0	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27.4	113
4-Terphenyl-d14	1718-51-0	32	112
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128
EP090S: Organotin Surrogate			
Tripropyltin	----	8.2	108

QUALITY CONTROL REPORT

Work Order	: **ES1503684**	Page	: 1 of 29
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 17-FEB-2015
Sampler	: GK	Issue Date	: 09-MAR-2015
Order number	: 24553		
		No. of samples received	: 14
Quote number	: SY/1021/14 V2	No. of samples analysed	: 14

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Ashesh Patel	Inorganic Chemist	Sydney Inorganics
Dianne Blane	Laboratory Coordinator (2IC)	Newcastle - Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
		Sydney Organics
Ryan Story	2IC Organic Instrument Chemist	Brisbane Organics
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA055: Moisture Content (QC Lot: 3833481)									
ES1503599-034	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	21.8	22.4	2.6	0% - 20%
ES1503684-008	BH30 0.5-1.1A	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	24.6	22.5	9.0	0% - 20%
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3834929)									
ES1503683-035	Anonymous	EG005-SD: Aluminium	7429-90-5	50	mg/kg	3560	3530	0.9	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	8930	9350	4.6	0% - 20%
ES1503685-001	Anonymous	EG005-SD: Aluminium	7429-90-5	50	mg/kg	13800	13400	3.0	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	31500	30100	4.5	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3834928)									
ES1503683-035	Anonymous	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.2	0.2	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	5.0	5.3	6.4	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	9.1	9.7	6.4	No Limit
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	2.2	2.2	0.0	No Limit
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	2.3	2.4	0.0	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	3.4	3.5	3.5	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	12.0	12.8	7.1	0% - 50%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	9.12	9.45	3.5	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	280	292	4.1	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	21.1	22.3	5.6	0% - 50%
ES1503685-001	Anonymous	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.8	0.8	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	15.0	15.7	4.5	0% - 20%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	24.8	24.2	2.7	0% - 20%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	18.7	17.2	8.5	0% - 50%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	9.3	8.8	6.2	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	11.8	11.4	2.9	0% - 50%
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	40.2	39.9	0.6	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	17.0	15.0	12.9	0% - 50%
		EG020-SD: Manganese	7439-96-5	10	mg/kg	245	232	5.7	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	49.6	49.7	0.3	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3834927)									
ES1503683-035	Anonymous	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3834927) - continued									
ES1503685-001	Anonymous	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	0.02	0.02	0.0	No Limit
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3834702)									
ES1503683-020	Anonymous	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1503683-049	Anonymous	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3834703)									
ES1503683-020	Anonymous	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1503683-049	Anonymous	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3833644)									
ES1503599-002	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	200	180	9.8	0% - 50%
ES1503599-028	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	50	50	0.0	No Limit
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3833647)									
ES1503684-007	BH30 0.0-0.5A	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	80	80	0.0	No Limit
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3833645)									
ES1503599-002	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	331	327	1.4	0% - 20%
ES1503599-028	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	253	260	2.8	0% - 20%
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3833646)									
ES1503684-007	BH30 0.0-0.5A	EK067G: Total Phosphorus as P	----	2	mg/kg	190	184	3.0	0% - 20%
ES1504122-004	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	912	523	# 54.2	0% - 20%
EK255A SD: Ammonia in Sediment (QC Lot: 3828210)									
ES1503599-039	Anonymous	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	0.4	0.4	0.0	No Limit
ES1503683-026	Anonymous	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	0.8	0.7	0.0	No Limit
EK255A SD: Ammonia in Sediment (QC Lot: 3828211)									
ES1503684-004	BH4 0.0-0.6A	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	0.4	0.4	0.0	No Limit
ES1503685-020	Anonymous	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	10.1	10.0	0.0	0% - 20%
EP003: Total Organic Carbon (TOC) in Soil (QC Lot: 3830018)									
ES1503599-008	Anonymous	EP003: Total Organic Carbon	----	0.02	%	0.31	0.31	0.0	0% - 50%
ES1503599-039	Anonymous	EP003: Total Organic Carbon	----	0.02	%	0.04	0.04	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3828231)									
ES1503599-001	Anonymous	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	4	4	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	4	4	0.0	No Limit
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
ES1503599-028	Anonymous	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	9	9	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	9	9	0.0	No Limit
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3828151)									
ES1503683-003	Anonymous	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3828151) - continued									
ES1503683-033	Anonymous	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3828231)									
ES1503599-001	Anonymous	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
ES1503599-028	Anonymous	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	7	6	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	7	11	44.4	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	5	0.0	No Limit
EP080-SD: BTEXN (QC Lot: 3828151)									
ES1503683-003	Anonymous	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
ES1503683-033	Anonymous	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP090: Organotin Compounds (QC Lot: 3828138)									
ES1503599-012	Anonymous	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
ES1503599-033	Anonymous	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3828205)									
ES1503599-001	Anonymous	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3828205) - continued									
ES1503599-001	Anonymous	EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
ES1503599-028	Anonymous	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
EP131A: Organochlorine Pesticides (QC Lot: 3828206)									
ES1503599-001	Anonymous	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP131A: Organochlorine Pesticides (QC Lot: 3828206) - continued									
ES1503599-001	Anonymous	EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
ES1503599-028	Anonymous	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 3828207)									
ES1503599-001	Anonymous	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
ES1503599-028	Anonymous	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3828230)									
ES1503599-002	Anonymous	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	5	22.2	No Limit
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	5	0.0	No Limit
ES1503599-028	Anonymous	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3828230) - continued									
ES1503599-028	Anonymous	EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020T: Total Metals by ICP-MS (QC Lot: 3832712)									
ES1503599-042	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Manganese	7439-96-5	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.007	28.9	No Limit
ES1504015-003	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	0.003	0.003	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	0.005	0.005	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	0.007	0.005	34.6	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	0.001	<0.001	0.0	No Limit
		EG020A-T: Manganese	7439-96-5	0.001	mg/L	0.115	0.109	4.9	0% - 20%

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020T: Total Metals by ICP-MS (QC Lot: 3832712) - continued									
ES1504015-003	Anonymous	EG020A-T: Nickel	7440-02-0	0.001	mg/L	0.006	0.005	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	0.011	0.009	17.4	No Limit
EG020T: Total Metals by ICP-MS (QC Lot: 3832713)									
ES1503599-042	Anonymous	EG020B-T: Silver	7440-22-4	0.001	mg/L	<0.001	<0.001	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3836487)									
ES1503599-042	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
ES1503991-005	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EK055G: Ammonia as N by Discrete Analyser (QC Lot: 3832724)									
ES1503683-048	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	0.02	0.02	0.0	No Limit
ES1503922-005	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	0.08	0.11	24.3	0% - 50%
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3827458)									
ES1503657-001	Anonymous	EK057G: Nitrite as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1503718-001	Anonymous	EK057G: Nitrite as N	----	0.01	mg/L	0.04	0.04	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3832723)									
ES1503683-048	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	0.01	0.0	No Limit
ES1503922-005	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	1.91	1.90	0.0	0% - 20%
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3832754)									
ES1503683-048	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	<0.1	<0.1	0.0	No Limit
ES1503922-006	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	3220	2970	8.3	0% - 20%
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3832755)									
ES1503683-048	Anonymous	EK067G: Total Phosphorus as P	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1503976-002	Anonymous	EK067G: Total Phosphorus as P	----	0.01	mg/L	0.05	0.09	53.1	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3831479)									
ES1503874-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
ES1503874-008	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3831479)									
ES1503874-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
ES1503874-008	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 3831479)									
ES1503874-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
ES1503874-008	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP080: BTEXN (QC Lot: 3831479) - continued									
ES1503874-008	Anonymous	EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3834929)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	125	86	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	94.1	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3834928)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	4.6 mg/kg	111	70	130
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	108	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	106	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	115	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	112	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	115	84	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	108	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	124	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	116	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	129	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	2.10 mg/kg	119	64	148
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	117	87	131
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	116	83	137
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3834927)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.090 mg/kg	87.8	72	116
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3834702)								
EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	95.8	82	120
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3834703)								
EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	108	89	115
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3833644)								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	<20	1000 mg/kg	86.4	64	114
					----	100 mg/kg	108	70	127
					----	500 mg/kg	98.2	70	122
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3833647)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3833647) - continued								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	----	500 mg/kg	100	70	122
				----	100 mg/kg	99.7	70	127
				<20	1000 mg/kg	89.1	64	114
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3833645)								
EK067G: Total Phosphorus as P	----	2	mg/kg	----	44.2 mg/kg	91.4	64	124
				<2	442 mg/kg	95.4	68	116
				----	100 mg/kg	97.3	69	123
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3833646)								
EK067G: Total Phosphorus as P	----	2	mg/kg	----	100 mg/kg	98.8	69	123
				----	44.2 mg/kg	90.6	64	124
				<2	442 mg/kg	92.9	68	116
EK255A SD: Ammonia in Sediment (QCLot: 3828210)								
EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	<0.2	0.1 mg/kg	104	70	130
EK255A SD: Ammonia in Sediment (QCLot: 3828211)								
EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	<0.2	0.1 mg/kg	108	70	130
EP003: Total Organic Carbon (TOC) in Soil (QCLot: 3830018)								
EP003: Total Organic Carbon	----	0.02	%	<0.02	0.11 %	99.1	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3828231)								
EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	6.25 mg/kg	96.8	70	130
EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	8.75 mg/kg	98.3	74	138
EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	3.75 mg/kg	96.0	63	131
EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3828151)								
EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	6.2 mg/kg	80.8	61	133
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3828231)								
EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	5 mg/kg	100	78	118
EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	7.5 mg/kg	100	84	118
EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	5 mg/kg	91.0	73	119
EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD: BTEXN (QCLot: 3828151)								
EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	0.2 mg/kg	91.8	66	122

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP080-SD: BTEXN (QCLot: 3828151) - continued								
EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	0.2 mg/kg	89.6	69	122
EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.2 mg/kg	91.8	66	126
EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	0.4 mg/kg	93.0	59	129
EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.2 mg/kg	100	66	126
EP090: Organotin Compounds (QCLot: 3828138)								
EP090: Monobutyltin	78763-54-9	1.0	µgSn/kg	<1	1.25 µgSn/kg	98.5	36	128
EP090: Dibutyltin	1002-53-5	1.0	µgSn/kg	<1	1.25 µgSn/kg	89.8	42	132
EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	1.25 µgSn/kg	102	52	139
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3828205)								
EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	50 µg/kg	89.1	45	139
EP130: Carbophenothion	786-19-6	10	µg/kg	<10	50 µg/kg	100	47	117
EP130: Chlorfenvinphos (E)	18708-86-6	10	µg/kg	<10.0	5 µg/kg	143	48	156
EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	50 µg/kg	80.2	62	136
EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	50 µg/kg	93.9	57	137
EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	50 µg/kg	97.8	57	121
EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	50 µg/kg	84.1	20.4	142
EP130: Diazinon	333-41-5	10	µg/kg	<10	50 µg/kg	85.0	57	121
EP130: Dichlorvos	62-73-7	10	µg/kg	<10	50 µg/kg	81.9	47	115
EP130: Dimethoate	60-51-5	10	µg/kg	<10	50 µg/kg	110	55	133
EP130: Ethion	563-12-2	10	µg/kg	<10	50 µg/kg	104	54	130
EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	50 µg/kg	117	57	131
EP130: Fenthion	55-38-9	10	µg/kg	<10	50 µg/kg	92.0	38	130
EP130: Malathion	121-75-5	10	µg/kg	<10	50 µg/kg	79.0	62	138
EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	50 µg/kg	90.4	33	137
EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	50 µg/kg	101	50	148
EP130: Parathion	56-38-2	10	µg/kg	<10	50 µg/kg	110	64	140
EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	50 µg/kg	77.2	56	136
EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	50 µg/kg	93.4	50	132
EP130: Prothiofos	34643-46-4	10	µg/kg	<10	50 µg/kg	87.4	55	135

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP131A: Organochlorine Pesticides (QCLot: 3828206)								
EP131A: Aldrin	309-00-2	0.5	µg/kg	<0.50	5 µg/kg	63.0	38	150
EP131A: alpha-BHC	319-84-6	0.5	µg/kg	<0.50	5 µg/kg	74.8	17.6	156
EP131A: beta-BHC	319-85-7	0.5	µg/kg	<0.50	5 µg/kg	67.4	30.5	152
EP131A: delta-BHC	319-86-8	0.5	µg/kg	<0.50	5 µg/kg	81.6	37	151
EP131A: 4.4`-DDD	72-54-8	0.5	µg/kg	<0.50	5 µg/kg	124	25.9	150
EP131A: 4.4`-DDE	72-55-9	0.5	µg/kg	<0.50	5 µg/kg	73.7	35	129
EP131A: 4.4`-DDT	50-29-3	0.5	µg/kg	<0.50	5 µg/kg	90.4	23.4	163
EP131A: Sum of DDD + DDE + DDT	----	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Dieldrin	60-57-1	0.5	µg/kg	<0.50	5 µg/kg	74.0	30.2	140
EP131A: alpha-Endosulfan	959-98-8	0.5	µg/kg	<0.50	5 µg/kg	51.5	38	140
EP131A: beta-Endosulfan	33213-65-9	0.5	µg/kg	<0.50	5 µg/kg	72.5	32	152
EP131A: Endosulfan sulfate	1031-07-8	0.5	µg/kg	<0.50	5 µg/kg	58.4	36	162
EP131A: Endosulfan (sum)	115-29-7	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Endrin	72-20-8	0.5	µg/kg	<0.50	5 µg/kg	50.7	25.8	166
EP131A: Endrin aldehyde	7421-93-4	0.5	µg/kg	<0.50	5 µg/kg	67.1	20.1	116
EP131A: Endrin ketone	53494-70-5	0.5	µg/kg	<0.50	5 µg/kg	52.5	13.4	151
EP131A: Heptachlor	76-44-8	0.5	µg/kg	<0.50	5 µg/kg	80.9	39	173
EP131A: Heptachlor epoxide	1024-57-3	0.5	µg/kg	<0.50	5 µg/kg	72.0	34	148
EP131A: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/kg	<0.50	5 µg/kg	51.0	26.1	152
EP131A: gamma-BHC	58-89-9	0.5	µg/kg	<0.50	5 µg/kg	71.3	31.2	159
EP131A: Methoxychlor	72-43-5	0.5	µg/kg	<0.50	5 µg/kg	64.6	36	160
EP131A: cis-Chlordane	5103-71-9	0.5	µg/kg	<0.50	5 µg/kg	69.0	36	142
EP131A: trans-Chlordane	5103-74-2	0.5	µg/kg	<0.50	5 µg/kg	72.0	29.5	138
EP131A: Total Chlordane (sum)	----	0.5	µg/kg	<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3828207)								
EP131B: Total Polychlorinated biphenyls	----	5	µg/kg	<5.0	50 µg/kg	91.2	44	136
EP131B: Aroclor 1016	12674-11-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1221	11104-28-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1232	11141-16-5	5	µg/kg	<5.0	----	----	----	----

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3828207) - continued								
EP131B: Aroclor 1242	53469-21-9	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1248	12672-29-6	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1254	11097-69-1	5	µg/kg	<5.0	50 µg/kg	91.2	44	136
EP131B: Aroclor 1260	11096-82-5	5	µg/kg	<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3828230)								
EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	25 µg/kg	99.4	67	133
EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	25 µg/kg	98.2	63	135
EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	25 µg/kg	103	68	132
EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	25 µg/kg	98.8	67	133
EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	25 µg/kg	101	69	131
EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	25 µg/kg	102	66	138
EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	25 µg/kg	102	67	133
EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	25 µg/kg	102	64	130
EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	25 µg/kg	104	67	133
EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	25 µg/kg	100	65	133
EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	25 µg/kg	96.5	70	134
EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	25 µg/kg	89.3	63	133
EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	25 µg/kg	98.3	67	133
EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	25 µg/kg	106	64	130
EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	25 µg/kg	104	72	130
EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	25 µg/kg	104	70	132
EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	25 µg/kg	96.8	65	127
EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	25 µg/kg	93.9	67	135
EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	25 µg/kg	95.1	62	126
EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	25 µg/kg	97.7	66	134
EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 3832712)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 3832712) - continued								
EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	----	----	----	----
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	104	79	121
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	103	83	113
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	105	84	116
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	103	83	117
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	101	84	116
EG020A-T: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	103	85	115
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	97.9	84	116
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	104	77	117
EG020T: Total Metals by ICP-MS (QCLot: 3832713)								
EG020B-T: Silver	7440-22-4	0.001	mg/L	<0.001	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3836487)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	87.6	77	115
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3832724)								
EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	1.0 mg/L	108	86	112
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3827458)								
EK057G: Nitrite as N	----	0.01	mg/L	<0.01	0.5 mg/L	89.9	83	119
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3832723)								
EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	0.5 mg/L	114	87	119
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3832754)								
EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	----	5 mg/L	111	66	119
				----	1.0 mg/L	104	66	126
				<0.1	10 mg/L	92.3	66	114
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3832755)								
EK067G: Total Phosphorus as P	----	0.01	mg/L	----	0.442 mg/L	92.9	63	123
				<0.01	4.42 mg/L	92.1	67	117
				----	1.0 mg/L	104	66	124
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3828237)								
EP066: Total Polychlorinated biphenyls	----	1	µg/L	<1	10 µg/L	82.1	61.6	107
EP068A: Organochlorine Pesticides (OC) (QCLot: 3828236)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 3828236) - continued								
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	5 µg/L	90.9	65	107
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	5 µg/L	74.9	51	119
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	5 µg/L	103	63	113
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	5 µg/L	101	62	112
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	5 µg/L	92.9	60	106
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	5 µg/L	74.8	58	108
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	5 µg/L	85.8	58	114
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	5 µg/L	108	59	111
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	5 µg/L	94.1	62	114
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	5 µg/L	107	64	114
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	5 µg/L	90.1	62	114
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	5 µg/L	110	59	111
EP068: 4.4`-DDE	72-55-9	0.5	µg/L	<0.5	5 µg/L	101	63	111
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	5 µg/L	104	61	119
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	5 µg/L	104	71	119
EP068: 4.4`-DDD	72-54-8	0.5	µg/L	<0.5	5 µg/L	107	70	118
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	5 µg/L	91.6	62	112
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	5 µg/L	61.6	53	113
EP068: 4.4`-DDT	50-29-3	2.0	µg/L	<2.0	5 µg/L	81.8	52	120
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	5 µg/L	77.3	51	117
EP068: Methoxychlor	72-43-5	2.0	µg/L	<2.0	5 µg/L	85.0	53	127
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3828236)								
EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	5 µg/L	88.0	52	122
EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	5 µg/L	99.1	51	123
EP068: Monocrotophos	6923-22-4	0.5	µg/L	<2.0	5 µg/L	38.0	10	89.1
EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	5 µg/L	89.8	61	119
EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	5 µg/L	103	67	113
EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	5 µg/L	104	60	116
EP068: Parathion-methyl	298-00-0	2.0	µg/L	<2.0	5 µg/L	98.5	64	120

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3828236) - continued								
EP068: Malathion	121-75-5	0.5	µg/L	<0.5	5 µg/L	74.5	67	115
EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	5 µg/L	101	64	110
EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	5 µg/L	90.4	63	109
EP068: Parathion	56-38-2	2.0	µg/L	<2.0	5 µg/L	94.1	63	121
EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	5 µg/L	106	60	110
EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	5 µg/L	79.5	68	114
EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	5 µg/L	104	61	109
EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	5 µg/L	87.1	63	117
EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	5 µg/L	108	63	111
EP068: Ethion	563-12-2	0.5	µg/L	<0.5	5 µg/L	96.7	65	115
EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	5 µg/L	87.9	55	115
EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	5 µg/L	69.2	44	124
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3828239)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	<1.0	5 µg/L	84.0	58.6	119
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	<1.0	5 µg/L	65.4	63.6	114
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	<1.0	5 µg/L	66.1	62.2	113
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	<1.0	5 µg/L	69.7	63.9	115
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	<1.0	5 µg/L	79.8	62.6	116
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	<1.0	5 µg/L	83.6	64.3	116
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	<1.0	5 µg/L	95.6	63.6	118
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	<1.0	5 µg/L	94.2	63.1	118
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	<1.0	5 µg/L	82.7	64.1	117
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	<1.0	5 µg/L	84.0	62.5	116
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.2	µg/L	<1.0	5 µg/L	82.5	61.7	119
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	<1.0	5 µg/L	91.2	61.7	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	<0.5	5 µg/L	84.6	63.3	117
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.2	µg/L	<1.0	5 µg/L	77.8	59.9	118
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.2	µg/L	<1.0	5 µg/L	81.6	61.2	117
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.2	µg/L	<1.0	5 µg/L	74.1	59.1	118

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3828238)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	2000 µg/L	89.1	59	129
EP071: C15 - C28 Fraction	----	100	µg/L	<100	3000 µg/L	98.8	71	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	2000 µg/L	92.2	62	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3831479)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	76.2	75	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3828238)								
EP071: >C10 - C16 Fraction	>C10_C16	100	µg/L	<100	2500 µg/L	98.6	58.9	131
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	3500 µg/L	101	73.9	138
EP071: >C34 - C40 Fraction	----	50	µg/L	<100	1500 µg/L	105	67	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3831479)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	75.4	75	127
EP080: BTEXN (QCLot: 3831479)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	90.0	70	124
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	89.8	65	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	90.3	70	120
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	91.8	69	121
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	91.2	72	122
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	94.7	70	124
EP090: Organotin Compounds (QCLot: 3828241)								
EP090H: Monobutyltin	78763-54-9	2	ngSn/L	<5	50 ngSn/L	63.2	25	139
EP090H: Dibutyltin	1002-53-5	2	ngSn/L	<5	50 ngSn/L	60.9	50	114
EP090H: Tributyltin	56573-85-4	1	ngSn/L	<2	50 ngSn/L	54.6	39	120

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3834928)							
ES1503683-036	Anonymous	EG020-SD: Arsenic	7440-38-2	50 mg/kg	99.5	70	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3834928) - continued							
ES1503683-036	Anonymous	EG020-SD: Cadmium	7440-43-9	50 mg/kg	101	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	108	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	98.8	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	95.8	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	101	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	104	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3834927)							
ES1503683-035	Anonymous	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	111	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3834702)							
ES1503683-020	Anonymous	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	103	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3834703)							
ES1503683-020	Anonymous	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	117	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3833644)							
ES1503599-002	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	90.5	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3833647)							
ES1503684-007	BH30 0.0-0.5A	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	90.7	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3833645)							
ES1503599-002	Anonymous	EK067G: Total Phosphorus as P	----	100 mg/kg	99.3	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3833646)							
ES1503684-007	BH30 0.0-0.5A	EK067G: Total Phosphorus as P	----	100 mg/kg	103	70	130
EK255A SD: Ammonia in Sediment (QCLot: 3828210)							
ES1503599-034	Anonymous	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	# Not Determined	70	130
EK255A SD: Ammonia in Sediment (QCLot: 3828211)							
ES1503684-004	BH4 0.0-0.6A	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	# Not Determined	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3828151)							
ES1503683-003	Anonymous	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	122	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3828231)							
ES1503599-001	Anonymous	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	98.6	70	130
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	98.6	70	130
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	95.0	70	130
EP080-SD: BTEXN (QCLot: 3828151)							
ES1503683-003	Anonymous	EP080-SD: Benzene	71-43-2	0.5 mg/kg	99.7	70	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080-SD: BTEXN (QCLot: 3828151) - continued							
ES1503683-003	Anonymous	EP080-SD: Toluene	108-88-3	0.5 mg/kg	110	70	130
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	109	70	130
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	103	70	130
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	102	70	130
EP090: Organotin Compounds (QCLot: 3828138)							
ES1503599-002	Anonymous	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	# 7.9	35	130
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	67.8	20	130
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	96.4	20	130
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3828205)							
ES1503599-001	Anonymous	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	86.6	36	144
		EP130: Carbophenothion	786-19-6	50 µg/kg	79.0	38	120
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	93.8	49	157
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	80.6	53	145
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	71.2	60	140
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	72.4	56	126
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	86.3	9.7	148
		EP130: Diazinon	333-41-5	50 µg/kg	78.6	60	122
		EP130: Dichlorvos	62-73-7	50 µg/kg	78.4	33	123
		EP130: Dimethoate	60-51-5	50 µg/kg	76.2	36	142
		EP130: Ethion	563-12-2	50 µg/kg	70.9	48	136
		EP130: Fenamiphos	22224-92-6	50 µg/kg	80.9	42	136
		EP130: Fenthion	55-38-9	50 µg/kg	74.2	35	131
		EP130: Malathion	121-75-5	50 µg/kg	81.3	55	141
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	90.0	23.5	132
		EP130: Monocrotophos	6923-22-4	50 µg/kg	75.5	35	153
		EP130: Parathion	56-38-2	50 µg/kg	79.6	57	147
		EP130: Parathion-methyl	298-00-0	50 µg/kg	72.9	48	140
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	79.4	45	137
		EP130: Prothiofos	34643-46-4	50 µg/kg	82.1	51	137
EP131A: Organochlorine Pesticides (QCLot: 3828206)							
ES1503599-001	Anonymous	EP131A: Aldrin	309-00-2	5 µg/kg	45.2	23.4	153
		EP131A: alpha-BHC	319-84-6	5 µg/kg	50.6	17.6	156
		EP131A: beta-BHC	319-85-7	5 µg/kg	60.4	24.9	153
		EP131A: delta-BHC	319-86-8	5 µg/kg	99.4	25.2	147
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	99.1	25.9	150

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP131A: Organochlorine Pesticides (QCLot: 3828206) - continued							
ES1503599-001	Anonymous	EP131A: 4.4`-DDE	72-55-9	5 µg/kg	41.0	31.2	125
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	85.9	23.4	163
		EP131A: Dieldrin	60-57-1	5 µg/kg	56.2	30.2	140
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	38.9	28.8	135
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	43.4	22.6	141
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	52.4	16.1	156
		EP131A: Endrin	72-20-8	5 µg/kg	60.1	17.7	162
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	43.2	20.1	116
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	46.5	13.4	151
		EP131A: Heptachlor	76-44-8	5 µg/kg	47.4	23.8	170
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	53.4	28.3	140
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	23.2	17.7	144
		EP131A: gamma-BHC	58-89-9	5 µg/kg	50.8	21.8	158
		EP131A: Methoxychlor	72-43-5	5 µg/kg	91.0	24.4	158
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	45.3	27.3	139
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	73.8	29.5	138
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3828207)							
ES1503599-001	Anonymous	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	86.2	44	136
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	86.2	44	136
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3828230)							
ES1503599-002	Anonymous	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	84.5	70	130
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	76.2	70	130
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	84.1	70	130
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	81.2	70	130
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	82.9	70	130
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	81.5	70	130
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	84.1	70	130
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	82.2	70	130
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	85.7	70	130
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	80.9	70	130
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	77.5	70	130
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	76.6	70	130
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	92.0	70	130
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	84.0	70	130
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	77.3	70	130
		EP132B-SD: Perylene	198-55-0	25 µg/kg	82.2	70	130

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Recovery Limits (%): Low	Recovery Limits (%): High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3828230) - continued							
ES1503599-002	Anonymous	EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	83.1	70	130
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	81.8	70	130
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	81.8	70	130
		EP132B-SD: Coronene	191-07-1	25 µg/kg	112	70	130

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 3832712)							
ES1503683-048	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	102	70	130
		EG020A-T: Cadmium	7440-43-9	0.250 mg/L	110	70	130
		EG020A-T: Chromium	7440-47-3	1 mg/L	103	70	130
		EG020A-T: Copper	7440-50-8	1 mg/L	101	70	130
		EG020A-T: Lead	7439-92-1	1 mg/L	105	70	130
		EG020A-T: Manganese	7439-96-5	1 mg/L	109	70	130
		EG020A-T: Nickel	7440-02-0	1 mg/L	96.8	70	130
		EG020A-T: Zinc	7440-66-6	1 mg/L	106	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3836487)							
ES1503683-048	Anonymous	EG035T: Mercury	7439-97-6	0.010 mg/L	91.8	70	130
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3832724)							
ES1503683-048	Anonymous	EK055G: Ammonia as N	7664-41-7	1 mg/L	98.0	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3827458)							
ES1503657-001	Anonymous	EK057G: Nitrite as N	----	0.5 mg/L	92.5	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3832723)							
ES1503683-048	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.5 mg/L	110	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3832754)							
ES1503684-014	RINSATE 11	EK061G: Total Kjeldahl Nitrogen as N	----	5 mg/L	108	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3832755)							
ES1503684-014	RINSATE 11	EK067G: Total Phosphorus as P	----	1.0 mg/L	103	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3831479)							
ES1503874-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	98.4	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3831479)							
ES1503874-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	95.3	70	130
EP080: BTEXN (QCLot: 3831479)							
ES1503874-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	97.3	70	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080: BTEXN (QCLot: 3831479) - continued							
ES1503874-001	Anonymous	EP080: Toluene	108-88-3	25 µg/L	99.8	70	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	102	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	100	70	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	101	70	130
		EP080: Naphthalene	91-20-3	25 µg/L	115	70	130

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

The quality control term Matrix Spike (MS) and Matrix Spike Duplicate (MSD) refers to intralaboratory split samples spiked with a representative set of target analytes. The purpose of these QC parameters are to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP090: Organotin Compounds (QCLot: 3828138)										
ES1503599-002	Anonymous	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	# 7.9	----	35	130	----	----
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	67.8	----	20	130	----	----
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	96.4	----	20	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3828151)										
ES1503683-003	Anonymous	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	122	----	70	130	----	----
EP080-SD: BTEXN (QCLot: 3828151)										
ES1503683-003	Anonymous	EP080-SD: Benzene	71-43-2	0.5 mg/kg	99.7	----	70	130	----	----
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	110	----	70	130	----	----
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	109	----	70	130	----	----
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	103	----	70	130	----	----
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	102	----	70	130	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3828205)										
ES1503599-001	Anonymous	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	86.6	----	36	144	----	----
		EP130: Carbophenothion	786-19-6	50 µg/kg	79.0	----	38	120	----	----
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	93.8	----	49	157	----	----
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	80.6	----	53	145	----	----
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	71.2	----	60	140	----	----
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	72.4	----	56	126	----	----
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	86.3	----	9.7	148	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3828205) - continued										
ES1503599-001	Anonymous	EP130: Diazinon	333-41-5	50 µg/kg	78.6	----	60	122	----	----
		EP130: Dichlorvos	62-73-7	50 µg/kg	78.4	----	33	123	----	----
		EP130: Dimethoate	60-51-5	50 µg/kg	76.2	----	36	142	----	----
		EP130: Ethion	563-12-2	50 µg/kg	70.9	----	48	136	----	----
		EP130: Fenamiphos	22224-92-6	50 µg/kg	80.9	----	42	136	----	----
		EP130: Fenthion	55-38-9	50 µg/kg	74.2	----	35	131	----	----
		EP130: Malathion	121-75-5	50 µg/kg	81.3	----	55	141	----	----
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	90.0	----	23.5	132	----	----
		EP130: Monocrotophos	6923-22-4	50 µg/kg	75.5	----	35	153	----	----
		EP130: Parathion	56-38-2	50 µg/kg	79.6	----	57	147	----	----
		EP130: Parathion-methyl	298-00-0	50 µg/kg	72.9	----	48	140	----	----
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	79.4	----	45	137	----	----
		EP130: Prothiofos	34643-46-4	50 µg/kg	82.1	----	51	137	----	----
EP131A: Organochlorine Pesticides (QCLot: 3828206)										
ES1503599-001	Anonymous	EP131A: Aldrin	309-00-2	5 µg/kg	45.2	----	23.4	153	----	----
		EP131A: alpha-BHC	319-84-6	5 µg/kg	50.6	----	17.6	156	----	----
		EP131A: beta-BHC	319-85-7	5 µg/kg	60.4	----	24.9	153	----	----
		EP131A: delta-BHC	319-86-8	5 µg/kg	99.4	----	25.2	147	----	----
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	99.1	----	25.9	150	----	----
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	41.0	----	31.2	125	----	----
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	85.9	----	23.4	163	----	----
		EP131A: Dieldrin	60-57-1	5 µg/kg	56.2	----	30.2	140	----	----
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	38.9	----	28.8	135	----	----
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	43.4	----	22.6	141	----	----
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	52.4	----	16.1	156	----	----
		EP131A: Endrin	72-20-8	5 µg/kg	60.1	----	17.7	162	----	----
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	43.2	----	20.1	116	----	----
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	46.5	----	13.4	151	----	----
		EP131A: Heptachlor	76-44-8	5 µg/kg	47.4	----	23.8	170	----	----
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	53.4	----	28.3	140	----	----
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	23.2	----	17.7	144	----	----
		EP131A: gamma-BHC	58-89-9	5 µg/kg	50.8	----	21.8	158	----	----
		EP131A: Methoxychlor	72-43-5	5 µg/kg	91.0	----	24.4	158	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP131A: Organochlorine Pesticides (QCLot: 3828206) - continued										
ES1503599-001	Anonymous	EP131A: cis-Chlordane	5103-71-9	5 µg/kg	45.3	----	27.3	139	----	----
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	73.8	----	29.5	138	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3828207)										
ES1503599-001	Anonymous	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	86.2	----	44	136	----	----
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	86.2	----	44	136	----	----
EK255A SD: Ammonia in Sediment (QCLot: 3828210)										
ES1503599-034	Anonymous	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	# Not Determined	----	70	130	----	----
EK255A SD: Ammonia in Sediment (QCLot: 3828211)										
ES1503684-004	BH4 0.0-0.6A	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	# Not Determined	----	70	130	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3828230)										
ES1503599-002	Anonymous	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	84.5	----	70	130	----	----
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	76.2	----	70	130	----	----
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	84.1	----	70	130	----	----
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	81.2	----	70	130	----	----
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	82.9	----	70	130	----	----
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	81.5	----	70	130	----	----
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	84.1	----	70	130	----	----
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	82.2	----	70	130	----	----
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	85.7	----	70	130	----	----
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	80.9	----	70	130	----	----
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	77.5	----	70	130	----	----
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	76.6	----	70	130	----	----
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	92.0	----	70	130	----	----
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	84.0	----	70	130	----	----
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	77.3	----	70	130	----	----
		EP132B-SD: Perylene	198-55-0	25 µg/kg	82.2	----	70	130	----	----
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	83.1	----	70	130	----	----
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	81.8	----	70	130	----	----
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	81.8	----	70	130	----	----
		EP132B-SD: Coronene	191-07-1	25 µg/kg	112	----	70	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3828231)										

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
				Concentration	MS	MSD	Low	High	Value	Control Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3828231) - continued										
ES1503599-001	Anonymous	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	98.6	----	70	130	----	----
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	98.6	----	70	130	----	----
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	95.0	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3833644)										
ES1503599-002	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	90.5	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3833645)										
ES1503599-002	Anonymous	EK067G: Total Phosphorus as P	----	100 mg/kg	99.3	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3833646)										
ES1503684-007	BH30 0.0-0.5A	EK067G: Total Phosphorus as P	----	100 mg/kg	103	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3833647)										
ES1503684-007	BH30 0.0-0.5A	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	90.7	----	70	130	----	----
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3834702)										
ES1503683-020	Anonymous	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	103	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3834703)										
ES1503683-020	Anonymous	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	117	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3834927)										
ES1503683-035	Anonymous	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	111	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3834928)										
ES1503683-036	Anonymous	EG020-SD: Arsenic	7440-38-2	50 mg/kg	99.5	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	101	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	108	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	98.8	----	70	130	----	----
		EG020-SD: Lead	7439-92-1	250 mg/kg	95.8	----	70	130	----	----
		EG020-SD: Nickel	7440-02-0	50 mg/kg	101	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	104	----	70	130	----	----

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
				Concentration	MS	MSD	Low	High	Value	Control Limit
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3827458)										
ES1503657-001	Anonymous	EK057G: Nitrite as N	----	0.5 mg/L	92.5	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3831479)										
ES1503874-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	98.4	----	70	130	----	----

Sub-Matrix: **WATER**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3831479)										
ES1503874-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	95.3	----	70	130	----	----
EP080: BTEXN (QCLot: 3831479)										
ES1503874-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	97.3	----	70	130	----	----
		EP080: Toluene	108-88-3	25 µg/L	99.8	----	70	130	----	----
		EP080: Ethylbenzene	100-41-4	25 µg/L	102	----	70	130	----	----
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	100	----	70	130	----	----
		EP080: ortho-Xylene	95-47-6	25 µg/L	101	----	70	130	----	----
		EP080: Naphthalene	91-20-3	25 µg/L	115	----	70	130	----	----
EG020T: Total Metals by ICP-MS (QCLot: 3832712)										
ES1503683-048	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	102	----	70	130	----	----
		EG020A-T: Cadmium	7440-43-9	0.250 mg/L	110	----	70	130	----	----
		EG020A-T: Chromium	7440-47-3	1 mg/L	103	----	70	130	----	----
		EG020A-T: Copper	7440-50-8	1 mg/L	101	----	70	130	----	----
		EG020A-T: Lead	7439-92-1	1 mg/L	105	----	70	130	----	----
		EG020A-T: Manganese	7439-96-5	1 mg/L	109	----	70	130	----	----
		EG020A-T: Nickel	7440-02-0	1 mg/L	96.8	----	70	130	----	----
		EG020A-T: Zinc	7440-66-6	1 mg/L	106	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3832723)										
ES1503683-048	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.5 mg/L	110	----	70	130	----	----
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3832724)										
ES1503683-048	Anonymous	EK055G: Ammonia as N	7664-41-7	1 mg/L	98.0	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3832754)										
ES1503684-014	RINSATE 11	EK061G: Total Kjeldahl Nitrogen as N	----	5 mg/L	108	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3832755)										
ES1503684-014	RINSATE 11	EK067G: Total Phosphorus as P	----	1.0 mg/L	103	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3836487)										
ES1503683-048	Anonymous	EG035T: Mercury	7439-97-6	0.010 mg/L	91.8	----	70	130	----	----

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1503684**	Page	: 1 of 14
Client	: AURECON AUSTRALASIA PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 17-FEB-2015
Sampler	: GK	Issue Date	: 09-MAR-2015
Order number	: 24553		
		No. of samples received	: 14
Quote number	: SY/1021/14 V2	No. of samples analysed	: 14

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with recommended holding times (USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content							
Soil Glass Jar - Unpreserved (EA055-103)							
BH3 0.0-0.3A, BH3 0.1V, BH4 0.0-0.6A, BH4 0.3V, BH30 0.0-0.5A, BH30 0.5-1.1A, BH30 0.3V, BH30 0.7V	**14-FEB-2015**	**----**	----	----	**23-FEB-2015**	28-FEB-2015	✓
EA150: Particle Sizing							
Snap Lock Bag (EA150H)							
BH3 0.0-0.3B, BH4 0.0-0.6B, BH30 0.0-0.5B, BH30 0.5-1.1B	**14-FEB-2015**	**---**	13-AUG-2015	----	**04-MAR-2015**	13-AUG-2015	✓
EA150: Soil Classification based on Particle Size							
Snap Lock Bag (EA150H)							
BH3 0.0-0.3B, BH4 0.0-0.6B, BH30 0.0-0.5B, BH30 0.5-1.1B	**14-FEB-2015**	**---**	13-AUG-2015	----	**04-MAR-2015**	13-AUG-2015	✓
EA152: Soil Particle Density							
Snap Lock Bag (EA152)							
BH3 0.0-0.3B, BH4 0.0-0.6B, BH30 0.0-0.5B, BH30 0.5-1.1B	**14-FEB-2015**	**---**	13-AUG-2015	----	**05-MAR-2015**	13-AUG-2015	✓
EG005-SD: Total Metals in Sediments by ICP-AES							
Soil Glass Jar - Unpreserved (EG005-SD)							
BH3 0.0-0.3A, BH4 0.0-0.6A, BH30 0.0-0.5A, BH30 0.5-1.1A	**14-FEB-2015**	**24-FEB-2015**	13-AUG-2015	✓	**25-FEB-2015**	13-AUG-2015	✓
EG020-SD: Total Metals in Sediments by ICPMS							
Soil Glass Jar - Unpreserved (EG020-SD)							
BH3 0.0-0.3A, BH4 0.0-0.6A, BH30 0.0-0.5A, BH30 0.5-1.1A	**14-FEB-2015**	**24-FEB-2015**	13-AUG-2015	✓	**25-FEB-2015**	13-AUG-2015	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T-LL)							
BH3 0.0-0.3A, BH4 0.0-0.6A, BH30 0.0-0.5A, BH30 0.5-1.1A	**14-FEB-2015**	**24-FEB-2015**	14-MAR-2015	✓	**26-FEB-2015**	14-MAR-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK057G: Nitrite as N by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK057G)							
BH3 0.0-0.3A, BH4 0.0-0.6A, BH30 0.0-0.5A, BH30 0.5-1.1A	**14-FEB-2015**	**24-FEB-2015**	13-AUG-2015	✓	**24-FEB-2015**	13-AUG-2015	✓
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK059G)							
BH3 0.0-0.3A, BH4 0.0-0.6A, BH30 0.0-0.5A, BH30 0.5-1.1A	**14-FEB-2015**	**24-FEB-2015**	13-AUG-2015	✓	**24-FEB-2015**	13-AUG-2015	✓
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser							
Soil Glass Jar - Unpreserved (EK061G)							
BH3 0.0-0.3A, BH4 0.0-0.6A, BH30 0.0-0.5A, BH30 0.5-1.1A	**14-FEB-2015**	**23-FEB-2015**	13-AUG-2015	✓	**23-FEB-2015**	13-AUG-2015	✓
EK067G: Total Phosphorus as P by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK067G)							
BH3 0.0-0.3A, BH4 0.0-0.6A, BH30 0.0-0.5A, BH30 0.5-1.1A	**14-FEB-2015**	**23-FEB-2015**	13-AUG-2015	✓	**23-FEB-2015**	13-AUG-2015	✓
EK255A SD Ammonia in Sediment							
Soil Glass Jar - Unpreserved (EK255A SD)							
BH3 0.0-0.3A, BH4 0.0-0.6A, BH30 0.0-0.5A, BH30 0.5-1.1A	**14-FEB-2015**	**----**	----	----	**18-FEB-2015**	13-AUG-2015	✓
EP003: Total Organic Carbon (TOC) in Soil							
Pulp Bag (EP003)							
BH3 0.0-0.3A, BH4 0.0-0.6A, BH30 0.0-0.5A, BH30 0.5-1.1A	**14-FEB-2015**	**19-FEB-2015**	14-MAR-2015	✓	**19-FEB-2015**	14-MAR-2015	✓
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP071-SD)							
BH3 0.0-0.3A, BH4 0.0-0.6A, BH30 0.0-0.5A, BH30 0.5-1.1A, TRIP BLANK	**14-FEB-2015**	**23-FEB-2015**	28-FEB-2015	✓	**25-FEB-2015**	04-APR-2015	✓
EP080-SD: BTEXN							
Soil Glass Jar - Unpreserved (EP080-SD)							
BH3 0.1V, BH4 0.3V, BH30 0.3V, BH30 0.7V, TRIP BLANK	**14-FEB-2015**	**19-FEB-2015**	28-FEB-2015	✓	**26-FEB-2015**	28-FEB-2015	✓
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080-SD)							
BH3 0.1V, BH4 0.3V, BH30 0.3V, BH30 0.7V, TRIP BLANK	**14-FEB-2015**	**19-FEB-2015**	28-FEB-2015	✓	**26-FEB-2015**	28-FEB-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP090: Organotin Compounds							
Soil Glass Jar - Unpreserved (EP090)							
BH3 0.0-0.3A, BH4 0.0-0.6A, BH30 0.0-0.5A, BH30 0.5-1.1A	**14-FEB-2015**	**18-FEB-2015**	28-FEB-2015	✓	**23-FEB-2015**	30-MAR-2015	✓
EP130A: Organophosphorus Pesticides (Ultra-trace)							
Soil Glass Jar - Unpreserved (EP130)							
BH3 0.0-0.3A, BH4 0.0-0.6A, BH30 0.0-0.5A, BH30 0.5-1.1A	**14-FEB-2015**	**23-FEB-2015**	28-FEB-2015	✓	**25-FEB-2015**	04-APR-2015	✓
EP131A: Organochlorine Pesticides							
Soil Glass Jar - Unpreserved (EP131A)							
BH3 0.0-0.3A, BH4 0.0-0.6A, BH30 0.0-0.5A, BH30 0.5-1.1A	**14-FEB-2015**	**23-FEB-2015**	28-FEB-2015	✓	**25-FEB-2015**	04-APR-2015	✓
EP131B: Polychlorinated Biphenyls (as Aroclors)							
Soil Glass Jar - Unpreserved (EP131B)							
BH3 0.0-0.3A, BH4 0.0-0.6A, BH30 0.0-0.5A, BH30 0.5-1.1A	**14-FEB-2015**	**23-FEB-2015**	28-FEB-2015	✓	**25-FEB-2015**	04-APR-2015	✓
EP132B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP132B-SD)							
BH3 0.0-0.3A, BH4 0.0-0.6A, BH30 0.0-0.5A, BH30 0.5-1.1A	**14-FEB-2015**	**23-FEB-2015**	28-FEB-2015	✓	**25-FEB-2015**	04-APR-2015	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG020A-T)							
RINSATE 11	**14-FEB-2015**	**23-FEB-2015**	13-AUG-2015	✓	**23-FEB-2015**	13-AUG-2015	✓
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG020B-T)							
RINSATE 11	**14-FEB-2015**	**23-FEB-2015**	13-AUG-2015	✓	**23-FEB-2015**	13-AUG-2015	✓
EG035T: Total Recoverable Mercury by FIMS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG035T)							
RINSATE 11	**14-FEB-2015**	**----**	----	----	**26-FEB-2015**	14-MAR-2015	✓
EK055G: Ammonia as N by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK055G)							
RINSATE 11	**14-FEB-2015**	**---**	14-MAR-2015	----	**23-FEB-2015**	14-MAR-2015	✓
EK057G: Nitrite as N by Discrete Analyser							
Clear Plastic Bottle - Natural (EK057G)							
RINSATE 11	**14-FEB-2015**	**---**	16-FEB-2015	----	**17-FEB-2015**	16-FEB-2015	✗
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK059G)							
RINSATE 11	**14-FEB-2015**	**---**	14-MAR-2015	----	**23-FEB-2015**	14-MAR-2015	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK061G)							
RINSATE 11	**14-FEB-2015**	**23-FEB-2015**	14-MAR-2015	✓	**23-FEB-2015**	14-MAR-2015	✓
EK067G: Total Phosphorus as P by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK067G)							
RINSATE 11	**14-FEB-2015**	**23-FEB-2015**	14-MAR-2015	✓	**23-FEB-2015**	14-MAR-2015	✓
EP066: Polychlorinated Biphenyls (PCB)							
Amber Glass Bottle - Unpreserved (EP066)							
RINSATE 11	**14-FEB-2015**	**20-FEB-2015**	21-FEB-2015	✓	**20-FEB-2015**	01-APR-2015	✓
EP068A: Organochlorine Pesticides (OC)							
Amber Glass Bottle - Unpreserved (EP068)							
RINSATE 11	**14-FEB-2015**	**20-FEB-2015**	21-FEB-2015	✓	**20-FEB-2015**	01-APR-2015	✓
EP068B: Organophosphorus Pesticides (OP)							
Amber Glass Bottle - Unpreserved (EP068)							
RINSATE 11	**14-FEB-2015**	**20-FEB-2015**	21-FEB-2015	✓	**20-FEB-2015**	01-APR-2015	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071)							
RINSATE 11	**14-FEB-2015**	**20-FEB-2015**	21-FEB-2015	✓	**20-FEB-2015**	01-APR-2015	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
RINSATE 11	**14-FEB-2015**	**20-FEB-2015**	21-FEB-2015	✓	**20-FEB-2015**	01-APR-2015	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
RINSATE 11	**14-FEB-2015**	**24-FEB-2015**	28-FEB-2015	✓	**24-FEB-2015**	28-FEB-2015	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber VOC Vial - Sulfuric Acid (EP080)							
RINSATE 11	**14-FEB-2015**	**24-FEB-2015**	28-FEB-2015	✓	**24-FEB-2015**	28-FEB-2015	✓
EP090: Organotin Compounds							
Amber Glass Bottle - Unpreserved (EP090H)							
RINSATE 11	**14-FEB-2015**	**18-FEB-2015**	21-FEB-2015	✓	**19-FEB-2015**	30-MAR-2015	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Ammonia in Sediments	EK255A SD	4	38	**10.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Moisture Content	EA055-103	2	18	**11.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	2	19	**10.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	2	19	**10.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	2	17	**11.8**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	2	18	**11.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	2	19	**10.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	3	30	**10.0**	**9.5**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	13	**15.4**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	13	**15.4**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	13	**15.4**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	2	16	**12.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	4	30	**13.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Ammonia in Sediments	EK255A SD	2	38	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	1	17	**5.9**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	6	30	**20.0**	**14.3**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	1	13	**7.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	1	13	**7.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	1	13	**7.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	1	16	**6.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	6	30	**20.0**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Method Blanks (MB)							
Ammonia in Sediments	EK255A SD	2	38	5.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	19	5.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	19	5.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	1	17	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	18	5.6	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	19	5.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	2	30	6.7	4.8	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	1	13	7.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	1	13	7.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	1	13	7.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	1	16	6.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	2	30	6.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia in Sediments	EK255A SD	2	38	5.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	19	5.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	19	5.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	1	17	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	18	5.6	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	19	5.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	2	30	6.7	4.8	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	1	13	7.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	1	13	7.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	2	30	6.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Ammonia as N by Discrete analyser	EK055G	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	2	14	14.3	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP) - Continued							
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	2	18	**11.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	5	**20.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Ammonia as N by Discrete analyser	EK055G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	14	**7.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Compounds (Soluble)	EP090H	1	3	**33.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	11	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	4	**25.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	4	**25.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	3	20	**15.0**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	5	**20.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	3	20	**15.0**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	10	**10.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Ammonia as N by Discrete analyser	EK055G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	14	**7.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Compounds (Soluble)	EP090H	1	3	**33.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	11	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	4	**25.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	4	**25.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	5	**20.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	10	**10.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia as N by Discrete analyser	EK055G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	14	**7.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Matrix Spikes (MS) - Continued							
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055-103	SOIL	In-house. A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Particle Size Analysis by Hydrometer	EA150H	SOIL	Particle Size Analysis by Hydrometer according to AS1289.3.6.3 - 2003
Soil Particle Density	* EA152	SOIL	Soil Particle Density by AS 1289.3.5.1-2006 : Methods of testing soils for engineering purposes - Soil classification tests - Determination of the soil particle density of a soil - Standard method A modification of the AS 1289.3.5.1 method may apply when testing dispersed soils also tested by AS1289.3.6.3. This modification uses the dispersion solution from AS1289.3.6.3 in place of water for density determinations
Total Fe and Al in Sediments by ICPAES	EG005-SD	SOIL	In house: Referenced to APHA 21st ed., 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3). LORs per NODG
Total Metals in Sediments by ICPMS	EG020-SD	SOIL	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector. Analyte list and LORs per NODG.
Total Mercury by FIMS (Low Level)	EG035T-LL	SOIL	In house: Referenced to AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Nitrite as N - Soluble by Discrete Analyser	EK057G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3- B. Nitrite in a water extract is determined by direct colourimetry by Discrete Analyser.
Nitrate as N - Soluble by Discrete Analyser	EK058G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3--F. Nitrate in the 1:5 soil:water extract is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results.
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3- F. Combined oxidised Nitrogen (NO2+NO3) in a water extract is determined by Chemical Reduction, and direct colourimetry by Discrete Analyser.
TKN as N By Discrete Analyser	EK061G	SOIL	In house: Referenced to APHA 21st ed., 4500-Norg-D Soil samples are digested using Kjeldahl digestion followed by determination by Discrete Analyser.
Total Nitrogen as N (TKN + NOx) By Discrete Analyser	EK062G	SOIL	In house: Referenced to APHA 21st ed., 4500 Norg/NO3- Total Nitrogen is determined as the sum of TKN and Oxidised Nitrrogen, each determined seperately as N.
Total Phosporus By Discrete Analyser	EK067G	SOIL	In house: Referenced to APHA 21st ed., 4500 P-B&F This procedure involves sulfuric acid digestion and quantification using Discrete Analyser.
Ammonia in Sediments	EK255A SD	SOIL	Rayment and Higginson (1992) Method 7C1 and 7C2. This method measures exchangeable ammonium which is defined by the amount of ammonium released by shaking sediment with an un-buffered 2M potassium chloride solution.

Analytical Methods	Method	Matrix	Method Descriptions
Total Organic Carbon	EP003	SOIL	In-house C-IR17. Dried and pulverised sample is reacted with acid to remove inorganic Carbonates, then combusted in a LECO furnace in the presence of strong oxidants / catalysts. The evolved (Organic) Carbon (as CO2) is automaticaly measured by infra-red detector.
TPH - Semivolatile Fraction	EP071-SD	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 504)
TRH Volatiles/BTEX in Sediments	EP080-SD	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve.
Organotin Analysis	EP090	SOIL	(USEPA SW 846 - 8270D) Prepared sample extracts are analysed by GC/MS coupled with high volume injection, and quanitified against an established calibration curve.
Organophosphorus Pesticides (Ultra-trace)	EP130	SOIL	USEPA Method 3640 (GPC cleanup), 8141 (GC/FPD - Capillary Column) This technique is compliant with NEPM (2013) Schedule B(3) (Method 505)
Organochlorine Pesticides (Ultra-trace)	EP131A	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (2013) Schedule B(3) (Method 504)
PCB's (Ultra-trace)	EP131B	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (2013) Schedule B(3) (Method 504)
PAHs in Sediments by GCMS(SIM)	EP132B-SD	SOIL	USEPA 8270 GCMS Capillary column, SIM mode using large volume programmed temperature vaporisation injection.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Metals by ICP-MS - Suite B	EG020B-T	WATER	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Mercury by FIMS	EG035T	WATER	In house: Referenced to AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Ammonia as N by Discrete analyser	EK055G	WATER	In house: Referenced to APHA 21st ed., 4500-NH3 G Ammonia is determined by direct colorimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Nitrite as N by Discrete Analyser	EK057G	WATER	In house: Referenced to APHA 21st ed., 4500-NO2- B. Nitrite is determined by direct colourimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Nitrate as N by Discrete Analyser	EK058G	WATER	In house: Referenced to APHA 21st ed., 4500-NO3- F. Nitrate is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results. This method is compliant with NEPM (2013) Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	WATER	In house: Referenced to APHA 21st ed., 4500-NO3- F. Combined oxidised Nitrogen (NO2+NO3) is determined by Chemical Reduction and direct colourimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	WATER	In house: Referenced to APHA 21st ed., 4500-Norg D (In house). An aliquot of sample is digested using a high temperature Kjeldahl digestion to convert nitrogenous compounds to ammonia. Ammonia is determined colorimetrically by discrete analyser. This method is compliant with NEPM (2013) Schedule B(3)
Total Nitrogen as N (TKN + Nox) By Discrete Analyser	EK062G	WATER	In house: Referenced to APHA 21st ed., 4500-Norg / 4500-NO3-. This method is compliant with NEPM (2013) Schedule B(3)
Total Phosphorus as P By Discrete Analyser	EK067G	WATER	In house: Referenced to APHA 21st ed., 4500-P H, Jirka et al (1976), Zhang et al (2006). This procedure involves sulphuric acid digestion of a sample aliquot to break phosphorus down to orthophosphate. The orthophosphate reacts with ammonium molybdate and antimony potassium tartrate to form a complex which is then reduced and its concentration measured at 880nm using discrete analyser. This method is compliant with NEPM (2013) Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Pesticides by GCMS	EP068	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
Organotin Compounds (Soluble)	EP090H	WATER	(USEPA SW 846 - 8270D, ALS QWI-ORG/EP090) Sample extracts (ALS QWI-ORG/035) are analysed by GC/MS coupled with high volume injection (10-50µL). Quantitation is achieved using internal standard and average response factor quantitation techniques against an established five-point curve. Butyltin results are reported in either "as tin" units eg. ng Sn/L or "ng TBT+/L". The analytical standards are prepared in "as tin" units. Sample results are converted to TBT+ results as required.

Preparation Methods	Method	Matrix	Method Descriptions
TKN/TP Digestion	EK061/EK067	SOIL	APHA 21st ed., 4500 Norg- D; APHA 21st ed., 4500 P - H. Macro Kjeldahl digestion.
1:5 solid / water leach for soluble analytes	EN34	SOIL	10 g of soil is mixed with 50 mL of distilled water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids/ Sample Cleanup	ORG17A-UTP	SOIL	In-house, Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. Samples are extracted, concentrated (by KD) and exchanged into an appropriate solvent for GPC and florisil cleanup as required.

Preparation Methods	Method	Matrix	Method Descriptions
Tumbler Extraction of Solids for LVI (Non-concentrating)	ORG17D	SOIL	In house: 10g of sample, Na2SO4 and surrogate are extracted with 50mL 1:1 DCM/Acetone by end over end tumbling. An aliquot is concentrated by nitrogen blowdown to a reduced volume for analysis if required.
Organotin Sample Preparation	ORG35	SOIL	In house. 20g sample is spiked with surrogate and leached in a methanol:acetic acid:UHP water mix and vacuum filtered. Reagents and solvents are added to the sample and the mixture tumbled. The butyltin compounds are simultaneously derivatised and extracted. The extract is further extracted with petroleum ether. The resultant extracts are combined and concentrated for analysis.
TKN/TP Digestion	EK061/EK067	WATER	APHA 21st ed., 4500 Norg - D; APHA 21st ed., 4500 P - H. This method is compliant with NEPM (2013) Schedule B(3)
Digestion for Total Recoverable Metals	EN25	WATER	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (2013) Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (2013) Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Organotin Sample Preparation	ORG34H	WATER	(IN HOUSE, ALS QWI-ORG/35) A specified volume (determined by the detection limit requirement) of sample is spiked with surrogate, acidified and vacuum filtered. Reagents and solvent are added to the sample and the mixture tumbled for 20 minutes. The butyltin compounds is derivitisated, extracted and the subtitution reaction is completed. The extracts is transferred to a separatory funnel and further extracted two times using petroleum ether. The resultant extracts are combined and concentrated to the desired volume for analysis.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW 846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EK067G: Total Phosphorus as P by Discrete Analyser	ES1504122-004	Anonymous	**Total Phosphorus as P**	----	54.2 %	0-20%	**RPD exceeds LOR based limits**
Matrix Spike (MS) Recoveries							
EK255A SD: Ammonia in Sediment	ES1503599-034	Anonymous	**Ammonia as N**	7664-41-7	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EK255A SD: Ammonia in Sediment	ES1503684-004	BH4 0.0-0.6A	**Ammonia as N**	7664-41-7	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP090: Organotin Compounds	ES1503599-002	Anonymous	**Monobutyltin**	78763-54-9	7.9 %	35-130%	**Recovery less than lower data quality objective**

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Laboratory Control outliers occur.**

Regular Sample Surrogates

- **For all regular sample matrices, no surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

Matrix: **WATER**

Method	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)	Date extracted	Due for extraction	**Days overdue**	Date analysed	Due for analysis	**Days overdue**
EK057G: Nitrite as N by Discrete Analyser						
Clear Plastic Bottle - Natural						
RINSATE 11	----	----	----	17-FEB-2015	16-FEB-2015	**1**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

ALS Environmental

ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0690 E: adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
CLOCATION 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 0735 E: mudgee mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle): Custody Seal Intact? Yes No N/A; Free ice / frozen ice bricks present upon receipt? Yes No N/A; Random Sample Temperature on Receipt: °C; Other comment:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 8	
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr DATE/TIME: 15 February 2015	RECEIVED BY: Kelly Schafer DATE/TIME: 15 February 2015 1850
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		RELINQUISHED BY: KSchafer DATE/TIME: 16-2-15 1600
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			RECEIVED BY: DATE/TIME: 17/2/15 9am
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	BE1 0.0-0.5 A	15/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
2	BE1 0.5-1.0 A	15/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
3	BE1 0.0-0.5 B	15/02/2015	S	Bag (White label)	1		1								
4	BE1 0.5-1.0 B	15/02/2015	S	Bag (White label)	1		1								
5	BE1 0.3V	15/02/2015	S	Glass Jar (150 ml)	1			1							
6	BE1 0.7V	15/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	7	2	2	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plasti
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

150ml Jars ~~and 500ml Amber~~ sent direct to Brisbane for TOC/TBT

Environmental Division
Sydney
Work Order
ES1503685

Telephone : +61-2-8784 8555

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1503685**	Page	: 1 of 56
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553		
C-O-C number	: ----	Date Samples Received	: 17-FEB-2015
Sampler	: GK	Issue Date	: 11-MAR-2015
Site	: ----		
		No. of samples received	: 44
Quote number	: SY/1021/14 V2	No. of samples analysed	: 44

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.**
- **EA151: ALS does not hold NATA accreditation for Settleability.**
- **EP090: Particular samples show poor matrix spike recovery for Monobutyltin due to matrix interference.**

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Ashesh Patel	Inorganic Chemist	Sydney Inorganics
Dianne Blane	Laboratory Coordinator (2IC)	Newcastle - Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
		Sydney Organics
Ryan Story	2IC Organic Instrument Chemist	Brisbane Organics
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils
Shobhna Chandra	Metals Coordinator	Sydney Inorganics
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE1 0.0-0.5A	BE1 0.5-1.0A	BE1 0.0-0.5B	BE1 0.5-1.0B	BE1 0.3V
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
					ES1503685-001	ES1503685-002	ES1503685-003	ES1503685-004	ES1503685-005
EA150: Particle Sizing									
+75µm	----	1	%		----	----	**53**	**8**	----
+150µm	----	1	%		----	----	**34**	**5**	----
+300µm	----	1	%		----	----	**20**	**3**	----
+425µm	----	1	%		----	----	**17**	**2**	----
+600µm	----	1	%		----	----	**15**	**2**	----
+1180µm	----	1	%		----	----	**11**	<1	----
+2.36mm	----	1	%		----	----	**4**	<1	----
+4.75mm	----	1	%		----	----	**2**	<1	----
+9.5mm	----	1	%		----	----	<1	<1	----
+19.0mm	----	1	%		----	----	<1	<1	----
+37.5mm	----	1	%		----	----	<1	<1	----
+75.0mm	----	1	%		----	----	<1	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**38.8**	**38.3**	----	----	**38.4**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	**21**	**42**	----
Silt (2-60 µm)	----	1	%		----	----	**17**	**40**	----
Sand (0.06-2.00 mm)	----	1	%		----	----	**56**	**17**	----
Gravel (>2mm)	----	1	%		----	----	**6**	**1**	----
Cobbles (>6cm)	----	1	%		----	----	<1	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	**2.74**	**2.76**	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**13800**	**14800**	----	----	----
Iron	7439-89-6	50	mg/kg		**31500**	**23500**	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		**17.0**	**9.35**	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	----	----	----
Chromium	7440-47-3	1.0	mg/kg		**24.8**	**22.7**	----	----	----
Copper	7440-50-8	1.0	mg/kg		**18.7**	**22.0**	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		**15.0**	**11.0**	----	----	----
Lead	7439-92-1	1.0	mg/kg		**9.3**	**7.9**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE1 0.0-0.5A	BE1 0.5-1.0A	BE1 0.0-0.5B	BE1 0.5-1.0B	BE1 0.3V
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
					ES1503685-001	ES1503685-002	ES1503685-003	ES1503685-004	ES1503685-005
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		245	135	----	----	----
Nickel	7440-02-0	1.0	mg/kg		11.8	10.6	----	----	----
Selenium	7782-49-2	0.1	mg/kg		0.8	0.7	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.1	<0.1	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		49.6	49.3	----	----	----
Zinc	7440-66-6	1.0	mg/kg		40.2	37.3	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		0.02	0.02	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		490	350	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		490	350	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		171	93	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		4.8	5.6	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		0.67	0.68	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	<3	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		28	20	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		12	10	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		40	30	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		<3	<3	----	----	----
C15 - C28 Fraction	----	3	mg/kg		12	8	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE1 0.0-0.5A	BE1 0.5-1.0A	BE1 0.0-0.5B	BE1 0.5-1.0B	BE1 0.3V
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
					ES1503685-001	ES1503685-002	ES1503685-003	ES1503685-004	ES1503685-005
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		23	18	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		35	26	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	----	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	<1	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	<1	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	<0.5	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	<10	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	<10	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	<10.0	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	<10	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	<10	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	<10	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	<10	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	<10	----	----	----
Ethion	563-12-2	10	µg/kg		<10	<10	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	<10	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	<10	----	----	----
Malathion	121-75-5	10	µg/kg		<10	<10	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	<10	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	<10	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE1 0.0-0.5A	BE1 0.5-1.0A	BE1 0.0-0.5B	BE1 0.5-1.0B	BE1 0.3V
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
					ES1503685-001	ES1503685-002	ES1503685-003	ES1503685-004	ES1503685-005
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	<10	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	<10	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	<10	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	<10	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	<0.50	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	<0.50	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	<0.50	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	<0.50	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	<0.50	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	<0.25	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	<0.50	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	<0.25	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	<0.25	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	<0.25	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	<0.50	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	<5.0	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE1 0.0-0.5A	BE1 0.5-1.0A	BE1 0.0-0.5B	BE1 0.5-1.0B	BE1 0.3V
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
					ES1503685-001	ES1503685-002	ES1503685-003	ES1503685-004	ES1503685-005
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	<5.0	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	<5	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	<5	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	<4	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	<4	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	<4	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	<4	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	<4	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	<4	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	**4**	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	<4	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	<4	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	<4	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	<4	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	<4	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	<4	----	----	----
Perylene	198-55-0	4	µg/kg		<4	<4	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	<4	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	<4	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	<4	----	----	----
Coronene	191-07-1	5	µg/kg		<5	<5	----	----	----
^ **Sum of PAHs**	----	4	µg/kg		<4	**4**	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	----	**83.4**
Toluene-D8	2037-26-5	0.1	%		----	----	----	----	**78.1**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	----	**95.2**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**76.9**	**90.2**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BE1 0.0-0.5A	BE1 0.5-1.0A	BE1 0.0-0.5B	BE1 0.5-1.0B	BE1 0.3V
			Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503685-001	ES1503685-002	ES1503685-003	ES1503685-004	ES1503685-005
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	74.8	69.8	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	47.4	79.0	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	77.7	97.2	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	93.4	89.5	----	----	----
Anthracene-d10	1719-06-8	0.1	%	115	108	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	107	124	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE1 0.7V	BE2 0.0-0.5A	BE2 0.5-1.0A	BE2 0.0-0.5B	BE2 0.5-1.0B
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
					ES1503685-006	ES1503685-007	ES1503685-008	ES1503685-009	ES1503685-010
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	**39**	**14**
+150µm	----	1	%		----	----	----	**19**	**3**
+300µm	----	1	%		----	----	----	**12**	**2**
+425µm	----	1	%		----	----	----	**11**	**2**
+600µm	----	1	%		----	----	----	**10**	**2**
+1180µm	----	1	%		----	----	----	**9**	**1**
+2.36mm	----	1	%		----	----	----	**6**	<1
+4.75mm	----	1	%		----	----	----	**4**	<1
+9.5mm	----	1	%		----	----	----	**2**	<1
+19.0mm	----	1	%		----	----	----	<1	<1
+37.5mm	----	1	%		----	----	----	<1	<1
+75.0mm	----	1	%		----	----	----	<1	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**39.5**	**35.7**	**35.9**	----	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	**20**	**38**
Silt (2-60 µm)	----	1	%		----	----	----	**26**	**35**
Sand (0.06-2.00 mm)	----	1	%		----	----	----	**47**	**26**
Gravel (>2mm)	----	1	%		----	----	----	**7**	**1**
Cobbles (>6cm)	----	1	%		----	----	----	<1	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	**2.70**	**2.75**
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	**13400**	**13100**	----	----
Iron	7439-89-6	50	mg/kg		----	**30400**	**24300**	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	<0.50	<0.50	----	----
Arsenic	7440-38-2	1.00	mg/kg		----	**19.0**	**14.5**	----	----
Cadmium	7440-43-9	0.1	mg/kg		----	<0.1	<0.1	----	----
Chromium	7440-47-3	1.0	mg/kg		----	**23.4**	**22.8**	----	----
Copper	7440-50-8	1.0	mg/kg		----	**17.7**	**19.6**	----	----
Cobalt	7440-48-4	0.5	mg/kg		----	**14.1**	**11.0**	----	----
Lead	7439-92-1	1.0	mg/kg		----	**8.7**	**7.6**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE1 0.7V	BE2 0.0-0.5A	BE2 0.5-1.0A	BE2 0.0-0.5B	BE2 0.5-1.0B
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
					ES1503685-006	ES1503685-007	ES1503685-008	ES1503685-009	ES1503685-010
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	250	263	----	----
Nickel	7440-02-0	1.0	mg/kg		----	10.5	9.9	----	----
Selenium	7782-49-2	0.1	mg/kg		----	0.9	0.7	----	----
Silver	7440-22-4	0.1	mg/kg		----	<0.1	0.1	----	----
Vanadium	7440-62-2	2.0	mg/kg		----	52.4	47.1	----	----
Zinc	7440-66-6	1.0	mg/kg		----	37.7	35.0	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	0.02	0.02	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	480	370	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	480	370	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	144	141	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	6.2	7.8	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	0.88	0.68	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	<3	<3	----	----
>C16 - C34 Fraction	----	3	mg/kg		----	23	22	----	----
>C34 - C40 Fraction	----	5	mg/kg		----	10	12	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	33	34	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	----	----	----	----
C10 - C14 Fraction	----	3	mg/kg		----	<3	<3	----	----
C15 - C28 Fraction	----	3	mg/kg		----	8	10	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE1 0.7V	BE2 0.0-0.5A	BE2 0.5-1.0A	BE2 0.0-0.5B	BE2 0.5-1.0B
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
					ES1503685-006	ES1503685-007	ES1503685-008	ES1503685-009	ES1503685-010
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	19	19	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	27	29	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	----	----	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.2	mg/kg		<0.2	----	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	----	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	----	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	<1	<1	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	<1	<1	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	<0.5	<0.5	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	<10	<10	----	----
Carbophenothion	786-19-6	10	µg/kg		----	<10	<10	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	<10.0	<10.0	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	<10	<10	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	<10	<10	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	<10	<10	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	<10	<10	----	----
Diazinon	333-41-5	10	µg/kg		----	<10	<10	----	----
Dichlorvos	62-73-7	10	µg/kg		----	<10	<10	----	----
Dimethoate	60-51-5	10	µg/kg		----	<10	<10	----	----
Ethion	563-12-2	10	µg/kg		----	<10	<10	----	----
Fenamiphos	22224-92-6	10	µg/kg		----	<10	<10	----	----
Fenthion	55-38-9	10	µg/kg		----	<10	<10	----	----
Malathion	121-75-5	10	µg/kg		----	<10	<10	----	----
Azinphos Methyl	86-50-0	10	µg/kg		----	<10	<10	----	----
Monocrotophos	6923-22-4	10	µg/kg		----	<10	<10	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE1 0.7V	BE2 0.0-0.5A	BE2 0.5-1.0A	BE2 0.0-0.5B	BE2 0.5-1.0B
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503685-006	ES1503685-007	ES1503685-008	ES1503685-009	ES1503685-010
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	<10	<10	----	----
Parathion-methyl	298-00-0	10	µg/kg		----	<10	<10	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	<10	<10	----	----
Prothiofos	34643-46-4	10	µg/kg		----	<10	<10	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg		----	<0.50	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	<0.50	<0.50	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	<0.50	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	<0.50	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	<0.50	<0.50	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	<0.50	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	<0.50	<0.50	----	----
gamma-BHC	58-89-9	0.25	µg/kg		----	<0.25	<0.25	----	----
Methoxychlor	72-43-5	0.50	µg/kg		----	<0.50	<0.50	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	<0.25	<0.25	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	<0.25	<0.25	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		----	<0.25	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	<0.50	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	<5.0	<5.0	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE1 0.7V	BE2 0.0-0.5A	BE2 0.5-1.0A	BE2 0.0-0.5B	BE2 0.5-1.0B
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
					ES1503685-006	ES1503685-007	ES1503685-008	ES1503685-009	ES1503685-010
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	<5.0	<5.0	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	<5	<5	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	<5	<5	----	----
Acenaphthylene	208-96-8	4	µg/kg		----	<4	<4	----	----
Acenaphthene	83-32-9	4	µg/kg		----	<4	<4	----	----
Fluorene	86-73-7	4	µg/kg		----	<4	<4	----	----
Phenanthrene	85-01-8	4	µg/kg		----	<4	<4	----	----
Anthracene	120-12-7	4	µg/kg		----	<4	<4	----	----
Fluoranthene	206-44-0	4	µg/kg		----	<4	<4	----	----
Pyrene	129-00-0	4	µg/kg		----	<4	<4	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	<4	<4	----	----
Chrysene	218-01-9	4	µg/kg		----	<4	<4	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	<4	<4	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	<4	<4	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	<4	<4	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	<4	<4	----	----
Perylene	198-55-0	4	µg/kg		----	<4	<4	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	<4	<4	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	<4	<4	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	<4	<4	----	----
Coronene	191-07-1	5	µg/kg		----	<5	<5	----	----
^ **Sum of PAHs**	----	4	µg/kg		----	<4	<4	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**91.5**	----	----	----	----
Toluene-D8	2037-26-5	0.1	%		**86.1**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**102**	----	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	**97.3**	**104**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BE1 0.7V	BE2 0.0-0.5A	BE2 0.5-1.0A	BE2 0.0-0.5B	BE2 0.5-1.0B
			Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503685-006	ES1503685-007	ES1503685-008	ES1503685-009	ES1503685-010
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	76.5	71.8	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	84.8	65.0	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	94.7	92.8	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	80.1	86.6	----	----
Anthracene-d10	1719-06-8	0.1	%	----	98.3	119	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	84.0	114	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE2 0.3V	BE2 0.7V	BE3 0.0-0.5A	BE3 0.5-1.0A	BE3 0.0-0.5B
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
					ES1503685-011	ES1503685-012	ES1503685-013	ES1503685-014	ES1503685-015
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	----	**33**
+150µm	----	1	%		----	----	----	----	**22**
+300µm	----	1	%		----	----	----	----	**19**
+425µm	----	1	%		----	----	----	----	**19**
+600µm	----	1	%		----	----	----	----	**18**
+1180µm	----	1	%		----	----	----	----	**17**
+2.36mm	----	1	%		----	----	----	----	**14**
+4.75mm	----	1	%		----	----	----	----	**10**
+9.5mm	----	1	%		----	----	----	----	**6**
+19.0mm	----	1	%		----	----	----	----	<1
+37.5mm	----	1	%		----	----	----	----	<1
+75.0mm	----	1	%		----	----	----	----	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**45.5**	**34.0**	**35.3**	**39.9**	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	----	**23**
Silt (2-60 µm)	----	1	%		----	----	----	----	**28**
Sand (0.06-2.00 mm)	----	1	%		----	----	----	----	**34**
Gravel (>2mm)	----	1	%		----	----	----	----	**15**
Cobbles (>6cm)	----	1	%		----	----	----	----	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	----	**2.74**
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	**10100**	**13300**	----
Iron	7439-89-6	50	mg/kg		----	----	**21200**	**23500**	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	<0.50	<0.50	----
Arsenic	7440-38-2	1.00	mg/kg		----	----	**13.2**	**12.5**	----
Cadmium	7440-43-9	0.1	mg/kg		----	----	<0.1	<0.1	----
Chromium	7440-47-3	1.0	mg/kg		----	----	**18.2**	**23.0**	----
Copper	7440-50-8	1.0	mg/kg		----	----	**12.4**	**22.7**	----
Cobalt	7440-48-4	0.5	mg/kg		----	----	**11.6**	**11.1**	----
Lead	7439-92-1	1.0	mg/kg		----	----	**5.7**	**8.4**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE2 0.3V	BE2 0.7V	BE3 0.0-0.5A	BE3 0.5-1.0A	BE3 0.0-0.5B
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
					ES1503685-011	ES1503685-012	ES1503685-013	ES1503685-014	ES1503685-015
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	322	181	----
Nickel	7440-02-0	1.0	mg/kg		----	----	9.3	10.0	----
Selenium	7782-49-2	0.1	mg/kg		----	----	0.6	0.7	----
Silver	7440-22-4	0.1	mg/kg		----	----	0.5	0.1	----
Vanadium	7440-62-2	2.0	mg/kg		----	----	35.2	57.1	----
Zinc	7440-66-6	1.0	mg/kg		----	----	34.0	34.9	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	0.02	0.02	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	<0.1	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	<0.1	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	<0.1	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	580	390	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	580	390	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	182	124	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	6.6	10.0	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	0.82	0.76	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	3	<3	----
>C16 - C34 Fraction	----	3	mg/kg		----	----	26	18	----
>C34 - C40 Fraction	----	5	mg/kg		----	----	8	9	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	37	27	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	<3	----	----	----
C10 - C14 Fraction	----	3	mg/kg		----	----	4	<3	----
C15 - C28 Fraction	----	3	mg/kg		----	----	10	6	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE2 0.3V	BE2 0.7V	BE3 0.0-0.5A	BE3 0.5-1.0A	BE3 0.0-0.5B
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
					ES1503685-011	ES1503685-012	ES1503685-013	ES1503685-014	ES1503685-015
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	17	17	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	31	23	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	<3	----	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	----	----
Toluene	108-88-3	0.2	mg/kg		<0.2	<0.2	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	<0.2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	<0.2	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	<0.2	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	<1	<1	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	<1	<1	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	<0.5	<0.5	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	<10	<10	----
Carbophenothion	786-19-6	10	µg/kg		----	----	<10	<10	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	<10.0	<10.0	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	<10	<10	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	<10	<10	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	<10	<10	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	<10	<10	----
Diazinon	333-41-5	10	µg/kg		----	----	<10	<10	----
Dichlorvos	62-73-7	10	µg/kg		----	----	<10	<10	----
Dimethoate	60-51-5	10	µg/kg		----	----	<10	<10	----
Ethion	563-12-2	10	µg/kg		----	----	<10	<10	----
Fenamiphos	22224-92-6	10	µg/kg		----	----	<10	<10	----
Fenthion	55-38-9	10	µg/kg		----	----	<10	<10	----
Malathion	121-75-5	10	µg/kg		----	----	<10	<10	----
Azinphos Methyl	86-50-0	10	µg/kg		----	----	<10	<10	----
Monocrotophos	6923-22-4	10	µg/kg		----	----	<10	<10	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE2 0.3V	BE2 0.7V	BE3 0.0-0.5A	BE3 0.5-1.0A	BE3 0.0-0.5B
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
					ES1503685-011	ES1503685-012	ES1503685-013	ES1503685-014	ES1503685-015
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	<10	<10	----
Parathion-methyl	298-00-0	10	µg/kg		----	----	<10	<10	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	<10	<10	----
Prothiofos	34643-46-4	10	µg/kg		----	----	<10	<10	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	<0.50	<0.50	----
alpha-BHC	319-84-6	0.50	µg/kg		----	----	<0.50	<0.50	----
beta-BHC	319-85-7	0.50	µg/kg		----	----	<0.50	<0.50	----
delta-BHC	319-86-8	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	<0.50	<0.50	----
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	----	<0.50	<0.50	----
Dieldrin	60-57-1	0.50	µg/kg		----	----	<0.50	<0.50	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	<0.50	<0.50	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	<0.50	<0.50	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	<0.50	<0.50	----
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin	72-20-8	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	<0.50	<0.50	----
Heptachlor	76-44-8	0.50	µg/kg		----	----	<0.50	<0.50	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	<0.50	<0.50	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	<0.50	<0.50	----
gamma-BHC	58-89-9	0.25	µg/kg		----	----	<0.25	<0.25	----
Methoxychlor	72-43-5	0.50	µg/kg		----	----	<0.50	<0.50	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	<0.25	<0.25	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	<0.25	<0.25	----
^ **Total Chlordane (sum)**	----	0.25	µg/kg		----	----	<0.25	<0.25	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	<0.50	<0.50	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	<5.0	<5.0	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE2 0.3V	BE2 0.7V	BE3 0.0-0.5A	BE3 0.5-1.0A	BE3 0.0-0.5B
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
					ES1503685-011	ES1503685-012	ES1503685-013	ES1503685-014	ES1503685-015
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	<5.0	<5.0	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	<5	<5	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	<5	<5	----
Acenaphthylene	208-96-8	4	µg/kg		----	----	<4	<4	----
Acenaphthene	83-32-9	4	µg/kg		----	----	<4	<4	----
Fluorene	86-73-7	4	µg/kg		----	----	<4	<4	----
Phenanthrene	85-01-8	4	µg/kg		----	----	<4	<4	----
Anthracene	120-12-7	4	µg/kg		----	----	<4	<4	----
Fluoranthene	206-44-0	4	µg/kg		----	----	<4	<4	----
Pyrene	129-00-0	4	µg/kg		----	----	<4	**6**	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	<4	<4	----
Chrysene	218-01-9	4	µg/kg		----	----	<4	<4	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	<4	<4	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	<4	<4	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	<4	<4	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	<4	<4	----
Perylene	198-55-0	4	µg/kg		----	----	<4	<4	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	<4	<4	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	<4	<4	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	<4	<4	----
Coronene	191-07-1	5	µg/kg		----	----	<5	<5	----
^ **Sum of PAHs**	----	4	µg/kg		----	----	<4	**6**	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**103**	**97.0**	----	----	----
Toluene-D8	2037-26-5	0.1	%		**92.0**	**87.9**	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**105**	**110**	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	**89.1**	**111**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE2 0.3V	BE2 0.7V	BE3 0.0-0.5A	BE3 0.5-1.0A	BE3 0.0-0.5B
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503685-011	ES1503685-012	ES1503685-013	ES1503685-014	ES1503685-015
EP130S: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%		----	----	73.0	69.8	----
EP131S: OC Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.1	%		----	----	54.3	85.8	----
EP131T: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	----	83.2	98.0	----
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		----	----	88.8	96.6	----
Anthracene-d10	1719-06-8	0.1	%		----	----	113	87.4	----
4-Terphenyl-d14	1718-51-0	0.1	%		----	----	122	108	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE3 0.5-1.0B	BE3 0.3V	BE3 0.7V	BE9 0.0-0.5A	BE9 0.5-1.0A
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
					ES1503685-016	ES1503685-017	ES1503685-018	ES1503685-019	ES1503685-020
EA150: Particle Sizing									
+75µm	----	1	%		**4**	----	----	----	----
+150µm	----	1	%		**1**	----	----	----	----
+300µm	----	1	%		**1**	----	----	----	----
+425µm	----	1	%		**1**	----	----	----	----
+600µm	----	1	%		**1**	----	----	----	----
+1180µm	----	1	%		<1	----	----	----	----
+2.36mm	----	1	%		<1	----	----	----	----
+4.75mm	----	1	%		<1	----	----	----	----
+9.5mm	----	1	%		<1	----	----	----	----
+19.0mm	----	1	%		<1	----	----	----	----
+37.5mm	----	1	%		<1	----	----	----	----
+75.0mm	----	1	%		<1	----	----	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	**37.1**	**46.4**	**40.6**	**47.2**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		**38**	----	----	----	----
Silt (2-60 µm)	----	1	%		**42**	----	----	----	----
Sand (0.06-2.00 mm)	----	1	%		**20**	----	----	----	----
Gravel (>2mm)	----	1	%		<1	----	----	----	----
Cobbles (>6cm)	----	1	%		<1	----	----	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		**2.74**	----	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	----	**9140**	**15600**
Iron	7439-89-6	50	mg/kg		----	----	----	**19000**	**27500**
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	----	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	----	----	**11.3**	**17.1**
Cadmium	7440-43-9	0.1	mg/kg		----	----	----	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	----	----	**16.3**	**26.2**
Copper	7440-50-8	1.0	mg/kg		----	----	----	**10.8**	**27.5**
Cobalt	7440-48-4	0.5	mg/kg		----	----	----	**11.2**	**15.6**
Lead	7439-92-1	1.0	mg/kg		----	----	----	**4.9**	**9.6**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE3 0.5-1.0B	BE3 0.3V	BE3 0.7V	BE9 0.0-0.5A	BE9 0.5-1.0A
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
					ES1503685-016	ES1503685-017	ES1503685-018	ES1503685-019	ES1503685-020
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	----	276	302
Nickel	7440-02-0	1.0	mg/kg		----	----	----	8.1	12.1
Selenium	7782-49-2	0.1	mg/kg		----	----	----	0.6	1.0
Silver	7440-22-4	0.1	mg/kg		----	----	----	0.1	<0.1
Vanadium	7440-62-2	2.0	mg/kg		----	----	----	36.8	68.1
Zinc	7440-66-6	1.0	mg/kg		----	----	----	29.7	41.1
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	----	0.02	0.03
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	----	<0.1	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	<0.1	0.2
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	<0.1	0.2
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	----	580	570
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	----	580	570
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	----	245	142
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	----	6.9	10.1
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	----	0.70	1.04
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	----	4	<3
>C16 - C34 Fraction	----	3	mg/kg		----	----	----	27	29
>C34 - C40 Fraction	----	5	mg/kg		----	----	----	9	12
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	----	40	41
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	<3	<3	----	----
C10 - C14 Fraction	----	3	mg/kg		----	----	----	6	<3
C15 - C28 Fraction	----	3	mg/kg		----	----	----	10	13

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE3 0.5-1.0B	BE3 0.3V	BE3 0.7V	BE9 0.0-0.5A	BE9 0.5-1.0A
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
					ES1503685-016	ES1503685-017	ES1503685-018	ES1503685-019	ES1503685-020
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	----	**19**	**24**
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	----	**35**	**37**
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	<3	<3	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	<0.2	<0.2	----	----
Toluene	108-88-3	0.2	mg/kg		----	<0.2	<0.2	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	<0.2	<0.2	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	<0.2	<0.2	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	<0.2	<0.2	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	<0.5	<0.5	----	----
^ Sum of BTEX	----	0.2	mg/kg		----	<0.2	<0.2	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	----	<1	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	----	<1	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	----	<0.5	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	----	<10	<10
Carbophenothion	786-19-6	10	µg/kg		----	----	----	<10	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	----	<10.0	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	----	<10	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	----	<10	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	----	<10	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	----	<10	<10
Diazinon	333-41-5	10	µg/kg		----	----	----	<10	<10
Dichlorvos	62-73-7	10	µg/kg		----	----	----	<10	<10
Dimethoate	60-51-5	10	µg/kg		----	----	----	<10	<10
Ethion	563-12-2	10	µg/kg		----	----	----	<10	<10
Fenamiphos	22224-92-6	10	µg/kg		----	----	----	<10	<10
Fenthion	55-38-9	10	µg/kg		----	----	----	<10	<10
Malathion	121-75-5	10	µg/kg		----	----	----	<10	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	----	----	<10	<10
Monocrotophos	6923-22-4	10	µg/kg		----	----	----	<10	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE3 0.5-1.0B	BE3 0.3V	BE3 0.7V	BE9 0.0-0.5A	BE9 0.5-1.0A
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
					ES1503685-016	ES1503685-017	ES1503685-018	ES1503685-019	ES1503685-020
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	----	<10	<10
Parathion-methyl	298-00-0	10	µg/kg		----	----	----	<10	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	----	<10	<10
Prothiofos	34643-46-4	10	µg/kg		----	----	----	<10	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	----	<0.50	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	----	----	<0.50	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	----	----	<0.50	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	----	----	<0.50	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	----	<0.50	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	----	<0.50	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	----	<0.50	<0.50
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	----	----	<0.50	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	----	----	<0.50	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	----	<0.50	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	----	<0.50	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	----	<0.50	<0.50
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	----	----	<0.50	<0.50
Endrin	72-20-8	0.50	µg/kg		----	----	----	<0.50	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	----	<0.50	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	----	<0.50	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	----	----	<0.50	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	----	<0.50	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	----	<0.50	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	----	----	<0.25	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	----	----	<0.50	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	----	<0.25	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	----	<0.25	<0.25
^ **Total Chlordane (sum)**	----	0.25	µg/kg		----	----	----	<0.25	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	----	<0.50	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	----	<5.0	<5.0

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE3 0.5-1.0B	BE3 0.3V	BE3 0.7V	BE9 0.0-0.5A	BE9 0.5-1.0A
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
					ES1503685-016	ES1503685-017	ES1503685-018	ES1503685-019	ES1503685-020
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	----	<5.0	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	----	<5	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	----	<5	<5
Acenaphthylene	208-96-8	4	µg/kg		----	----	----	<4	<4
Acenaphthene	83-32-9	4	µg/kg		----	----	----	<4	<4
Fluorene	86-73-7	4	µg/kg		----	----	----	<4	<4
Phenanthrene	85-01-8	4	µg/kg		----	----	----	<4	<4
Anthracene	120-12-7	4	µg/kg		----	----	----	<4	<4
Fluoranthene	206-44-0	4	µg/kg		----	----	----	**6**	<4
Pyrene	129-00-0	4	µg/kg		----	----	----	**6**	<4
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	----	<4	<4
Chrysene	218-01-9	4	µg/kg		----	----	----	<4	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	----	<4	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	----	<4	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	----	<4	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	----	<4	<4
Perylene	198-55-0	4	µg/kg		----	----	----	<4	**4**
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	----	<4	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	----	<4	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	----	<4	<4
Coronene	191-07-1	5	µg/kg		----	----	----	<5	<5
^ **Sum of PAHs**	----	4	µg/kg		----	----	----	**12**	**4**
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	**110**	**90.7**	----	----
Toluene-D8	2037-26-5	0.1	%		----	**100**	**80.7**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	**116**	**91.1**	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	----	**97.7**	**110**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BE3 0.5-1.0B	BE3 0.3V	BE3 0.7V	BE9 0.0-0.5A	BE9 0.5-1.0A
			Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503685-016	ES1503685-017	ES1503685-018	ES1503685-019	ES1503685-020
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	----	**67.1**	**70.2**
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	----	**77.8**	**64.9**
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	**94.8**	**63.4**
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	**80.7**	**94.3**
Anthracene-d10	1719-06-8	0.1	%	----	----	----	**107**	**116**
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	**91.8**	**108**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE9 0.0-0.5B	BE9 0.5-1.0B	BE9 0.3V	BE9 0.7V	BE16 0.0-0.5A
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
					ES1503685-021	ES1503685-022	ES1503685-023	ES1503685-024	ES1503685-025
EA150: Particle Sizing									
+75µm	----	1	%		42	33	----	----	----
+150µm	----	1	%		30	30	----	----	----
+300µm	----	1	%		26	26	----	----	----
+425µm	----	1	%		24	25	----	----	----
+600µm	----	1	%		22	23	----	----	----
+1180µm	----	1	%		18	19	----	----	----
+2.36mm	----	1	%		13	13	----	----	----
+4.75mm	----	1	%		9	8	----	----	----
+9.5mm	----	1	%		3	2	----	----	----
+19.0mm	----	1	%		<1	<1	----	----	----
+37.5mm	----	1	%		<1	<1	----	----	----
+75.0mm	----	1	%		<1	<1	----	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	----	28.6	35.1	36.9
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		24	32	----	----	----
Silt (2-60 µm)	----	1	%		24	26	----	----	----
Sand (0.06-2.00 mm)	----	1	%		37	27	----	----	----
Gravel (>2mm)	----	1	%		15	15	----	----	----
Cobbles (>6cm)	----	1	%		<1	<1	----	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		2.74	2.75	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	----	----	12800
Iron	7439-89-6	50	mg/kg		----	----	----	----	32000
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	----	----	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	----	----	----	14.6
Cadmium	7440-43-9	0.1	mg/kg		----	----	----	----	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	----	----	----	23.8
Copper	7440-50-8	1.0	mg/kg		----	----	----	----	13.4
Cobalt	7440-48-4	0.5	mg/kg		----	----	----	----	25.3
Lead	7439-92-1	1.0	mg/kg		----	----	----	----	6.3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE9 0.0-0.5B	BE9 0.5-1.0B	BE9 0.3V	BE9 0.7V	BE16 0.0-0.5A
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
					ES1503685-021	ES1503685-022	ES1503685-023	ES1503685-024	ES1503685-025
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	----	----	**407**
Nickel	7440-02-0	1.0	mg/kg		----	----	----	----	**13.3**
Selenium	7782-49-2	0.1	mg/kg		----	----	----	----	**0.8**
Silver	7440-22-4	0.1	mg/kg		----	----	----	----	<0.1
Vanadium	7440-62-2	2.0	mg/kg		----	----	----	----	**49.1**
Zinc	7440-66-6	1.0	mg/kg		----	----	----	----	**52.2**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	----	----	**0.02**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	----	----	**640**
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	----	----	**640**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	----	----	**264**
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	----	----	**3.6**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	----	----	**0.70**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	----	----	**3**
>C16 - C34 Fraction	----	3	mg/kg		----	----	----	----	**22**
>C34 - C40 Fraction	----	5	mg/kg		----	----	----	----	**7**
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	----	----	**32**
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	<3	<3	----
C10 - C14 Fraction	----	3	mg/kg		----	----	----	----	**3**
C15 - C28 Fraction	----	3	mg/kg		----	----	----	----	**9**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE9 0.0-0.5B	BE9 0.5-1.0B	BE9 0.3V	BE9 0.7V	BE16 0.0-0.5A
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503685-021	ES1503685-022	ES1503685-023	ES1503685-024	ES1503685-025
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	----	----	15
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	----	----	27
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	<3	<3	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	<0.2	<0.2	----
Toluene	108-88-3	0.2	mg/kg		----	----	<0.2	<0.2	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	<0.2	<0.2	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	<0.2	<0.2	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	<0.2	<0.2	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	<0.5	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg		----	----	<0.2	<0.2	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	----	----	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	----	----	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	----	----	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	----	----	<10
Carbophenothion	786-19-6	10	µg/kg		----	----	----	----	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	----	----	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	----	----	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	----	----	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	----	----	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	----	----	<10
Diazinon	333-41-5	10	µg/kg		----	----	----	----	<10
Dichlorvos	62-73-7	10	µg/kg		----	----	----	----	<10
Dimethoate	60-51-5	10	µg/kg		----	----	----	----	<10
Ethion	563-12-2	10	µg/kg		----	----	----	----	<10
Fenamiphos	22224-92-6	10	µg/kg		----	----	----	----	<10
Fenthion	55-38-9	10	µg/kg		----	----	----	----	<10
Malathion	121-75-5	10	µg/kg		----	----	----	----	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	----	----	----	<10
Monocrotophos	6923-22-4	10	µg/kg		----	----	----	----	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE9 0.0-0.5B	BE9 0.5-1.0B	BE9 0.3V	BE9 0.7V	BE16 0.0-0.5A
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
					ES1503685-021	ES1503685-022	ES1503685-023	ES1503685-024	ES1503685-025
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	----	----	<10
Parathion-methyl	298-00-0	10	µg/kg		----	----	----	----	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	----	----	<10
Prothiofos	34643-46-4	10	µg/kg		----	----	----	----	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	----	----	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	----	----	----	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	----	----	----	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	----	----	<0.50
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	----	----	----	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	----	----	----	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	----	----	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	----	----	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	----	----	<0.50
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	----	----	----	<0.50
Endrin	72-20-8	0.50	µg/kg		----	----	----	----	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	----	----	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	----	----	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	----	----	----	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	----	----	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	----	----	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	----	----	----	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	----	----	----	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	----	----	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	----	----	<0.25
^ Total Chlordane (sum)	----	0.25	µg/kg		----	----	----	----	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	----	----	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	----	----	<5.0

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE9 0.0-0.5B	BE9 0.5-1.0B	BE9 0.3V	BE9 0.7V	BE16 0.0-0.5A
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
					ES1503685-021	ES1503685-022	ES1503685-023	ES1503685-024	ES1503685-025
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	----	----	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	----	----	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	----	----	<5
Acenaphthylene	208-96-8	4	µg/kg		----	----	----	----	**7**
Acenaphthene	83-32-9	4	µg/kg		----	----	----	----	<4
Fluorene	86-73-7	4	µg/kg		----	----	----	----	<4
Phenanthrene	85-01-8	4	µg/kg		----	----	----	----	<4
Anthracene	120-12-7	4	µg/kg		----	----	----	----	**7**
Fluoranthene	206-44-0	4	µg/kg		----	----	----	----	<4
Pyrene	129-00-0	4	µg/kg		----	----	----	----	**5**
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	----	----	**7**
Chrysene	218-01-9	4	µg/kg		----	----	----	----	**7**
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	----	----	**12**
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	----	----	**11**
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	----	----	**11**
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	----	----	**16**
Perylene	198-55-0	4	µg/kg		----	----	----	----	**6**
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	----	----	**16**
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	----	----	**7**
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	----	----	**15**
Coronene	191-07-1	5	µg/kg		----	----	----	----	**8**
^ **Sum of PAHs**	----	4	µg/kg		----	----	----	----	**135**
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	**95.6**	**86.2**	----
Toluene-D8	2037-26-5	0.1	%		----	----	**83.9**	**95.0**	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	**103**	**112**	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	----	----	**112**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BE9 0.0-0.5B	BE9 0.5-1.0B	BE9 0.3V	BE9 0.7V	BE16 0.0-0.5A
			Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503685-021	ES1503685-022	ES1503685-023	ES1503685-024	ES1503685-025
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	----	----	**75.3**
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	----	----	**59.6**
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	----	**75.0**
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	----	**81.2**
Anthracene-d10	1719-06-8	0.1	%	----	----	----	----	**110**
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	----	**92.5**

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE16 0.5-1.0A	BE16 0.0-0.5B	BE16 0.5-1.0B	BE16 0.3V	BE16 0.7V
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
					ES1503685-026	ES1503685-027	ES1503685-028	ES1503685-029	ES1503685-030
EA150: Particle Sizing									
+75µm	----	1	%		----	**16**	**3**	----	----
+150µm	----	1	%		----	**12**	**2**	----	----
+300µm	----	1	%		----	**9**	**1**	----	----
+425µm	----	1	%		----	**9**	**1**	----	----
+600µm	----	1	%		----	**8**	<1	----	----
+1180µm	----	1	%		----	**7**	<1	----	----
+2.36mm	----	1	%		----	**4**	<1	----	----
+4.75mm	----	1	%		----	**3**	<1	----	----
+9.5mm	----	1	%		----	<1	<1	----	----
+19.0mm	----	1	%		----	<1	<1	----	----
+37.5mm	----	1	%		----	<1	<1	----	----
+75.0mm	----	1	%		----	<1	<1	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**43.4**	----	----	**39.9**	**41.0**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	**44**	**58**	----	----
Silt (2-60 µm)	----	1	%		----	**32**	**31**	----	----
Sand (0.06-2.00 mm)	----	1	%		----	**19**	**11**	----	----
Gravel (>2mm)	----	1	%		----	**5**	<1	----	----
Cobbles (>6cm)	----	1	%		----	<1	<1	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	**2.74**	**2.72**	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**17400**	----	----	----	----
Iron	7439-89-6	50	mg/kg		**27600**	----	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	----	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		**8.16**	----	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	----	----	----	----
Chromium	7440-47-3	1.0	mg/kg		**25.5**	----	----	----	----
Copper	7440-50-8	1.0	mg/kg		**34.3**	----	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		**12.9**	----	----	----	----
Lead	7439-92-1	1.0	mg/kg		**9.0**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE16 0.5-1.0A	BE16 0.0-0.5B	BE16 0.5-1.0B	BE16 0.3V	BE16 0.7V
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503685-026	ES1503685-027	ES1503685-028	ES1503685-029	ES1503685-030
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		**291**	----	----	----	----
Nickel	7440-02-0	1.0	mg/kg		**13.1**	----	----	----	----
Selenium	7782-49-2	0.1	mg/kg		**1.0**	----	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.1	----	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		**66.0**	----	----	----	----
Zinc	7440-66-6	1.0	mg/kg		**45.8**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		**0.02**	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		**0.3**	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		**0.3**	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		**530**	----	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		**530**	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		**159**	----	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		**6.3**	----	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		**1.12**	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	----	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		**32**	----	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		**18**	----	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		**50**	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	<3	<3
C10 - C14 Fraction	----	3	mg/kg		<3	----	----	----	----
C15 - C28 Fraction	----	3	mg/kg		**12**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE16 0.5-1.0A	BE16 0.0-0.5B	BE16 0.5-1.0B	BE16 0.3V	BE16 0.7V
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503685-026	ES1503685-027	ES1503685-028	ES1503685-029	ES1503685-030
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		31	----	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		43	----	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	<3	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	<0.2	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	<0.2	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	<0.2	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	<0.2	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	----	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	<0.2	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	----	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	----	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	----	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	----	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	----	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	----	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	----	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	----	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	----	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	----	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	----	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	----	----	----	----
Ethion	563-12-2	10	µg/kg		<10	----	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	----	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	----	----	----	----
Malathion	121-75-5	10	µg/kg		<10	----	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	----	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE16 0.5-1.0A	BE16 0.0-0.5B	BE16 0.5-1.0B	BE16 0.3V	BE16 0.7V
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
					ES1503685-026	ES1503685-027	ES1503685-028	ES1503685-029	ES1503685-030
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	----	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	----	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	----	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	----	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	----	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	----	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	----	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	----	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	----	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	----	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	----	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	----	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	----	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	----	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	----	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	----	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	----	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	----	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	----	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	----	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	----	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	----	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	----	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	----	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	----	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE16 0.5-1.0A	BE16 0.0-0.5B	BE16 0.5-1.0B	BE16 0.3V	BE16 0.7V
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
					ES1503685-026	ES1503685-027	ES1503685-028	ES1503685-029	ES1503685-030
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	----	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	----	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		**10**	----	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	----	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	----	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	----	----	----	----
Anthracene	120-12-7	4	µg/kg		**12**	----	----	----	----
Fluoranthene	206-44-0	4	µg/kg		**15**	----	----	----	----
Pyrene	129-00-0	4	µg/kg		**21**	----	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		**30**	----	----	----	----
Chrysene	218-01-9	4	µg/kg		**30**	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		**24**	----	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		**25**	----	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		**20**	----	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		**28**	----	----	----	----
Perylene	198-55-0	4	µg/kg		**10**	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		**18**	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		**8**	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		**17**	----	----	----	----
Coronene	191-07-1	5	µg/kg		<5	----	----	----	----
^ **Sum of PAHs**	----	4	µg/kg		**268**	----	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	**87.8**	**98.4**
Toluene-D8	2037-26-5	0.1	%		----	----	----	**83.3**	**89.7**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	**93.5**	**104**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**99.4**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BE16 0.5-1.0A	BE16 0.0-0.5B	BE16 0.5-1.0B	BE16 0.3V	BE16 0.7V
			Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503685-026	ES1503685-027	ES1503685-028	ES1503685-029	ES1503685-030
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**70.8**	----	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**69.4**	----	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**74.8**	----	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**99.8**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**88.4**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	**101**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE17 0.0-0.5A	BE17 0.5-1.0A	BE17 0.0-0.5B	BE17 0.5-1.0B	BE17 0.3V
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503685-031	ES1503685-032	ES1503685-033	ES1503685-034	ES1503685-035
EA150: Particle Sizing									
+75µm	----	1	%		----	----	57	10	----
+150µm	----	1	%		----	----	35	8	----
+300µm	----	1	%		----	----	28	6	----
+425µm	----	1	%		----	----	26	6	----
+600µm	----	1	%		----	----	25	6	----
+1180µm	----	1	%		----	----	21	5	----
+2.36mm	----	1	%		----	----	15	3	----
+4.75mm	----	1	%		----	----	9	1	----
+9.5mm	----	1	%		----	----	4	<1	----
+19.0mm	----	1	%		----	----	<1	<1	----
+37.5mm	----	1	%		----	----	<1	<1	----
+75.0mm	----	1	%		----	----	<1	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		36.2	49.2	----	----	29.0
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	21	50	----
Silt (2-60 µm)	----	1	%		----	----	15	30	----
Sand (0.06-2.00 mm)	----	1	%		----	----	47	17	----
Gravel (>2mm)	----	1	%		----	----	17	3	----
Cobbles (>6cm)	----	1	%		----	----	<1	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	2.75	2.75	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		12500	21300	----	----	----
Iron	7439-89-6	50	mg/kg		28900	27300	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		13.4	6.28	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	----	----	----
Chromium	7440-47-3	1.0	mg/kg		22.4	29.1	----	----	----
Copper	7440-50-8	1.0	mg/kg		16.0	37.3	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		24.7	10.2	----	----	----
Lead	7439-92-1	1.0	mg/kg		5.8	9.8	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE17 0.0-0.5A	BE17 0.5-1.0A	BE17 0.0-0.5B	BE17 0.5-1.0B	BE17 0.3V
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
					ES1503685-031	ES1503685-032	ES1503685-033	ES1503685-034	ES1503685-035
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		462	274	----	----	----
Nickel	7440-02-0	1.0	mg/kg		12.1	13.9	----	----	----
Selenium	7782-49-2	0.1	mg/kg		0.7	1.0	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.1	<0.1	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		48.0	72.5	----	----	----
Zinc	7440-66-6	1.0	mg/kg		49.4	49.4	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		0.02	0.02	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		520	620	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		520	620	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		223	159	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		4.4	7.6	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		0.72	3.34	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	5	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		17	54	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		10	38	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		27	97	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		<3	5	----	----	----
C15 - C28 Fraction	----	3	mg/kg		6	19	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE17 0.0-0.5A	BE17 0.5-1.0A	BE17 0.0-0.5B	BE17 0.5-1.0B	BE17 0.3V
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
					ES1503685-031	ES1503685-032	ES1503685-033	ES1503685-034	ES1503685-035
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		15	57	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		21	81	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	----	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	<1	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	<1	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	<0.5	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	<10	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	<10	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	<10.0	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	<10	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	<10	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	<10	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	<10	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	<10	----	----	----
Ethion	563-12-2	10	µg/kg		<10	<10	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	<10	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	<10	----	----	----
Malathion	121-75-5	10	µg/kg		<10	<10	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	<10	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	<10	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE17 0.0-0.5A	BE17 0.5-1.0A	BE17 0.0-0.5B	BE17 0.5-1.0B	BE17 0.3V
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503685-031	ES1503685-032	ES1503685-033	ES1503685-034	ES1503685-035
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	<10	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	<10	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	<10	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	<10	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	<0.50	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	<0.50	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	<0.50	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	<0.50	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	<0.50	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	<0.25	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	<0.50	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	<0.25	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	<0.25	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	<0.25	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	<0.50	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	<5.0	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE17 0.0-0.5A	BE17 0.5-1.0A	BE17 0.0-0.5B	BE17 0.5-1.0B	BE17 0.3V
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503685-031	ES1503685-032	ES1503685-033	ES1503685-034	ES1503685-035
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	<5.0	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	<5	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	<5	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	<4	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	<4	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	<4	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	<4	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	<4	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	<4	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	<4	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	<4	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	<4	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	<4	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	<4	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	<4	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	<4	----	----	----
Perylene	198-55-0	4	µg/kg		<4	<4	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	<4	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	<4	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	<4	----	----	----
Coronene	191-07-1	5	µg/kg		<5	<5	----	----	----
^ Sum of PAHs	----	4	µg/kg		<4	<4	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	----	87.3
Toluene-D8	2037-26-5	0.1	%		----	----	----	----	80.2
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	----	96.9
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		100	97.7	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BE17 0.0-0.5A	BE17 0.5-1.0A	BE17 0.0-0.5B	BE17 0.5-1.0B	BE17 0.3V
			Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503685-031	ES1503685-032	ES1503685-033	ES1503685-034	ES1503685-035
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	65.6	73.7	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	70.8	63.4	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	74.0	97.9	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	85.7	87.9	----	----	----
Anthracene-d10	1719-06-8	0.1	%	117	107	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	112	110	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE17 0.7V	BE18 0.0-0.5A	BE18 0.5-1.0A	BE18 0.0-0.5B	BE18 0.5-1.0B
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
					ES1503685-036	ES1503685-037	ES1503685-038	ES1503685-039	ES1503685-040
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	**45**	**7**
+150µm	----	1	%		----	----	----	**36**	**5**
+300µm	----	1	%		----	----	----	**34**	**4**
+425µm	----	1	%		----	----	----	**34**	**4**
+600µm	----	1	%		----	----	----	**33**	**3**
+1180µm	----	1	%		----	----	----	**32**	**2**
+2.36mm	----	1	%		----	----	----	**31**	**2**
+4.75mm	----	1	%		----	----	----	**29**	**1**
+9.5mm	----	1	%		----	----	----	**28**	<1
+19.0mm	----	1	%		----	----	----	**28**	<1
+37.5mm	----	1	%		----	----	----	<1	<1
+75.0mm	----	1	%		----	----	----	<1	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**48.1**	**35.2**	**41.1**	----	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	**26**	**48**
Silt (2-60 µm)	----	1	%		----	----	----	**22**	**36**
Sand (0.06-2.00 mm)	----	1	%		----	----	----	**21**	**14**
Gravel (>2mm)	----	1	%		----	----	----	**31**	**2**
Cobbles (>6cm)	----	1	%		----	----	----	<1	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	**2.74**	**2.74**
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	**14400**	**16700**	----	----
Iron	7439-89-6	50	mg/kg		----	**25400**	**29900**	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	<0.50	<0.50	----	----
Arsenic	7440-38-2	1.00	mg/kg		----	**10.6**	**8.22**	----	----
Cadmium	7440-43-9	0.1	mg/kg		----	<0.1	<0.1	----	----
Chromium	7440-47-3	1.0	mg/kg		----	**24.9**	**22.8**	----	----
Copper	7440-50-8	1.0	mg/kg		----	**16.0**	**35.6**	----	----
Cobalt	7440-48-4	0.5	mg/kg		----	**15.6**	**11.0**	----	----
Lead	7439-92-1	1.0	mg/kg		----	**7.2**	**8.4**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE17 0.7V	BE18 0.0-0.5A	BE18 0.5-1.0A	BE18 0.0-0.5B	BE18 0.5-1.0B
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
					ES1503685-036	ES1503685-037	ES1503685-038	ES1503685-039	ES1503685-040
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	308	322	----	----
Nickel	7440-02-0	1.0	mg/kg		----	12.7	11.4	----	----
Selenium	7782-49-2	0.1	mg/kg		----	0.7	1.0	----	----
Silver	7440-22-4	0.1	mg/kg		----	<0.1	<0.1	----	----
Vanadium	7440-62-2	2.0	mg/kg		----	46.2	63.6	----	----
Zinc	7440-66-6	1.0	mg/kg		----	45.3	40.5	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	0.02	0.02	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	590	520	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	590	520	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	201	129	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	5.3	5.0	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	0.73	1.37	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	4	3	----	----
>C16 - C34 Fraction	----	3	mg/kg		----	42	47	----	----
>C34 - C40 Fraction	----	5	mg/kg		----	23	31	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	69	81	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	----	----	----	----
C10 - C14 Fraction	----	3	mg/kg		----	4	<3	----	----
C15 - C28 Fraction	----	3	mg/kg		----	20	16	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE17 0.7V	BE18 0.0-0.5A	BE18 0.5-1.0A	BE18 0.0-0.5B	BE18 0.5-1.0B
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
					ES1503685-036	ES1503685-037	ES1503685-038	ES1503685-039	ES1503685-040
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	37	49	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	61	65	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	----	----	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.2	mg/kg		<0.2	----	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	----	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	----	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	<1	<1	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	<1	<1	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	<0.5	<0.5	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	<10	<10	----	----
Carbophenothion	786-19-6	10	µg/kg		----	<10	<10	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	<10.0	<10.0	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	<10	<10	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	<10	<10	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	<10	<10	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	<10	<10	----	----
Diazinon	333-41-5	10	µg/kg		----	<10	<10	----	----
Dichlorvos	62-73-7	10	µg/kg		----	<10	<10	----	----
Dimethoate	60-51-5	10	µg/kg		----	<10	<10	----	----
Ethion	563-12-2	10	µg/kg		----	<10	<10	----	----
Fenamiphos	22224-92-6	10	µg/kg		----	<10	<10	----	----
Fenthion	55-38-9	10	µg/kg		----	<10	<10	----	----
Malathion	121-75-5	10	µg/kg		----	<10	<10	----	----
Azinphos Methyl	86-50-0	10	µg/kg		----	<10	<10	----	----
Monocrotophos	6923-22-4	10	µg/kg		----	<10	<10	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BE17 0.7V	BE18 0.0-0.5A	BE18 0.5-1.0A	BE18 0.0-0.5B	BE18 0.5-1.0B
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
					ES1503685-036	ES1503685-037	ES1503685-038	ES1503685-039	ES1503685-040
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	<10	<10	----	----
Parathion-methyl	298-00-0	10	µg/kg		----	<10	<10	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	<10	<10	----	----
Prothiofos	34643-46-4	10	µg/kg		----	<10	<10	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg		----	<0.50	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	<0.50	<0.50	----	----
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	<0.50	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	<0.50	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	<0.50	<0.50	----	----
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	<0.50	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	<0.50	<0.50	----	----
gamma-BHC	58-89-9	0.25	µg/kg		----	<0.25	<0.25	----	----
Methoxychlor	72-43-5	0.50	µg/kg		----	<0.50	<0.50	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	<0.25	<0.25	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	<0.25	<0.25	----	----
^ **Total Chlordane (sum)**	----	0.25	µg/kg		----	<0.25	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	<0.50	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	<5.0	<5.0	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE17 0.7V	BE18 0.0-0.5A	BE18 0.5-1.0A	BE18 0.0-0.5B	BE18 0.5-1.0B
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
					ES1503685-036	ES1503685-037	ES1503685-038	ES1503685-039	ES1503685-040
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	<5.0	<5.0	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	<5	<5	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	<5	<5	----	----
Acenaphthylene	208-96-8	4	µg/kg		----	<4	<4	----	----
Acenaphthene	83-32-9	4	µg/kg		----	<4	<4	----	----
Fluorene	86-73-7	4	µg/kg		----	<4	<4	----	----
Phenanthrene	85-01-8	4	µg/kg		----	<4	<4	----	----
Anthracene	120-12-7	4	µg/kg		----	<4	<4	----	----
Fluoranthene	206-44-0	4	µg/kg		----	<4	<4	----	----
Pyrene	129-00-0	4	µg/kg		----	<4	<4	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	<4	<4	----	----
Chrysene	218-01-9	4	µg/kg		----	<4	<4	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	<4	<4	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	<4	<4	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	<4	<4	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	<4	<4	----	----
Perylene	198-55-0	4	µg/kg		----	**4**	**4**	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	<4	<4	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	<4	<4	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	<4	<4	----	----
Coronene	191-07-1	5	µg/kg		----	<5	<5	----	----
^ **Sum of PAHs**	----	4	µg/kg		----	**4**	**4**	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**93.6**	----	----	----	----
Toluene-D8	2037-26-5	0.1	%		**96.4**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**96.2**	----	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	**104**	**102**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BE17 0.7V	BE18 0.0-0.5A	BE18 0.5-1.0A	BE18 0.0-0.5B	BE18 0.5-1.0B
			Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503685-036	ES1503685-037	ES1503685-038	ES1503685-039	ES1503685-040
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	73.1	68.8	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	57.0	64.8	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	93.0	68.1	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	104	88.1	----	----
Anthracene-d10	1719-06-8	0.1	%	----	106	118	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	105	97.8	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE18 0.3V	BE18 0.7V	DUPLICATE 4A	TRIP BLANK 12	----
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	----
Compound	CAS Number	LOR	Unit		ES1503685-041	ES1503685-042	ES1503685-043	ES1503685-044	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		41.7	40.9	43.8	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	15900	----	----
Iron	7439-89-6	50	mg/kg		----	----	34900	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	<0.50	----	----
Arsenic	7440-38-2	1.00	mg/kg		----	----	15.2	----	----
Cadmium	7440-43-9	0.1	mg/kg		----	----	<0.1	----	----
Chromium	7440-47-3	1.0	mg/kg		----	----	23.6	----	----
Copper	7440-50-8	1.0	mg/kg		----	----	41.8	----	----
Cobalt	7440-48-4	0.5	mg/kg		----	----	18.9	----	----
Lead	7439-92-1	1.0	mg/kg		----	----	9.0	----	----
Manganese	7439-96-5	10	mg/kg		----	----	365	----	----
Nickel	7440-02-0	1.0	mg/kg		----	----	14.4	----	----
Selenium	7782-49-2	0.1	mg/kg		----	----	1.1	----	----
Silver	7440-22-4	0.1	mg/kg		----	----	<0.1	----	----
Vanadium	7440-62-2	2.0	mg/kg		----	----	80.9	----	----
Zinc	7440-66-6	1.0	mg/kg		----	----	43.4	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	0.02	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	0.1	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	0.1	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	670	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	670	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	131	----	----
EK255A SD Ammonia in Sediment									

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE18 0.3V	BE18 0.7V	DUPLICATE 4A	TRIP BLANK 12	----
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	----
					ES1503685-041	ES1503685-042	ES1503685-043	ES1503685-044	----
EK255A SD Ammonia in Sediment - Continued									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	**5.8**	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	**1.92**	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	<3	<3	----
>C16 - C34 Fraction	----	3	mg/kg		----	----	**30**	**5**	----
>C34 - C40 Fraction	----	5	mg/kg		----	----	**20**	<5	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	**50**	**5**	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	<3	----	<3	----
C10 - C14 Fraction	----	3	mg/kg		----	----	<3	<3	----
C15 - C28 Fraction	----	3	mg/kg		----	----	**12**	<3	----
C29 - C36 Fraction	----	5	mg/kg		----	----	**31**	<5	----
^ **C10 - C36 Fraction (sum)**	----	3	mg/kg		----	----	**43**	<3	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	<3	----	<3	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	<0.2	----
Toluene	108-88-3	0.2	mg/kg		<0.2	<0.2	----	<0.2	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	<0.2	----	<0.2	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	<0.2	----	<0.2	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	<0.2	----	<0.2	----
^ **Total Xylenes**	1330-20-7	0.5	mg/kg		<0.5	<0.5	----	<0.5	----
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	<0.2	----	<0.2	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	<1	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	<1	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	<0.5	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	<10	----	----
Carbophenothion	786-19-6	10	µg/kg		----	----	<10	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	<10.0	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	<10	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE18 0.3V	BE18 0.7V	DUPLICATE 4A	TRIP BLANK 12	----
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	----
					ES1503685-041	ES1503685-042	ES1503685-043	ES1503685-044	----
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	<10	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	<10	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	<10	----	----
Diazinon	333-41-5	10	µg/kg		----	----	<10	----	----
Dichlorvos	62-73-7	10	µg/kg		----	----	<10	----	----
Dimethoate	60-51-5	10	µg/kg		----	----	<10	----	----
Ethion	563-12-2	10	µg/kg		----	----	<10	----	----
Fenamiphos	22224-92-6	10	µg/kg		----	----	<10	----	----
Fenthion	55-38-9	10	µg/kg		----	----	<10	----	----
Malathion	121-75-5	10	µg/kg		----	----	<10	----	----
Azinphos Methyl	86-50-0	10	µg/kg		----	----	<10	----	----
Monocrotophos	6923-22-4	10	µg/kg		----	----	<10	----	----
Parathion	56-38-2	10	µg/kg		----	----	<10	----	----
Parathion-methyl	298-00-0	10	µg/kg		----	----	<10	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	<10	----	----
Prothiofos	34643-46-4	10	µg/kg		----	----	<10	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg		----	----	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg		----	----	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg		----	----	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	<0.50	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	<0.50	----	----
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	----	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		----	----	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	<0.50	----	----
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	----	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		----	----	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg		----	----	<0.50	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BE18 0.3V	BE18 0.7V	DUPLICATE 4A	TRIP BLANK 12	----
				Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	----
					ES1503685-041	ES1503685-042	ES1503685-043	ES1503685-044	----
EP131A: Organochlorine Pesticides - Continued									
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	<0.50	----	----
gamma-BHC	58-89-9	0.25	µg/kg		----	----	<0.25	----	----
Methoxychlor	72-43-5	0.50	µg/kg		----	----	<0.50	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	<0.25	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	<0.25	----	----
^ **Total Chlordane (sum)**	----	0.25	µg/kg		----	----	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	<5.0	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	<5	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	<5	----	----
Acenaphthylene	208-96-8	4	µg/kg		----	----	<4	----	----
Acenaphthene	83-32-9	4	µg/kg		----	----	<4	----	----
Fluorene	86-73-7	4	µg/kg		----	----	<4	----	----
Phenanthrene	85-01-8	4	µg/kg		----	----	<4	----	----
Anthracene	120-12-7	4	µg/kg		----	----	<4	----	----
Fluoranthene	206-44-0	4	µg/kg		----	----	<4	----	----
Pyrene	129-00-0	4	µg/kg		----	----	<4	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	<4	----	----
Chrysene	218-01-9	4	µg/kg		----	----	<4	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	<4	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	<4	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	<4	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	<4	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BE18 0.3V	BE18 0.7V	DUPLICATE 4A	TRIP BLANK 12	----
			Client sampling date / time	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	15-FEB-2015 15:00	----
Compound	CAS Number	LOR	Unit	ES1503685-041	ES1503685-042	ES1503685-043	ES1503685-044	----
EP132B: Polynuclear Aromatic Hydrocarbons - Continued								
Perylene	198-55-0	4	µg/kg	----	----	<4	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg	----	----	<4	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg	----	----	<4	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	----	----	<4	----	----
Coronene	191-07-1	5	µg/kg	----	----	<5	----	----
^ Sum of PAHs	----	4	µg/kg	----	----	<4	----	----
EP080-SD: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	89.3	95.4	----	111	----
Toluene-D8	2037-26-5	0.1	%	80.6	88.6	----	101	----
4-Bromofluorobenzene	460-00-4	0.1	%	92.8	99.1	----	117	----
EP090S: Organotin Surrogate								
Tripropyltin	----	0.1	%	----	----	85.9	----	----
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	80.3	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	61.3	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	88.2	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	80.2	----	----
Anthracene-d10	1719-06-8	0.1	%	----	----	96.9	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	90.6	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
EP080-SD: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	67	137
Toluene-D8	2037-26-5	74	134
4-Bromofluorobenzene	460-00-4	73	137
EP090S: Organotin Surrogate			
Tripropyltin	----	35	130
EP130S: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	14.4	102
EP131S: OC Pesticide Surrogate			
Dibromo-DDE	21655-73-2	10	119
EP131T: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	10	106
EP132T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	55	135
Anthracene-d10	1719-06-8	70	136
4-Terphenyl-d14	1718-51-0	57	127

QUALITY CONTROL REPORT

Work Order	: **ES1503685**	Page	: 1 of 24
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 17-FEB-2015
Sampler	: GK	Issue Date	: 11-MAR-2015
Order number	: 245553		
		No. of samples received	: 44
Quote number	: SY/1021/14 V2	No. of samples analysed	: 44

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Ashesh Patel	Inorganic Chemist	Sydney Inorganics
Dianne Blane	Laboratory Coordinator (2IC)	Newcastle - Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
		Sydney Organics
Ryan Story	2IC Organic Instrument Chemist	Brisbane Organics
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils
Shobhna Chandra	Metals Coordinator	Sydney Inorganics
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA055: Moisture Content (QC Lot: 3830330)									
ES1503683-049	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	13.0	13.2	1.4	0% - 50%
ES1503685-014	BE3 0.5-1.0A	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	39.9	40.0	0.0	0% - 20%
EA055: Moisture Content (QC Lot: 3830331)									
ES1503685-029	BE16 0.3V	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	39.9	40.1	0.5	0% - 20%
ES1503685-044	TRIP BLANK 12	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	1.7	1.7	0.0	No Limit
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3834929)									
ES1503683-035	Anonymous	EG005-SD: Aluminium	7429-90-5	50	mg/kg	3560	3530	0.9	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	8930	9350	4.6	0% - 20%
ES1503685-001	BE1 0.0-0.5A	EG005-SD: Aluminium	7429-90-5	50	mg/kg	13800	13400	3.0	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	31500	30100	4.5	0% - 20%
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3836578)									
ES1503685-008	BE2 0.5-1.0A	EG005-SD: Aluminium	7429-90-5	50	mg/kg	13100	14200	7.7	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	24300	27300	11.6	0% - 20%
ES1503685-038	BE18 0.5-1.0A	EG005-SD: Aluminium	7429-90-5	50	mg/kg	16700	16100	3.3	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	29900	27400	8.9	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3834928)									
ES1503683-035	Anonymous	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.2	0.2	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	5.0	5.3	6.4	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	9.1	9.7	6.4	No Limit
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	2.2	2.2	0.0	No Limit
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	2.3	2.4	0.0	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	3.4	3.5	3.5	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	12.0	12.8	7.1	0% - 50%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	9.12	9.45	3.5	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	280	292	4.1	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	21.1	22.3	5.6	0% - 50%
ES1503685-001	BE1 0.0-0.5A	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.8	0.8	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	15.0	15.7	4.5	0% - 20%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	24.8	24.2	2.7	0% - 20%

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3834928) - continued									
ES1503685-001	BE1 0.0-0.5A	EG020-SD: Copper	7440-50-8	1.0	mg/kg	18.7	17.2	8.5	0% - 50%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	9.3	8.8	6.2	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	11.8	11.4	2.9	0% - 50%
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	40.2	39.9	0.6	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	17.0	15.0	12.9	0% - 50%
		EG020-SD: Manganese	7439-96-5	10	mg/kg	245	232	5.7	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	49.6	49.7	0.3	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3836577)									
ES1503685-038	BE18 0.5-1.0A	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	1.0	0.9	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	11.0	10.8	2.1	0% - 20%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	22.8	22.1	2.7	0% - 20%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	35.6	35.9	0.9	0% - 20%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	8.4	8.2	2.4	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	11.4	11.5	1.0	0% - 50%
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	40.5	40.8	0.8	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	8.22	6.73	19.9	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	322	354	9.6	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	63.6	63.1	0.7	0% - 20%
ES1503806-018	Anonymous	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.3	0.2	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	6.2	6.2	0.0	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	14.9	13.9	7.0	0% - 50%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	8.3	8.8	6.2	No Limit
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	5.6	4.0	33.0	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	6.8	7.0	2.3	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	24.1	25.0	3.9	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	6.43	6.20	3.7	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	176	153	14.3	0% - 50%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	36.2	33.0	9.5	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3834927)									
ES1503683-035	Anonymous	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit
ES1503685-001	BE1 0.0-0.5A	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	0.02	0.02	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3836576)									
ES1503685-008	BE2 0.5-1.0A	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	0.02	0.02	0.0	No Limit
ES1503685-038	BE18 0.5-1.0A	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	0.02	0.02	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3834702)									
ES1503683-020	Anonymous	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1503683-049	Anonymous	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3834704)									
ES1503685-014	BE3 0.5-1.0A	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1503685-043	DUPLICATE 4A	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3834703)									
ES1503683-020	Anonymous	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1503683-049	Anonymous	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3834705)									
ES1503685-014	BE3 0.5-1.0A	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1503685-043	DUPLICATE 4A	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	0.1	<0.1	0.0	No Limit
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3836133)									
ES1503683-013	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	160	260	44.5	0% - 50%
ES1503683-041	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	70	60	24.6	No Limit
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3836136)									
ES1503685-020	BE9 0.5-1.0A	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	570	550	4.3	0% - 20%
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3836134)									
ES1503683-013	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	193	187	2.9	0% - 20%
ES1503683-041	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	194	215	10.4	0% - 20%
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3836135)									
ES1503685-020	BE9 0.5-1.0A	EK067G: Total Phosphorus as P	----	2	mg/kg	142	142	0.0	0% - 20%
EK255A SD: Ammonia in Sediment (QC Lot: 3828211)									
ES1503684-004	Anonymous	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	0.4	0.4	0.0	No Limit
ES1503685-020	BE9 0.5-1.0A	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	10.1	10.0	0.0	0% - 20%
EP003: Total Organic Carbon (TOC) in Soil (QC Lot: 3833059)									
ES1503685-001	BE1 0.0-0.5A	EP003: Total Organic Carbon	----	0.02	%	0.67	0.67	0.0	0% - 20%
ES1503685-031	BE17 0.0-0.5A	EP003: Total Organic Carbon	----	0.02	%	0.72	0.74	2.3	0% - 20%
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3828235)									
ES1503685-001	BE1 0.0-0.5A	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	28	28	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	40	41	2.5	0% - 50%
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	12	13	0.0	No Limit
ES1503685-031	BE17 0.0-0.5A	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	17	17	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	27	25	7.7	No Limit
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	10	8	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3828160)									
ES1503685-005	BE1 0.3V	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3828160) - continued									
ES1503685-035	BE17 0.3V	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3828235)									
ES1503685-001	BE1 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	12	13	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	35	36	2.8	0% - 50%
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	23	23	0.0	No Limit
ES1503685-031	BE17 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	6	6	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	21	21	0.0	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	15	15	0.0	No Limit
EP080-SD: BTEXN (QC Lot: 3828160)									
ES1503685-005	BE1 0.3V	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
ES1503685-035	BE17 0.3V	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP090: Organotin Compounds (QC Lot: 3829721)									
ES1503683-001	Anonymous	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
ES1503683-030	Anonymous	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
EP090: Organotin Compounds (QC Lot: 3829722)									
ES1503685-008	BE2 0.5-1.0A	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
ES1503685-038	BE18 0.5-1.0A	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3828225)									
ES1503685-001	BE1 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3828225) - continued									
ES1503685-001	BE1 0.0-0.5A	EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
ES1503685-031	BE17 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
EP131A: Organochlorine Pesticides (QC Lot: 3828226)									
ES1503685-001	BE1 0.0-0.5A	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP131A: Organochlorine Pesticides (QC Lot: 3828226) - continued									
ES1503685-001	BE1 0.0-0.5A	EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
ES1503685-031	BE17 0.0-0.5A	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP131A: Organochlorine Pesticides (QC Lot: 3828226) - continued									
ES1503685-031	BE17 0.0-0.5A	EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 3828227)									
ES1503685-001	BE1 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
ES1503685-031	BE17 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3828234)									
ES1503685-001	BE1 0.0-0.5A	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3828234) - continued									
ES1503685-001	BE1 0.0-0.5A	EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit
ES1503685-031	BE17 0.0-0.5A	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3834929)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	125	86	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	94.1	70	130
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3836578)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	112	86	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	83.6	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3834928)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	4.6 mg/kg	111	70	130
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	108	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	106	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	115	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	112	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	115	84	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	108	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	124	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	116	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	129	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	2.10 mg/kg	119	64	148
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	117	87	131
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	116	83	137
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3836577)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	4.6 mg/kg	113	70	130
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	105	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	105	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	110	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	104	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	103	84	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3836577) - continued								
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	104	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	124	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	111	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	120	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	2.10 mg/kg	120	64	148
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	115	87	131
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	118	83	137
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3834927)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.090 mg/kg	87.8	72	116
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3836576)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.110 mg/kg	85.9	72	116
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3834702)								
EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	95.8	82	120
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3834704)								
EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	100	82	120
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3834703)								
EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	108	89	115
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3834705)								
EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	103	89	115
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3836133)								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	----	100 mg/kg	98.6	70	127
				<20	1000 mg/kg	87.8	64	114
				----	500 mg/kg	96.8	70	122
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3836136)								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	----	100 mg/kg	112	70	127
				<20	1000 mg/kg	92.9	64	114
				----	500 mg/kg	97.9	70	122
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3836134)								
EK067G: Total Phosphorus as P	----	2	mg/kg	----	44.2 mg/kg	94.4	64	124
				----	100 mg/kg	96.2	69	123
				<2	442 mg/kg	87.7	68	116

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3836135)								
EK067G: Total Phosphorus as P	----	2	mg/kg	<2	442 mg/kg	94.5	68	116
				----	100 mg/kg	94.9	69	123
				----	44.2 mg/kg	95.2	64	124
EK255A SD: Ammonia in Sediment (QCLot: 3828211)								
EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	<0.2	0.1 mg/kg	108	70	130
EP003: Total Organic Carbon (TOC) in Soil (QCLot: 3833059)								
EP003: Total Organic Carbon	----	0.02	%	<0.02	0.44 %	104	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3828235)								
EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	6.25 mg/kg	100	70	130
EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	8.75 mg/kg	106	74	138
EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	3.75 mg/kg	96.6	63	131
EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3828160)								
EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	6.2 mg/kg	94.7	61	133
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3828235)								
EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	5 mg/kg	103	78	118
EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	7.5 mg/kg	104	84	118
EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	5 mg/kg	98.0	73	119
EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD: BTEXN (QCLot: 3828160)								
EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	0.2 mg/kg	110	66	122
EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	0.2 mg/kg	109	69	122
EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.2 mg/kg	109	66	126
EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	0.4 mg/kg	111	59	129
EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.2 mg/kg	116	66	126
EP090: Organotin Compounds (QCLot: 3829721)								
EP090: Monobutyltin	78763-54-9	1.0	µgSn/kg	<1	1.25 µgSn/kg	121	36	128
EP090: Dibutyltin	1002-53-5	1.0	µgSn/kg	<1	1.25 µgSn/kg	104	42	132
EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	1.25 µgSn/kg	102	52	139
EP090: Organotin Compounds (QCLot: 3829722)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP090: Organotin Compounds (QCLot: 3829722) - continued								
EP090: Monobutyltin	78763-54-9	1.0	µgSn/kg	<1	1.25 µgSn/kg	106	36	128
EP090: Dibutyltin	1002-53-5	1.0	µgSn/kg	<1	1.25 µgSn/kg	102	42	132
EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	1.25 µgSn/kg	105	52	139
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3828225)								
EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	50 µg/kg	70.8	45	139
EP130: Carbophenothion	786-19-6	10	µg/kg	<10	50 µg/kg	71.7	47	117
EP130: Chlorfenvinphos (E)	18708-86-6	10	µg/kg	<10.0	5 µg/kg	76.4	48	156
EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	50 µg/kg	85.0	62	136
EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	50 µg/kg	85.3	57	137
EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	50 µg/kg	78.4	57	121
EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	50 µg/kg	91.9	20.4	142
EP130: Diazinon	333-41-5	10	µg/kg	<10	50 µg/kg	74.4	57	121
EP130: Dichlorvos	62-73-7	10	µg/kg	<10	50 µg/kg	82.5	47	115
EP130: Dimethoate	60-51-5	10	µg/kg	<10	50 µg/kg	76.4	55	133
EP130: Ethion	563-12-2	10	µg/kg	<10	50 µg/kg	69.9	54	130
EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	50 µg/kg	75.2	57	131
EP130: Fenthion	55-38-9	10	µg/kg	<10	50 µg/kg	85.0	38	130
EP130: Malathion	121-75-5	10	µg/kg	<10	50 µg/kg	72.1	62	138
EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	50 µg/kg	89.3	33	137
EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	50 µg/kg	104	50	148
EP130: Parathion	56-38-2	10	µg/kg	<10	50 µg/kg	79.0	64	140
EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	50 µg/kg	80.3	56	136
EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	50 µg/kg	73.6	50	132
EP130: Prothiofos	34643-46-4	10	µg/kg	<10	50 µg/kg	88.6	55	135
EP131A: Organochlorine Pesticides (QCLot: 3828226)								
EP131A: Aldrin	309-00-2	0.5	µg/kg	<0.50	5 µg/kg	41.7	38	150
EP131A: alpha-BHC	319-84-6	0.5	µg/kg	<0.50	5 µg/kg	56.6	17.6	156
EP131A: beta-BHC	319-85-7	0.5	µg/kg	<0.50	5 µg/kg	51.4	30.5	152
EP131A: delta-BHC	319-86-8	0.5	µg/kg	<0.50	5 µg/kg	62.9	37	151

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP131A: Organochlorine Pesticides (QCLot: 3828226) - continued								
EP131A: 4.4`-DDD	72-54-8	0.5	µg/kg	<0.50	5 µg/kg	79.9	25.9	150
EP131A: 4.4`-DDE	72-55-9	0.5	µg/kg	<0.50	5 µg/kg	50.3	35	129
EP131A: 4.4`-DDT	50-29-3	0.5	µg/kg	<0.50	5 µg/kg	96.3	23.4	163
EP131A: Sum of DDD + DDE + DDT	----	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Dieldrin	60-57-1	0.5	µg/kg	<0.50	5 µg/kg	52.2	30.2	140
EP131A: alpha-Endosulfan	959-98-8	0.5	µg/kg	<0.50	5 µg/kg	48.6	38	140
EP131A: beta-Endosulfan	33213-65-9	0.5	µg/kg	<0.50	5 µg/kg	49.8	32	152
EP131A: Endosulfan sulfate	1031-07-8	0.5	µg/kg	<0.50	5 µg/kg	60.0	36	162
EP131A: Endosulfan (sum)	115-29-7	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Endrin	72-20-8	0.5	µg/kg	<0.50	5 µg/kg	45.6	25.8	166
EP131A: Endrin aldehyde	7421-93-4	0.5	µg/kg	<0.50	5 µg/kg	55.5	20.1	116
EP131A: Endrin ketone	53494-70-5	0.5	µg/kg	<0.50	5 µg/kg	59.7	13.4	151
EP131A: Heptachlor	76-44-8	0.5	µg/kg	<0.50	5 µg/kg	69.9	39	173
EP131A: Heptachlor epoxide	1024-57-3	0.5	µg/kg	<0.50	5 µg/kg	51.7	34	148
EP131A: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/kg	<0.50	5 µg/kg	50.2	26.1	152
EP131A: gamma-BHC	58-89-9	0.5	µg/kg	<0.50	5 µg/kg	58.6	31.2	159
EP131A: Methoxychlor	72-43-5	0.5	µg/kg	<0.50	5 µg/kg	76.6	36	160
EP131A: cis-Chlordane	5103-71-9	0.5	µg/kg	<0.50	5 µg/kg	43.8	36	142
EP131A: trans-Chlordane	5103-74-2	0.5	µg/kg	<0.50	5 µg/kg	50.5	29.5	138
EP131A: Total Chlordane (sum)	----	0.5	µg/kg	<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3828227)								
EP131B: Total Polychlorinated biphenyls	----	5	µg/kg	<5.0	50 µg/kg	96.0	44	136
EP131B: Aroclor 1016	12674-11-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1221	11104-28-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1232	11141-16-5	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1242	53469-21-9	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1248	12672-29-6	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1254	11097-69-1	5	µg/kg	<5.0	50 µg/kg	96.0	44	136
EP131B: Aroclor 1260	11096-82-5	5	µg/kg	<5.0	----	----	----	----

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3828234)								
EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	25 µg/kg	109	67	133
EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	25 µg/kg	100	63	135
EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	25 µg/kg	116	68	132
EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	25 µg/kg	112	67	133
EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	25 µg/kg	108	69	131
EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	25 µg/kg	113	66	138
EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	25 µg/kg	110	67	133
EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	25 µg/kg	108	64	130
EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	25 µg/kg	107	67	133
EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	25 µg/kg	109	65	133
EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	25 µg/kg	113	70	134
EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	25 µg/kg	107	63	133
EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	25 µg/kg	118	67	133
EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	25 µg/kg	96.3	64	130
EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	25 µg/kg	101	72	130
EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	25 µg/kg	107	70	132
EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	25 µg/kg	120	65	127
EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	25 µg/kg	117	67	135
EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	25 µg/kg	109	62	126
EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	25 µg/kg	105	66	134
EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
				Concentration	MS	Low	High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3834928)							
ES1503683-036	Anonymous	EG020-SD: Arsenic	7440-38-2	50 mg/kg	99.5	70	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3834928) - continued							
ES1503683-036	Anonymous	EG020-SD: Cadmium	7440-43-9	50 mg/kg	101	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	108	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	98.8	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	95.8	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	101	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	104	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3836577)							
ES1503685-013	BE3 0.0-0.5A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	102	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	97.8	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	113	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	99.9	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	94.3	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	98.2	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	102	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3834927)							
ES1503683-035	Anonymous	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	111	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3836576)							
ES1503685-008	BE2 0.5-1.0A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	121	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3834702)							
ES1503683-020	Anonymous	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	103	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3834704)							
ES1503685-014	BE3 0.5-1.0A	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	105	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3834703)							
ES1503683-020	Anonymous	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	117	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3834705)							
ES1503685-014	BE3 0.5-1.0A	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	117	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3836133)							
ES1503683-013	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	90.4	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3836136)							
ES1503685-020	BE9 0.5-1.0A	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	83.8	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3836134)							
ES1503683-013	Anonymous	EK067G: Total Phosphorus as P	----	100 mg/kg	80.4	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3836135)							
ES1503685-020	BE9 0.5-1.0A	EK067G: Total Phosphorus as P	----	100 mg/kg	72.1	70	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EK255A SD: Ammonia in Sediment (QCLot: 3828211)							
ES1503684-004	Anonymous	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	# Not Determined	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3828160)							
ES1503685-005	BE1 0.3V	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	115	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3828235)							
ES1503685-001	BE1 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	93.8	70	130
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	96.8	70	130
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	76.1	70	130
EP080-SD: BTEXN (QCLot: 3828160)							
ES1503685-005	BE1 0.3V	EP080-SD: Benzene	71-43-2	0.5 mg/kg	98.8	70	130
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	100	70	130
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	101	70	130
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	101	70	130
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	107	70	130
EP090: Organotin Compounds (QCLot: 3829721)							
ES1503683-004	Anonymous	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	# 13.6	35	130
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	77.7	20	130
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	95.6	20	130
EP090: Organotin Compounds (QCLot: 3829722)							
ES1503685-013	BE3 0.0-0.5A	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	# 18.8	35	130
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	80.9	20	130
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	91.5	20	130
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3828225)							
ES1503685-001	BE1 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	91.5	36	144
		EP130: Carbophenothion	786-19-6	50 µg/kg	102	38	120
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	63.8	49	157
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	76.6	53	145
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	77.1	60	140
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	75.5	56	126
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	71.0	9.7	148
		EP130: Diazinon	333-41-5	50 µg/kg	97.1	60	122
		EP130: Dichlorvos	62-73-7	50 µg/kg	74.7	33	123
		EP130: Dimethoate	60-51-5	50 µg/kg	75.0	36	142
		EP130: Ethion	563-12-2	50 µg/kg	70.9	48	136
		EP130: Fenamiphos	22224-92-6	50 µg/kg	86.3	42	136

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3828225) - continued							
ES1503685-001	BE1 0.0-0.5A	EP130: Fenthion	55-38-9	50 µg/kg	87.8	35	131
		EP130: Malathion	121-75-5	50 µg/kg	82.0	55	141
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	73.8	23.5	132
		EP130: Monocrotophos	6923-22-4	50 µg/kg	73.1	35	153
		EP130: Parathion	56-38-2	50 µg/kg	68.1	57	147
		EP130: Parathion-methyl	298-00-0	50 µg/kg	71.3	48	140
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	68.4	45	137
		EP130: Prothiofos	34643-46-4	50 µg/kg	70.2	51	137
EP131A: Organochlorine Pesticides (QCLot: 3828226)							
ES1503685-001	BE1 0.0-0.5A	EP131A: Aldrin	309-00-2	5 µg/kg	47.6	23.4	153
		EP131A: alpha-BHC	319-84-6	5 µg/kg	50.3	17.6	156
		EP131A: beta-BHC	319-85-7	5 µg/kg	56.5	24.9	153
		EP131A: delta-BHC	319-86-8	5 µg/kg	57.2	25.2	147
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	62.9	25.9	150
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	55.0	31.2	125
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	59.9	23.4	163
		EP131A: Dieldrin	60-57-1	5 µg/kg	52.5	30.2	140
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	58.4	28.8	135
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	53.4	22.6	141
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	66.4	16.1	156
		EP131A: Endrin	72-20-8	5 µg/kg	53.2	17.7	162
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	42.1	20.1	116
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	51.8	13.4	151
		EP131A: Heptachlor	76-44-8	5 µg/kg	63.3	23.8	170
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	51.4	28.3	140
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	47.4	17.7	144
		EP131A: gamma-BHC	58-89-9	5 µg/kg	54.9	21.8	158
		EP131A: Methoxychlor	72-43-5	5 µg/kg	66.5	24.4	158
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	51.5	27.3	139
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	47.9	29.5	138
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3828227)							
ES1503685-001	BE1 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	85.0	44	136
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	85.0	44	136
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3828234)							
ES1503685-001	BE1 0.0-0.5A	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	96.2	70	130
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	74.0	70	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3828234) - continued							
ES1503685-001	BE1 0.0-0.5A	EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	95.9	70	130
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	98.2	70	130
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	95.2	70	130
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	102	70	130
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	98.4	70	130
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	92.1	70	130
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	92.6	70	130
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	102	70	130
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	106	70	130
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	81.6	70	130
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	91.1	70	130
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	82.5	70	130
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	82.5	70	130
		EP132B-SD: Perylene	198-55-0	25 µg/kg	79.9	70	130
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	85.3	70	130
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	84.1	70	130
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	84.9	70	130
		EP132B-SD: Coronene	191-07-1	25 µg/kg	105	70	130

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

The quality control term Matrix Spike (MS) and Matrix Spike Duplicate (MSD) refers to intralaboratory split samples spiked with a representative set of target analytes. The purpose of these QC parameters are to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3828160)										
ES1503685-005	BE1 0.3V	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	115	----	70	130	----	----
EP080-SD: BTEXN (QCLot: 3828160)										
ES1503685-005	BE1 0.3V	EP080-SD: Benzene	71-43-2	0.5 mg/kg	98.8	----	70	130	----	----
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	100	----	70	130	----	----
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	101	----	70	130	----	----
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	101	----	70	130	----	----
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	107	----	70	130	----	----
EK255A SD: Ammonia in Sediment (QCLot: 3828211)										

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EK255A SD: Ammonia in Sediment (QCLot: 3828211) - continued										
ES1503684-004	Anonymous	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	# Not Determined	----	70	130	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3828225)										
ES1503685-001	BE1 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	91.5	----	36	144	----	----
		EP130: Carbophenothion	786-19-6	50 µg/kg	102	----	38	120	----	----
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	63.8	----	49	157	----	----
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	76.6	----	53	145	----	----
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	77.1	----	60	140	----	----
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	75.5	----	56	126	----	----
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	71.0	----	9.7	148	----	----
		EP130: Diazinon	333-41-5	50 µg/kg	97.1	----	60	122	----	----
		EP130: Dichlorvos	62-73-7	50 µg/kg	74.7	----	33	123	----	----
		EP130: Dimethoate	60-51-5	50 µg/kg	75.0	----	36	142	----	----
		EP130: Ethion	563-12-2	50 µg/kg	70.9	----	48	136	----	----
		EP130: Fenamiphos	22224-92-6	50 µg/kg	86.3	----	42	136	----	----
		EP130: Fenthion	55-38-9	50 µg/kg	87.8	----	35	131	----	----
		EP130: Malathion	121-75-5	50 µg/kg	82.0	----	55	141	----	----
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	73.8	----	23.5	132	----	----
		EP130: Monocrotophos	6923-22-4	50 µg/kg	73.1	----	35	153	----	----
		EP130: Parathion	56-38-2	50 µg/kg	68.1	----	57	147	----	----
		EP130: Parathion-methyl	298-00-0	50 µg/kg	71.3	----	48	140	----	----
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	68.4	----	45	137	----	----
		EP130: Prothiofos	34643-46-4	50 µg/kg	70.2	----	51	137	----	----
EP131A: Organochlorine Pesticides (QCLot: 3828226)										
ES1503685-001	BE1 0.0-0.5A	EP131A: Aldrin	309-00-2	5 µg/kg	47.6	----	23.4	153	----	----
		EP131A: alpha-BHC	319-84-6	5 µg/kg	50.3	----	17.6	156	----	----
		EP131A: beta-BHC	319-85-7	5 µg/kg	56.5	----	24.9	153	----	----
		EP131A: delta-BHC	319-86-8	5 µg/kg	57.2	----	25.2	147	----	----
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	62.9	----	25.9	150	----	----
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	55.0	----	31.2	125	----	----
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	59.9	----	23.4	163	----	----
		EP131A: Dieldrin	60-57-1	5 µg/kg	52.5	----	30.2	140	----	----
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	58.4	----	28.8	135	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP131A: Organochlorine Pesticides (QCLot: 3828226) - continued										
ES1503685-001	BE1 0.0-0.5A	EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	53.4	----	22.6	141	----	----
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	66.4	----	16.1	156	----	----
		EP131A: Endrin	72-20-8	5 µg/kg	53.2	----	17.7	162	----	----
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	42.1	----	20.1	116	----	----
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	51.8	----	13.4	151	----	----
		EP131A: Heptachlor	76-44-8	5 µg/kg	63.3	----	23.8	170	----	----
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	51.4	----	28.3	140	----	----
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	47.4	----	17.7	144	----	----
		EP131A: gamma-BHC	58-89-9	5 µg/kg	54.9	----	21.8	158	----	----
		EP131A: Methoxychlor	72-43-5	5 µg/kg	66.5	----	24.4	158	----	----
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	51.5	----	27.3	139	----	----
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	47.9	----	29.5	138	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3828227)										
ES1503685-001	BE1 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	85.0	----	44	136	----	----
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	85.0	----	44	136	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3828234)										
ES1503685-001	BE1 0.0-0.5A	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	96.2	----	70	130	----	----
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	74.0	----	70	130	----	----
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	95.9	----	70	130	----	----
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	98.2	----	70	130	----	----
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	95.2	----	70	130	----	----
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	102	----	70	130	----	----
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	98.4	----	70	130	----	----
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	92.1	----	70	130	----	----
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	92.6	----	70	130	----	----
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	102	----	70	130	----	----
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	106	----	70	130	----	----
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	81.6	----	70	130	----	----
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	91.1	----	70	130	----	----
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	82.5	----	70	130	----	----
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	82.5	----	70	130	----	----
		EP132B-SD: Perylene	198-55-0	25 µg/kg	79.9	----	70	130	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3828234) - continued										
ES1503685-001	BE1 0.0-0.5A	EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	85.3	----	70	130	----	----
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	84.1	----	70	130	----	----
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	84.9	----	70	130	----	----
		EP132B-SD: Coronene	191-07-1	25 µg/kg	105	----	70	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3828235)										
ES1503685-001	BE1 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	93.8	----	70	130	----	----
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	96.8	----	70	130	----	----
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	76.1	----	70	130	----	----
EP090: Organotin Compounds (QCLot: 3829721)										
ES1503683-004	Anonymous	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	# 13.6	----	35	130	----	----
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	77.7	----	20	130	----	----
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	95.6	----	20	130	----	----
EP090: Organotin Compounds (QCLot: 3829722)										
ES1503685-013	BE3 0.0-0.5A	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	# 18.8	----	35	130	----	----
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	80.9	----	20	130	----	----
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	91.5	----	20	130	----	----
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3834702)										
ES1503683-020	Anonymous	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	103	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3834703)										
ES1503683-020	Anonymous	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	117	----	70	130	----	----
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3834704)										
ES1503685-014	BE3 0.5-1.0A	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	105	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3834705)										
ES1503685-014	BE3 0.5-1.0A	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	117	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3834927)										
ES1503683-035	Anonymous	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	111	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3834928)										
ES1503683-036	Anonymous	EG020-SD: Arsenic	7440-38-2	50 mg/kg	99.5	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	101	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	108	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	98.8	----	70	130	----	----
		EG020-SD: Lead	7439-92-1	250 mg/kg	95.8	----	70	130	----	----
		EG020-SD: Nickel	7440-02-0	50 mg/kg	101	----	70	130	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3834928) - continued										
ES1503683-036	Anonymous	EG020-SD: Zinc	7440-66-6	250 mg/kg	104	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3836133)										
ES1503683-013	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	90.4	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3836134)										
ES1503683-013	Anonymous	EK067G: Total Phosphorus as P	----	100 mg/kg	80.4	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3836135)										
ES1503685-020	BE9 0.5-1.0A	EK067G: Total Phosphorus as P	----	100 mg/kg	72.1	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3836136)										
ES1503685-020	BE9 0.5-1.0A	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	83.8	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3836576)										
ES1503685-008	BE2 0.5-1.0A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	121	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3836577)										
ES1503685-013	BE3 0.0-0.5A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	102	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	97.8	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	113	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	99.9	----	70	130	----	----
		EG020-SD: Lead	7439-92-1	250 mg/kg	94.3	----	70	130	----	----
		EG020-SD: Nickel	7440-02-0	50 mg/kg	98.2	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	102	----	70	130	----	----

ALS Environmental

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1503685**	Page	: 1 of 12
Client	: AURECON AUSTRALASIA PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
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Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 17-FEB-2015
Sampler	: GK	Issue Date	: 11-MAR-2015
Order number	: 245553		
		No. of samples received	: 44
Quote number	: SY/1021/14 V2	No. of samples analysed	: 44

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with recommended holding times (USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content							
Soil Glass Jar - Unpreserved (EA055-103)							
BE1 0.0-0.5A, BE1 0.5-1.0A, BE1 0.3V, BE1 0.7V, BE2 0.0-0.5A, BE2 0.5-1.0A, BE2 0.3V, BE2 0.7V, BE3 0.0-0.5A, BE3 0.5-1.0A, BE3 0.3V, BE3 0.7V, BE9 0.0-0.5A, BE9 0.5-1.0A, BE9 0.3V, BE9 0.7V, BE16 0.0-0.5A, BE16 0.5-1.0A, BE16 0.3V, BE16 0.7V, BE17 0.0-0.5A, BE17 0.5-1.0A, BE17 0.3V, BE17 0.7V, BE18 0.0-0.5A, BE18 0.5-1.0A, BE18 0.3V, BE18 0.7V, DUPLICATE 4A	**15-FEB-2015**	**----**	----	----	**19-FEB-2015**	01-MAR-2015	✓
EA150: Particle Sizing							
Snap Lock Bag (EA150H)							
BE1 0.0-0.5B, BE1 0.5-1.0B, BE2 0.0-0.5B, BE2 0.5-1.0B, BE3 0.0-0.5B, BE3 0.5-1.0B, BE9 0.0-0.5B, BE9 0.5-1.0B, BE16 0.0-0.5B, BE16 0.5-1.0B, BE17 0.0-0.5B, BE17 0.5-1.0B, BE18 0.0-0.5B, BE18 0.5-1.0B	**15-FEB-2015**	**---**	14-AUG-2015	----	**05-MAR-2015**	14-AUG-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA150: Soil Classification based on Particle Size								
Snap Lock Bag (EA150H)								
BE1 0.0-0.5B,	BE1 0.5-1.0B,	**15-FEB-2015**	---	14-AUG-2015	----	**05-MAR-2015**	14-AUG-2015	✓
BE2 0.0-0.5B,	BE2 0.5-1.0B,							
BE3 0.0-0.5B,	BE3 0.5-1.0B,							
BE9 0.0-0.5B,	BE9 0.5-1.0B,							
BE16 0.0-0.5B,	BE16 0.5-1.0B,							
BE17 0.0-0.5B,	BE17 0.5-1.0B,							
BE18 0.0-0.5B,	BE18 0.5-1.0B							
EA152: Soil Particle Density								
Snap Lock Bag (EA152)								
BE1 0.0-0.5B,	BE1 0.5-1.0B,	**15-FEB-2015**	---	14-AUG-2015	----	**06-MAR-2015**	14-AUG-2015	✓
BE2 0.0-0.5B,	BE2 0.5-1.0B,							
BE3 0.0-0.5B,	BE3 0.5-1.0B,							
BE9 0.0-0.5B,	BE9 0.5-1.0B,							
BE16 0.0-0.5B,	BE16 0.5-1.0B,							
BE17 0.0-0.5B,	BE17 0.5-1.0B,							
BE18 0.0-0.5B,	BE18 0.5-1.0B							
EG005-SD: Total Metals in Sediments by ICP-AES								
Soil Glass Jar - Unpreserved (EG005-SD)								
BE1 0.0-0.5A,	BE1 0.5-1.0A,	**15-FEB-2015**	**24-FEB-2015**	14-AUG-2015	✓	**25-FEB-2015**	14-AUG-2015	✓
BE2 0.0-0.5A								
Soil Glass Jar - Unpreserved (EG005-SD)								
BE2 0.5-1.0A,	BE3 0.0-0.5A,	**15-FEB-2015**	**25-FEB-2015**	14-AUG-2015	✓	**27-FEB-2015**	14-AUG-2015	✓
BE3 0.5-1.0A,	BE9 0.0-0.5A,							
BE9 0.5-1.0A,	BE16 0.0-0.5A,							
BE16 0.5-1.0A,	BE17 0.0-0.5A,							
BE17 0.5-1.0A,	BE18 0.0-0.5A,							
BE18 0.5-1.0A,	DUPLICATE 4A							
EG020-SD: Total Metals in Sediments by ICPMS								
Soil Glass Jar - Unpreserved (EG020-SD)								
BE1 0.0-0.5A,	BE1 0.5-1.0A,	**15-FEB-2015**	**24-FEB-2015**	14-AUG-2015	✓	**25-FEB-2015**	14-AUG-2015	✓
BE2 0.0-0.5A								
Soil Glass Jar - Unpreserved (EG020-SD)								
BE2 0.5-1.0A,	BE3 0.0-0.5A,	**15-FEB-2015**	**25-FEB-2015**	14-AUG-2015	✓	**27-FEB-2015**	14-AUG-2015	✓
BE3 0.5-1.0A,	BE9 0.0-0.5A,							
BE9 0.5-1.0A,	BE16 0.0-0.5A,							
BE16 0.5-1.0A,	BE17 0.0-0.5A,							
BE17 0.5-1.0A,	BE18 0.0-0.5A,							
BE18 0.5-1.0A,	DUPLICATE 4A							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T-LL)							
BE1 0.0-0.5A, BE1 0.5-1.0A, BE2 0.0-0.5A	**15-FEB-2015**	**24-FEB-2015**	15-MAR-2015	✓	**26-FEB-2015**	15-MAR-2015	✓
Soil Glass Jar - Unpreserved (EG035T-LL)							
BE2 0.5-1.0A, BE3 0.0-0.5A, BE3 0.5-1.0A, BE9 0.0-0.5A, BE9 0.5-1.0A, BE16 0.0-0.5A, BE16 0.5-1.0A, BE17 0.0-0.5A, BE17 0.5-1.0A, BE18 0.0-0.5A, BE18 0.5-1.0A, DUPLICATE 4A	**15-FEB-2015**	**25-FEB-2015**	15-MAR-2015	✓	**27-FEB-2015**	15-MAR-2015	✓
EK057G: Nitrite as N by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK057G)							
BE1 0.0-0.5A, BE1 0.5-1.0A, BE2 0.0-0.5A, BE2 0.5-1.0A, BE3 0.0-0.5A, BE3 0.5-1.0A, BE9 0.0-0.5A, BE9 0.5-1.0A, BE16 0.0-0.5A, BE16 0.5-1.0A, BE17 0.0-0.5A, BE17 0.5-1.0A, BE18 0.0-0.5A, BE18 0.5-1.0A, DUPLICATE 4A	**15-FEB-2015**	**24-FEB-2015**	14-AUG-2015	✓	**24-FEB-2015**	14-AUG-2015	✓
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK059G)							
BE1 0.0-0.5A, BE1 0.5-1.0A, BE2 0.0-0.5A, BE2 0.5-1.0A, BE3 0.0-0.5A, BE3 0.5-1.0A, BE9 0.0-0.5A, BE9 0.5-1.0A, BE16 0.0-0.5A, BE16 0.5-1.0A, BE17 0.0-0.5A, BE17 0.5-1.0A, BE18 0.0-0.5A, BE18 0.5-1.0A, DUPLICATE 4A	**15-FEB-2015**	**24-FEB-2015**	14-AUG-2015	✓	**24-FEB-2015**	14-AUG-2015	✓
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser							
Soil Glass Jar - Unpreserved (EK061G)							
BE1 0.0-0.5A, BE1 0.5-1.0A, BE2 0.0-0.5A, BE2 0.5-1.0A, BE3 0.0-0.5A, BE3 0.5-1.0A, BE9 0.0-0.5A, BE9 0.5-1.0A, BE16 0.0-0.5A, BE16 0.5-1.0A, BE17 0.0-0.5A, BE17 0.5-1.0A, BE18 0.0-0.5A, BE18 0.5-1.0A, DUPLICATE 4A	**15-FEB-2015**	**25-FEB-2015**	14-AUG-2015	✓	**25-FEB-2015**	14-AUG-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK067G: Total Phosphorus as P by Discrete Analyser								
Soil Glass Jar - Unpreserved (EK067G)								
BE1 0.0-0.5A,	BE1 0.5-1.0A,	**15-FEB-2015**	**25-FEB-2015**	14-AUG-2015	✓	**25-FEB-2015**	14-AUG-2015	✓
BE2 0.0-0.5A,	BE2 0.5-1.0A,							
BE3 0.0-0.5A,	BE3 0.5-1.0A,							
BE9 0.0-0.5A,	BE9 0.5-1.0A,							
BE16 0.0-0.5A,	BE16 0.5-1.0A,							
BE17 0.0-0.5A,	BE17 0.5-1.0A,							
BE18 0.0-0.5A,	BE18 0.5-1.0A,							
DUPLICATE 4A								
EK255A SD Ammonia in Sediment								
Soil Glass Jar - Unpreserved (EK255A SD)								
BE1 0.0-0.5A,	BE1 0.5-1.0A,	**15-FEB-2015**	**----**	----	----	**18-FEB-2015**	14-AUG-2015	✓
BE2 0.0-0.5A,	BE2 0.5-1.0A,							
BE3 0.0-0.5A,	BE3 0.5-1.0A,							
BE9 0.0-0.5A,	BE9 0.5-1.0A,							
BE16 0.0-0.5A,	BE16 0.5-1.0A,							
BE17 0.0-0.5A,	BE17 0.5-1.0A,							
BE18 0.0-0.5A,	BE18 0.5-1.0A,							
DUPLICATE 4A								
EP003: Total Organic Carbon (TOC) in Soil								
Pulp Bag (EP003)								
BE1 0.0-0.5A,	BE1 0.5-1.0A,	**15-FEB-2015**	**23-FEB-2015**	15-MAR-2015	✓	**23-FEB-2015**	15-MAR-2015	✓
BE2 0.0-0.5A,	BE2 0.5-1.0A,							
BE3 0.0-0.5A,	BE3 0.5-1.0A,							
BE9 0.0-0.5A,	BE9 0.5-1.0A,							
BE16 0.0-0.5A,	BE16 0.5-1.0A,							
BE17 0.0-0.5A,	BE17 0.5-1.0A,							
BE18 0.0-0.5A,	BE18 0.5-1.0A,							
DUPLICATE 4A								
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013								
Soil Glass Jar - Unpreserved (EP071-SD)								
BE1 0.0-0.5A,	BE1 0.5-1.0A,	**15-FEB-2015**	**23-FEB-2015**	01-MAR-2015	✓	**26-FEB-2015**	04-APR-2015	✓
BE2 0.0-0.5A,	BE2 0.5-1.0A,							
BE3 0.0-0.5A,	BE3 0.5-1.0A,							
BE9 0.0-0.5A,	BE9 0.5-1.0A,							
BE16 0.0-0.5A,	BE16 0.5-1.0A,							
BE17 0.0-0.5A,	BE17 0.5-1.0A,							
BE18 0.0-0.5A,	BE18 0.5-1.0A,							
DUPLICATE 4A,	TRIP BLANK 12							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080-SD: BTEXN							
Soil Glass Jar - Unpreserved (EP080-SD)							
BE1 0.3V, BE1 0.7V, BE2 0.3V, BE2 0.7V, BE3 0.3V, BE3 0.7V, BE9 0.3V, BE9 0.7V, BE16 0.3V, BE16 0.7V, BE17 0.3V, BE17 0.7V, BE18 0.3V, BE18 0.7V, TRIP BLANK 12	**15-FEB-2015**	**19-FEB-2015**	01-MAR-2015	✓	**27-FEB-2015**	01-MAR-2015	✓
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080-SD)							
BE1 0.3V, BE1 0.7V, BE2 0.3V, BE2 0.7V, BE3 0.3V, BE3 0.7V, BE9 0.3V, BE9 0.7V, BE16 0.3V, BE16 0.7V, BE17 0.3V, BE17 0.7V, BE18 0.3V, BE18 0.7V, TRIP BLANK 12	**15-FEB-2015**	**19-FEB-2015**	01-MAR-2015	✓	**27-FEB-2015**	01-MAR-2015	✓
EP090: Organotin Compounds							
Soil Glass Jar - Unpreserved (EP090)							
BE1 0.0-0.5A, BE1 0.5-1.0A, BE2 0.0-0.5A	**15-FEB-2015**	**24-FEB-2015**	01-MAR-2015	✓	**25-FEB-2015**	05-APR-2015	✓
Soil Glass Jar - Unpreserved (EP090)							
BE2 0.5-1.0A, BE3 0.0-0.5A, BE3 0.5-1.0A, BE9 0.0-0.5A, BE9 0.5-1.0A, BE16 0.0-0.5A, BE16 0.5-1.0A, BE17 0.0-0.5A, BE17 0.5-1.0A, BE18 0.0-0.5A, BE18 0.5-1.0A, DUPLICATE 4A	**15-FEB-2015**	**24-FEB-2015**	01-MAR-2015	✓	**26-FEB-2015**	05-APR-2015	✓
EP130A: Organophosphorus Pesticides (Ultra-trace)							
Soil Glass Jar - Unpreserved (EP130)							
BE1 0.0-0.5A, BE1 0.5-1.0A, BE2 0.0-0.5A, BE2 0.5-1.0A, BE3 0.0-0.5A, BE3 0.5-1.0A, BE9 0.0-0.5A, BE9 0.5-1.0A, BE16 0.0-0.5A, BE16 0.5-1.0A, BE17 0.0-0.5A, BE17 0.5-1.0A, BE18 0.0-0.5A, BE18 0.5-1.0A, DUPLICATE 4A	**15-FEB-2015**	**23-FEB-2015**	01-MAR-2015	✓	**26-FEB-2015**	04-APR-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP131A: Organochlorine Pesticides							
Soil Glass Jar - Unpreserved (EP131A)							
BE1 0.0-0.5A, BE1 0.5-1.0A, BE2 0.0-0.5A, BE2 0.5-1.0A, BE3 0.0-0.5A, BE3 0.5-1.0A, BE9 0.0-0.5A, BE9 0.5-1.0A, BE16 0.0-0.5A, BE16 0.5-1.0A, BE17 0.0-0.5A, BE17 0.5-1.0A, BE18 0.0-0.5A, BE18 0.5-1.0A, DUPLICATE 4A	**15-FEB-2015**	**23-FEB-2015**	01-MAR-2015	✓	**26-FEB-2015**	04-APR-2015	✓
EP131B: Polychlorinated Biphenyls (as Aroclors)							
Soil Glass Jar - Unpreserved (EP131B)							
BE1 0.0-0.5A, BE1 0.5-1.0A, BE2 0.0-0.5A, BE2 0.5-1.0A, BE3 0.0-0.5A, BE3 0.5-1.0A, BE9 0.0-0.5A, BE9 0.5-1.0A, BE16 0.0-0.5A, BE16 0.5-1.0A, BE17 0.0-0.5A, BE17 0.5-1.0A, BE18 0.0-0.5A, BE18 0.5-1.0A, DUPLICATE 4A	**15-FEB-2015**	**23-FEB-2015**	01-MAR-2015	✓	**26-FEB-2015**	04-APR-2015	✓
EP132B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP132B-SD)							
BE1 0.0-0.5A, BE1 0.5-1.0A, BE2 0.0-0.5A, BE2 0.5-1.0A, BE3 0.0-0.5A, BE3 0.5-1.0A, BE9 0.0-0.5A, BE9 0.5-1.0A, BE16 0.0-0.5A, BE16 0.5-1.0A, BE17 0.0-0.5A, BE17 0.5-1.0A, BE18 0.0-0.5A, BE18 0.5-1.0A, DUPLICATE 4A	**15-FEB-2015**	**23-FEB-2015**	01-MAR-2015	✓	**26-FEB-2015**	04-APR-2015	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Ammonia in Sediments	EK255A SD	2	18	**11.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Moisture Content	EA055-103	4	38	**10.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	4	30	**13.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	4	30	**13.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	2	15	**13.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	2	15	**13.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	4	40	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	2	15	**13.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	2	15	**13.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	3	28	**10.7**	**9.5**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	4	33	**12.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	4	33	**12.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	4	33	**12.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	2	15	**13.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	3	30	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	2	16	**12.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	2	15	**13.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Ammonia in Sediments	EK255A SD	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	2	30	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	2	30	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	2	40	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	6	28	**21.4**	**14.3**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	33	**6.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	33	**6.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	33	**6.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	6	30	**20.0**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	1	16	**6.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Method Blanks (MB)							
Ammonia in Sediments	EK255A SD	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	2	30	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	2	30	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	2	40	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	2	28	**7.1**	**4.8**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	33	**6.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	33	**6.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	33	**6.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	2	30	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	1	16	**6.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia in Sediments	EK255A SD	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	2	30	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	2	30	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	2	40	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	2	28	**7.1**	**4.8**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	33	**6.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	33	**6.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	2	30	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	1	16	**6.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055-103	SOIL	In-house. A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Particle Size Analysis by Hydrometer	EA150H	SOIL	Particle Size Analysis by Hydrometer according to AS1289.3.6.3 - 2003
Soil Particle Density	* EA152	SOIL	Soil Particle Density by AS 1289.3.5.1-2006 : Methods of testing soils for engineering purposes - Soil classification tests - Determination of the soil particle density of a soil - Standard method A modification of the AS 1289.3.5.1 method may apply when testing dispersed soils also tested by AS1289.3.6.3. This modification uses the dispersion solution from AS1289.3.6.3 in place of water for density determinations
Total Fe and Al in Sediments by ICPAES	EG005-SD	SOIL	In house: Referenced to APHA 21st ed., 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3). LORs per NODG
Total Metals in Sediments by ICPMS	EG020-SD	SOIL	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector. Analyte list and LORs per NODG.
Total Mercury by FIMS (Low Level)	EG035T-LL	SOIL	In house: Referenced to AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Nitrite as N - Soluble by Discrete Analyser	EK057G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3- B. Nitrite in a water extract is determined by direct colourimetry by Discrete Analyser.
Nitrate as N - Soluble by Discrete Analyser	EK058G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3--F. Nitrate in the 1:5 soil:water extract is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results.
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3- F. Combined oxidised Nitrogen (NO2+NO3) in a water extract is determined by Chemical Reduction, and direct colourimetry by Discrete Analyser.
TKN as N By Discrete Analyser	EK061G	SOIL	In house: Referenced to APHA 21st ed., 4500-Norg-D Soil samples are digested using Kjeldahl digestion followed by determination by Discrete Analyser.
Total Nitrogen as N (TKN + NOx) By Discrete Analyser	EK062G	SOIL	In house: Referenced to APHA 21st ed., 4500 Norg/NO3- Total Nitrogen is determined as the sum of TKN and Oxidised Nitrrogen, each determined seperately as N.
Total Phosporus By Discrete Analyser	EK067G	SOIL	In house: Referenced to APHA 21st ed., 4500 P-B&F This procedure involves sulfuric acid digestion and quantification using Discrete Analyser.
Ammonia in Sediments	EK255A SD	SOIL	Rayment and Higginson (1992) Method 7C1 and 7C2. This method measures exchangeable ammonium which is defined by the amount of ammonium released by shaking sediment with an un-buffered 2M potassium chloride solution.

Analytical Methods	Method	Matrix	Method Descriptions
Total Organic Carbon	EP003	SOIL	In-house C-IR17. Dried and pulverised sample is reacted with acid to remove inorganic Carbonates, then combusted in a LECO furnace in the presence of strong oxidants / catalysts. The evolved (Organic) Carbon (as CO2) is automaticaly measured by infra-red detector.
TPH - Semivolatile Fraction	EP071-SD	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 504)
TRH Volatiles/BTEX in Sediments	EP080-SD	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve.
Organotin Analysis	EP090	SOIL	(USEPA SW 846 - 8270D) Prepared sample extracts are analysed by GC/MS coupled with high volume injection, and quanitified against an established calibration curve.
Organophosphorus Pesticides (Ultra-trace)	EP130	SOIL	USEPA Method 3640 (GPC cleanup), 8141 (GC/FPD - Capillary Column) This technique is compliant with NEPM (2013) Schedule B(3) (Method 505)
Organochlorine Pesticides (Ultra-trace)	EP131A	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (2013) Schedule B(3) (Method 504)
PCB's (Ultra-trace)	EP131B	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (2013) Schedule B(3) (Method 504)
PAHs in Sediments by GCMS(SIM)	EP132B-SD	SOIL	USEPA 8270 GCMS Capillary column, SIM mode using large volume programmed temperature vaporisation injection.

Preparation Methods	Method	Matrix	Method Descriptions
TKN/TP Digestion	EK061/EK067	SOIL	APHA 21st ed., 4500 Norg- D; APHA 21st ed., 4500 P - H. Macro Kjeldahl digestion.
1:5 solid / water leach for soluble analytes	EN34	SOIL	10 g of soil is mixed with 50 mL of distilled water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids/ Sample Cleanup	ORG17A-UTP	SOIL	In-house, Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. Samples are extracted, concentrated (by KD) and exchanged into an appropriate solvent for GPC and florisil cleanup as required.
Tumbler Extraction of Solids for LVI (Non-concentrating)	ORG17D	SOIL	In house: 10g of sample, Na2SO4 and surrogate are extracted with 50mL 1:1 DCM/Acetone by end over end tumbling. An aliquot is concentrated by nitrogen blowdown to a reduced volume for analysis if required.
Organotin Sample Preparation	ORG35	SOIL	In house. 20g sample is spiked with surrogate and leached in a methanol:acetic acid:UHP water mix and vacuum filtered. Reagents and solvents are added to the sample and the mixture tumbled. The butyltin compounds are simultaneously derivatised and extracted. The extract is further extracted with petroleum ether. The resultant extracts are combined and concentrated for analysis.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW 846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EK255A SD: Ammonia in Sediment	ES1503684-004	Anonymous	**Ammonia as N**	7664-41-7	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP090: Organotin Compounds	ES1503683-004	Anonymous	**Monobutyltin**	78763-54-9	13.6 %	35-130%	**Recovery less than lower data quality objective**
EP090: Organotin Compounds	ES1503685-013	BE3 0.0-0.5A	**Monobutyltin**	78763-54-9	18.8 %	35-130%	**Recovery less than lower data quality objective**

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Duplicate outliers occur.**
- **For all matrices, no Laboratory Control outliers occur.**

Regular Sample Surrogates

- **For all regular sample matrices, no surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- **No Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

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OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice blicks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		16 February 2015	16 February 2015 1830

RELINQUISHED BY:	RECEIVED BY:
Kschafer	Steven
DATE/TIME: 17-2-15 1600	DATE/TIME: 18/2/15 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		
1	BH37 0.0-0.32 A	16/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1		1						Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
2	BH37 0.0-0.32 B	16/02/2015	S	Bag (White label)	1		1							
				TOTAL	3	1	1	1						

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

150ml Jars and 500ml Amber sent direct to Brisbane for TOC/TBT

Environmental Division
Sydney
Work Order
ES1503806



Telephone : +61-2-8784 8555

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OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present Upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		16 February 2015	16 February 2015 1830

RELINQUISHED BY:	RECEIVED BY:
KSchafer	Glenn
DATE/TIME: 17/2-15 1600	DATE/TIME: 18/2/15 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
3	BH38 0.0-0.5 A	16/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
4	BH38 0.5-1.0 A	16/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
5	BH38 0.0-0.5 B	16/02/2015	S	Bag (White label)	1		1							
6	BH38 0.5-1.0 B	16/02/2015	S	Bag (White label)	1		1							
7	BH38 0.3V	16/02/2015	S	Glass Jar (150 ml)	1			1						
8	BH38 0.7V	16/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comments:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
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RELINQUISHED BY:	RECEIVED BY:
K Schafer	Steven
DATE/TIME:	DATE/TIME:
17-2-15 1600	18/2/15 9:00

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
9	PC10 0.0-0.5A	16/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
10	PC10 0.5-1.0A	16/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
11	PC10 0.0-0.5B	16/02/2015	S	Bag (White label)	1		1							
12	PC10 0.5-1.0B	16/02/2015	S	Bag (White label)	1		1							
13	PC10 0.3V	16/02/2015	S	Glass Jar (150 ml)	1			1						
14	PC10 0.7V	16/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	6	1	2	2						

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Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
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PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comments:	
SAMPLER: Georgina Kerr SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO) EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*	A Schafer	
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Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com	16 February 2015	16 February 2015 1830	17-2-15 1600	18/2/15 900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	Rinsate Suite	Trip blank suite	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
15	Triplicate 10A	16/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
16	Triplicate 10B	16/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
17	Triplicate 11A	16/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
18	Triplicate 11B	16/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
19	Trip Blank 13	16/02/2015	S	Pre-filled glass jar	1								1	
20	Rinsate 12	16/02/2015	w	Bottle	8							1		
				TOTAL	13	2						1	1	

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Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 8372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4965 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/12 Geary Place North Nowra NSW 2541
Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr DATE/TIME: 16 February 2015	RECEIVED BY: Kelly Schafer DATE/TIME: 16 February 2015 1830
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):		RELINQUISHED BY: DATE/TIME: 17.2.15 1600
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			RECEIVED BY: DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	BH37 0.0-0.32 A	16/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1		1						
2	BH37 0.0-0.32 B	16/02/2015	S	Bag (White label)	1		1							
				TOTAL	3	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

150ml Jars and 500ml Amber sent direct to Brisbane for TOC/TBT

Environmental Division Sydney

Work Order

ES1503806

Telephone : +61-2-8784 8555

ADELAIDE 21 Burma Road Pooraka SA 5095
Ph: 08 8359 0890 E: adelaide@auslglobal.com
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Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 36 Callemondah Drive Clinton QLD 4680
Ph: 07 7471 5600 E: gladstone@alsglobal.com
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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 16 February 2015	DATE/TIME: 16 February 2015 1830
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY:	RECEIVED BY:
			DATE/TIME: 17-2-15 1600

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
3	BH38 0.0-0.5 A	16/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
4	BH38 0.5-1.0 A	16/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
5	BH38 0.0-0.5 B	16/02/2015	S	Bag (White label)	1		1							
6	BH38 0.5-1.0 B	16/02/2015	S	Bag (White label)	1		1							
7	BH38 0.3V	16/02/2015	S	Glass Jar (150 ml)	1			1						
8	BH38 0.7V	16/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

☐ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0390 E: adelaide@alsglobal.com
☐BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
☐GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
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☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: ponkamnia@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) **Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround		Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comment:

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*	K Schafer	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		16 February 2015	16 February 2015 1830	17-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
9	PC10 0.0-0.5A	16/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
10	PC10 0.5-1.0A	16/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
11	PC10 0.0-0.5B	16/02/2015	S	Bag (White label)	1		1							
12	PC10 0.5-1.0B	16/02/2015	S	Bag (White label)	1		1							
13	PC10 0.3V	16/02/2015	S	Glass Jar (150 ml)	1			1						
14	PC10 0.7V	16/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	6	1	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) **Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 245553		Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	Other comment:	
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

COC SEQUENCE NUMBER (Circle)

COC: 1 2 3 4 5 6 7

OF: 1 2 3 4 5 6 7

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	K Schafer	
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
16 February 2015	16 February 2015 1830	17-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	Rinsate Suite	Trip blank suite	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
15	Triplicate 10A	16/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
16	Triplicate 10B	16/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
17	Triplicate 11A	16/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
18	Triplicate 11B	16/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
19	Trip Blank 13	16/02/2015	S	Pre-filled glass jar	1								1	
20	Rinsate 12	16/02/2015	w	Bottle	8							1		
				TOTAL	13	2						1	1	

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1503806**	Page	: 1 of 31
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553		
C-O-C number	: ----	Date Samples Received	: 18-FEB-2015
Sampler	: GK	Issue Date	: 09-MAR-2015
Site	: ----		
		No. of samples received	: 20
Quote number	: SY/1021/14 V2	No. of samples analysed	: 20

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.**
- **EA150H: Soil Particle Density as required for Hydrometer analysis according to AS 1289.3.6.3 2003 was unable to be performed on sample #002 as insufficient sample was supplied by the client. Typical SPD values used for calculations and consequently NATA endorsement does not apply to hydrometer results.**
- **EP090: Sample ES1503685-013 shows poor matrix spike recovery for Monobutyltin due to matrix interference.**

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Dianne Blane	Laboratory Coordinator (2IC)	Newcastle - Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Organics
Phalak Inthakesone	Laboratory Manager - Organics	Sydney Inorganics
Ryan Story	2IC Organic Instrument Chemist	Brisbane Organics
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils
Shobhna Chandra	Metals Coordinator	Sydney Inorganics
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH37 0.0-0.32	BH37 0.0-0.32B	BH38 0.0-0.5A	BH38 0.5-1.0A	BH38 0.0-0.5B
				Client sampling date / time	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503806-001	ES1503806-002	ES1503806-003	ES1503806-004	ES1503806-005
EA150: Particle Sizing									
+75µm	----	1	%		----	97	----	----	89
+150µm	----	1	%		----	96	----	----	85
+300µm	----	1	%		----	88	----	----	62
+425µm	----	1	%		----	77	----	----	46
+600µm	----	1	%		----	71	----	----	42
+1180µm	----	1	%		----	68	----	----	40
+2.36mm	----	1	%		----	65	----	----	37
+4.75mm	----	1	%		----	56	----	----	31
+9.5mm	----	1	%		----	44	----	----	16
+19.0mm	----	1	%		----	41	----	----	<1
+37.5mm	----	1	%		----	31	----	----	<1
+75.0mm	----	1	%		----	<1	----	----	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		17.9	----	18.7	24.7	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	2	----	----	5
Silt (2-60 µm)	----	1	%		----	<1	----	----	4
Sand (0.06-2.00 mm)	----	1	%		----	32	----	----	53
Gravel (>2mm)	----	1	%		----	41	----	----	38
Cobbles (>6cm)	----	1	%		----	25	----	----	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	----	2.68
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		4960	----	5370	6900	----
Iron	7439-89-6	50	mg/kg		12800	----	10700	13100	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	----	<0.50	<0.50	----
Arsenic	7440-38-2	1.00	mg/kg		12.0	----	9.10	10.4	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	----	<0.1	<0.1	----
Chromium	7440-47-3	1.0	mg/kg		9.4	----	10.8	13.2	----
Copper	7440-50-8	1.0	mg/kg		4.7	----	4.6	6.3	----
Cobalt	7440-48-4	0.5	mg/kg		5.5	----	5.1	6.1	----
Lead	7439-92-1	1.0	mg/kg		3.1	----	3.3	4.0	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH37 0.0-0.32	BH37 0.0-0.32B	BH38 0.0-0.5A	BH38 0.5-1.0A	BH38 0.0-0.5B
				Client sampling date / time	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503806-001	ES1503806-002	ES1503806-003	ES1503806-004	ES1503806-005
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		533	----	449	493	----
Nickel	7440-02-0	1.0	mg/kg		5.0	----	5.0	6.2	----
Selenium	7782-49-2	0.1	mg/kg		0.4	----	0.4	0.4	----
Silver	7440-22-4	0.1	mg/kg		<0.1	----	<0.1	<0.1	----
Vanadium	7440-62-2	2.0	mg/kg		29.1	----	28.6	34.1	----
Zinc	7440-66-6	1.0	mg/kg		16.1	----	15.4	18.4	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	----	<0.01	<0.01	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	----	<0.1	<0.1	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	<0.1	<0.1	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	<0.1	<0.1	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		130	----	140	110	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		130	----	140	110	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		188	----	222	207	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		1.5	----	0.8	0.9	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		0.14	----	0.16	0.18	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	----	<3	<3	----
>C16 - C34 Fraction	----	3	mg/kg		<3	----	<3	<3	----
>C34 - C40 Fraction	----	5	mg/kg		<5	----	<5	<5	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	----	<3	<3	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	----	----	----	----
C10 - C14 Fraction	----	3	mg/kg		<3	----	<3	<3	----
C15 - C28 Fraction	----	3	mg/kg		<3	----	<3	<3	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH37 0.0-0.32	BH37 0.0-0.32B	BH38 0.0-0.5A	BH38 0.5-1.0A	BH38 0.0-0.5B
				Client sampling date / time	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00
					ES1503806-001	ES1503806-002	ES1503806-003	ES1503806-004	ES1503806-005
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	----	<5	<5	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		<3	----	<3	<3	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	----	----	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.2	mg/kg		<0.2	----	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	----	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	----	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	----	<1	<1	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	----	<1	<1	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	----	<0.5	<0.5	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	----	<10	<10	----
Carbophenothion	786-19-6	10	µg/kg		<10	----	<10	<10	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	----	<10.0	<10.0	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	----	<10	<10	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	----	<10	<10	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	----	<10	<10	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	----	<10	<10	----
Diazinon	333-41-5	10	µg/kg		<10	----	<10	<10	----
Dichlorvos	62-73-7	10	µg/kg		<10	----	<10	<10	----
Dimethoate	60-51-5	10	µg/kg		<10	----	<10	<10	----
Ethion	563-12-2	10	µg/kg		<10	----	<10	<10	----
Fenamiphos	22224-92-6	10	µg/kg		<10	----	<10	<10	----
Fenthion	55-38-9	10	µg/kg		<10	----	<10	<10	----
Malathion	121-75-5	10	µg/kg		<10	----	<10	<10	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	----	<10	<10	----
Monocrotophos	6923-22-4	10	µg/kg		<10	----	<10	<10	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH37 0.0-0.32	BH37 0.0-0.32B	BH38 0.0-0.5A	BH38 0.5-1.0A	BH38 0.0-0.5B
				Client sampling date / time	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00
					ES1503806-001	ES1503806-002	ES1503806-003	ES1503806-004	ES1503806-005
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	----	<10	<10	----
Parathion-methyl	298-00-0	10	µg/kg		<10	----	<10	<10	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	----	<10	<10	----
Prothiofos	34643-46-4	10	µg/kg		<10	----	<10	<10	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	----	<0.50	<0.50	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	----	<0.50	<0.50	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	----	<0.50	<0.50	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	----	<0.50	<0.50	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	----	<0.50	<0.50	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	----	<0.50	<0.50	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	----	<0.50	<0.50	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	----	<0.50	<0.50	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	----	<0.50	<0.50	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	----	<0.50	<0.50	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	----	<0.50	<0.50	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	----	<0.50	<0.50	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	----	<0.50	<0.50	----
Endrin	72-20-8	0.50	µg/kg		<0.50	----	<0.50	<0.50	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	----	<0.50	<0.50	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	----	<0.50	<0.50	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	----	<0.50	<0.50	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	----	<0.50	<0.50	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	----	<0.50	<0.50	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	----	<0.25	<0.25	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	----	<0.50	<0.50	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	----	<0.25	<0.25	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	----	<0.25	<0.25	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	----	<0.25	<0.25	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	----	<0.50	<0.50	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	----	<5.0	<5.0	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	----	<5.0	<5.0	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	----	<5.0	<5.0	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH37 0.0-0.32	BH37 0.0-0.32B	BH38 0.0-0.5A	BH38 0.5-1.0A	BH38 0.0-0.5B
				Client sampling date / time	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00
					ES1503806-001	ES1503806-002	ES1503806-003	ES1503806-004	ES1503806-005
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	----	<5.0	<5.0	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	----	<5.0	<5.0	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	----	<5.0	<5.0	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	----	<5.0	<5.0	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	----	<5.0	<5.0	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	----	<5	<5	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	----	<5	<5	----
Acenaphthylene	208-96-8	4	µg/kg		<4	----	<4	<4	----
Acenaphthene	83-32-9	4	µg/kg		<4	----	<4	<4	----
Fluorene	86-73-7	4	µg/kg		<4	----	<4	<4	----
Phenanthrene	85-01-8	4	µg/kg		<4	----	<4	<4	----
Anthracene	120-12-7	4	µg/kg		<4	----	<4	<4	----
Fluoranthene	206-44-0	4	µg/kg		<4	----	<4	<4	----
Pyrene	129-00-0	4	µg/kg		<4	----	<4	<4	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	----	<4	<4	----
Chrysene	218-01-9	4	µg/kg		<4	----	<4	<4	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	----	<4	<4	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	----	<4	<4	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	----	<4	<4	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	----	<4	<4	----
Perylene	198-55-0	4	µg/kg		<4	----	<4	<4	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	----	<4	<4	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	----	<4	<4	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	----	<4	<4	----
Coronene	191-07-1	5	µg/kg		<5	----	<5	<5	----
^ **Sum of PAHs**	----	4	µg/kg		<4	----	<4	<4	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**93.3**	----	----	----	----
Toluene-D8	2037-26-5	0.1	%		**103**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**95.1**	----	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**117**	----	**107**	**106**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH37 0.0-0.32	BH37 0.0-0.32B	BH38 0.0-0.5A	BH38 0.5-1.0A	BH38 0.0-0.5B
				Client sampling date / time	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503806-001	ES1503806-002	ES1503806-003	ES1503806-004	ES1503806-005
EP130S: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%		75.5	----	74.6	71.1	----
EP131S: OC Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.1	%		69.3	----	54.8	76.4	----
EP131T: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		54.2	----	75.0	75.0	----
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		89.8	----	86.6	82.6	----
Anthracene-d10	1719-06-8	0.1	%		120	----	123	112	----
4-Terphenyl-d14	1718-51-0	0.1	%		122	----	118	94.8	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH38 0.5-1.0B	BH38 0.3V	BH38 0.7V	PC10 0.0-0.5A	PC10 0.5-1.0A
				Client sampling date / time	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503806-006	ES1503806-007	ES1503806-008	ES1503806-009	ES1503806-010
EA150: Particle Sizing									
+75µm	----	1	%		80	----	----	----	----
+150µm	----	1	%		67	----	----	----	----
+300µm	----	1	%		27	----	----	----	----
+425µm	----	1	%		14	----	----	----	----
+600µm	----	1	%		13	----	----	----	----
+1180µm	----	1	%		12	----	----	----	----
+2.36mm	----	1	%		11	----	----	----	----
+4.75mm	----	1	%		9	----	----	----	----
+9.5mm	----	1	%		6	----	----	----	----
+19.0mm	----	1	%		3	----	----	----	----
+37.5mm	----	1	%		<1	----	----	----	----
+75.0mm	----	1	%		<1	----	----	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	18.1	20.0	32.6	33.0
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		12	----	----	----	----
Silt (2-60 µm)	----	1	%		5	----	----	----	----
Sand (0.06-2.00 mm)	----	1	%		72	----	----	----	----
Gravel (>2mm)	----	1	%		11	----	----	----	----
Cobbles (>6cm)	----	1	%		<1	----	----	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		2.68	----	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	----	10600	11000
Iron	7439-89-6	50	mg/kg		----	----	----	20700	21600
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	----	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	----	----	13.5	10.8
Cadmium	7440-43-9	0.1	mg/kg		----	----	----	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	----	----	21.9	23.2
Copper	7440-50-8	1.0	mg/kg		----	----	----	13.4	15.5
Cobalt	7440-48-4	0.5	mg/kg		----	----	----	8.6	9.6
Lead	7439-92-1	1.0	mg/kg		----	----	----	6.7	7.1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH38 0.5-1.0B	BH38 0.3V	BH38 0.7V	PC10 0.0-0.5A	PC10 0.5-1.0A
				Client sampling date / time	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503806-006	ES1503806-007	ES1503806-008	ES1503806-009	ES1503806-010
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	----	**257**	**289**
Nickel	7440-02-0	1.0	mg/kg		----	----	----	**9.3**	**10.0**
Selenium	7782-49-2	0.1	mg/kg		----	----	----	**0.6**	**0.7**
Silver	7440-22-4	0.1	mg/kg		----	----	----	<0.1	<0.1
Vanadium	7440-62-2	2.0	mg/kg		----	----	----	**42.2**	**43.6**
Zinc	7440-66-6	1.0	mg/kg		----	----	----	**30.9**	**33.6**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	----	**0.02**	**0.02**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	----	<0.1	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	<0.1	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	<0.1	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	----	**350**	**290**
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	----	**350**	**290**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	----	**215**	**216**
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	----	**2.3**	**5.6**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	----	**0.68**	**0.62**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	----	<3	<3
>C16 - C34 Fraction	----	3	mg/kg		----	----	----	<3	<3
>C34 - C40 Fraction	----	5	mg/kg		----	----	----	<5	**6**
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	----	<3	**6**
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	<3	<3	----	----
C10 - C14 Fraction	----	3	mg/kg		----	----	----	<3	<3
C15 - C28 Fraction	----	3	mg/kg		----	----	----	<3	<3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH38 0.5-1.0B	BH38 0.3V	BH38 0.7V	PC10 0.0-0.5A	PC10 0.5-1.0A
				Client sampling date / time	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503806-006	ES1503806-007	ES1503806-008	ES1503806-009	ES1503806-010
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	----	<5	9
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	----	<3	9
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	<3	<3	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	<0.2	<0.2	----	----
Toluene	108-88-3	0.2	mg/kg		----	<0.2	<0.2	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	<0.2	<0.2	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	<0.2	<0.2	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	<0.2	<0.2	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	<0.5	<0.5	----	----
^ Sum of BTEX	----	0.2	mg/kg		----	<0.2	<0.2	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	----	<1	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	----	<1	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	----	<0.5	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	----	<10	<10
Carbophenothion	786-19-6	10	µg/kg		----	----	----	<10	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	----	<10.0	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	----	<10	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	----	<10	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	----	<10	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	----	<10	<10
Diazinon	333-41-5	10	µg/kg		----	----	----	<10	<10
Dichlorvos	62-73-7	10	µg/kg		----	----	----	<10	<10
Dimethoate	60-51-5	10	µg/kg		----	----	----	<10	<10
Ethion	563-12-2	10	µg/kg		----	----	----	<10	<10
Fenamiphos	22224-92-6	10	µg/kg		----	----	----	<10	<10
Fenthion	55-38-9	10	µg/kg		----	----	----	<10	<10
Malathion	121-75-5	10	µg/kg		----	----	----	<10	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	----	----	<10	<10
Monocrotophos	6923-22-4	10	µg/kg		----	----	----	<10	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH38 0.5-1.0B	BH38 0.3V	BH38 0.7V	PC10 0.0-0.5A	PC10 0.5-1.0A
				Client sampling date / time	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00
					ES1503806-006	ES1503806-007	ES1503806-008	ES1503806-009	ES1503806-010
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	----	<10	<10
Parathion-methyl	298-00-0	10	µg/kg		----	----	----	<10	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	----	<10	<10
Prothiofos	34643-46-4	10	µg/kg		----	----	----	<10	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	----	<0.50	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	----	----	<0.50	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	----	----	<0.50	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	----	----	<0.50	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	----	<0.50	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	----	<0.50	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	----	<0.50	<0.50
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	----	----	<0.50	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	----	----	<0.50	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	----	<0.50	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	----	<0.50	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	----	<0.50	<0.50
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	----	----	<0.50	<0.50
Endrin	72-20-8	0.50	µg/kg		----	----	----	<0.50	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	----	<0.50	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	----	<0.50	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	----	----	<0.50	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	----	<0.50	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	----	<0.50	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	----	----	<0.25	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	----	----	<0.50	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	----	<0.25	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	----	<0.25	<0.25
^ **Total Chlordane (sum)**	----	0.25	µg/kg		----	----	----	<0.25	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	----	<0.50	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	----	<5.0	<5.0

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH38 0.5-1.0B	BH38 0.3V	BH38 0.7V	PC10 0.0-0.5A	PC10 0.5-1.0A
				Client sampling date / time	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503806-006	ES1503806-007	ES1503806-008	ES1503806-009	ES1503806-010
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	----	<5.0	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	----	<5	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	----	<5	<5
Acenaphthylene	208-96-8	4	µg/kg		----	----	----	<4	<4
Acenaphthene	83-32-9	4	µg/kg		----	----	----	<4	<4
Fluorene	86-73-7	4	µg/kg		----	----	----	<4	<4
Phenanthrene	85-01-8	4	µg/kg		----	----	----	<4	<4
Anthracene	120-12-7	4	µg/kg		----	----	----	<4	<4
Fluoranthene	206-44-0	4	µg/kg		----	----	----	<4	<4
Pyrene	129-00-0	4	µg/kg		----	----	----	<4	<4
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	----	<4	<4
Chrysene	218-01-9	4	µg/kg		----	----	----	<4	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	----	<4	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	----	<4	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	----	<4	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	----	<4	<4
Perylene	198-55-0	4	µg/kg		----	----	----	<4	7
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	----	<4	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	----	<4	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	----	<4	<4
Coronene	191-07-1	5	µg/kg		----	----	----	<5	<5
^ Sum of PAHs	----	4	µg/kg		----	----	----	<4	7
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	105	111	----	----
Toluene-D8	2037-26-5	0.1	%		----	114	117	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	106	109	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	----	104	103

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH38 0.5-1.0B	BH38 0.3V	BH38 0.7V	PC10 0.0-0.5A	PC10 0.5-1.0A
			Client sampling date / time	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503806-006	ES1503806-007	ES1503806-008	ES1503806-009	ES1503806-010
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	----	77.8	67.5
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	----	69.7	73.3
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	50.0	62.5
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	87.1	88.2
Anthracene-d10	1719-06-8	0.1	%	----	----	----	116	115
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	107	106

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	PC10 0.0-0.5B	PC10 0.5-1.0B	PC10 0.3V	PC10 0.7V	TRIPLICATE 10A
				Client sampling date / time	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00
					ES1503806-011	ES1503806-012	ES1503806-013	ES1503806-014	ES1503806-015
EA150: Particle Sizing									
+75µm	----	1	%		45	36	----	----	----
+150µm	----	1	%		17	6	----	----	----
+300µm	----	1	%		14	3	----	----	----
+425µm	----	1	%		13	2	----	----	----
+600µm	----	1	%		12	2	----	----	----
+1180µm	----	1	%		10	<1	----	----	----
+2.36mm	----	1	%		7	<1	----	----	----
+4.75mm	----	1	%		4	<1	----	----	----
+9.5mm	----	1	%		<1	<1	----	----	----
+19.0mm	----	1	%		<1	<1	----	----	----
+37.5mm	----	1	%		<1	<1	----	----	----
+75.0mm	----	1	%		<1	<1	----	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	----	41.0	32.6	18.4
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		21	24	----	----	----
Silt (2-60 µm)	----	1	%		21	26	----	----	----
Sand (0.06-2.00 mm)	----	1	%		50	50	----	----	----
Gravel (>2mm)	----	1	%		8	<1	----	----	----
Cobbles (>6cm)	----	1	%		<1	<1	----	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		2.60	2.65	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	----	----	3930
Iron	7439-89-6	50	mg/kg		----	----	----	----	9200
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	----	----	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	----	----	----	10.4
Cadmium	7440-43-9	0.1	mg/kg		----	----	----	----	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	----	----	----	7.2
Copper	7440-50-8	1.0	mg/kg		----	----	----	----	3.8
Cobalt	7440-48-4	0.5	mg/kg		----	----	----	----	4.7
Lead	7439-92-1	1.0	mg/kg		----	----	----	----	2.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	PC10 0.0-0.5B	PC10 0.5-1.0B	PC10 0.3V	PC10 0.7V	TRIPLICATE 10A
				Client sampling date / time	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00
					ES1503806-011	ES1503806-012	ES1503806-013	ES1503806-014	ES1503806-015
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	----	----	**459**
Nickel	7440-02-0	1.0	mg/kg		----	----	----	----	**3.8**
Selenium	7782-49-2	0.1	mg/kg		----	----	----	----	**0.2**
Silver	7440-22-4	0.1	mg/kg		----	----	----	----	<0.1
Vanadium	7440-62-2	2.0	mg/kg		----	----	----	----	**23.7**
Zinc	7440-66-6	1.0	mg/kg		----	----	----	----	**12.3**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	----	----	<0.01
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	----	----	**130**
EK062: Total Nitrogen as N (TKN + NOx)									
^ **Total Nitrogen as N**	----	20	mg/kg		----	----	----	----	**130**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	----	----	**190**
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	----	----	**1.2**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	----	----	**0.14**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	----	----	<3
>C16 - C34 Fraction	----	3	mg/kg		----	----	----	----	<3
>C34 - C40 Fraction	----	5	mg/kg		----	----	----	----	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	----	----	<3
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	<3	<3	----
C10 - C14 Fraction	----	3	mg/kg		----	----	----	----	<3
C15 - C28 Fraction	----	3	mg/kg		----	----	----	----	<3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	PC10 0.0-0.5B	PC10 0.5-1.0B	PC10 0.3V	PC10 0.7V	TRIPLICATE 10A
				Client sampling date / time	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00
					ES1503806-011	ES1503806-012	ES1503806-013	ES1503806-014	ES1503806-015
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	----	----	<5
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	----	----	<3
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	<3	<3	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	<0.2	<0.2	----
Toluene	108-88-3	0.2	mg/kg		----	----	<0.2	<0.2	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	<0.2	<0.2	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	<0.2	<0.2	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	<0.2	<0.2	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	<0.5	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg		----	----	<0.2	<0.2	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	----	----	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	----	----	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	----	----	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	----	----	<10
Carbophenothion	786-19-6	10	µg/kg		----	----	----	----	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	----	----	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	----	----	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	----	----	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	----	----	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	----	----	<10
Diazinon	333-41-5	10	µg/kg		----	----	----	----	<10
Dichlorvos	62-73-7	10	µg/kg		----	----	----	----	<10
Dimethoate	60-51-5	10	µg/kg		----	----	----	----	<10
Ethion	563-12-2	10	µg/kg		----	----	----	----	<10
Fenamiphos	22224-92-6	10	µg/kg		----	----	----	----	<10
Fenthion	55-38-9	10	µg/kg		----	----	----	----	<10
Malathion	121-75-5	10	µg/kg		----	----	----	----	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	----	----	----	<10
Monocrotophos	6923-22-4	10	µg/kg		----	----	----	----	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	PC10 0.0-0.5B	PC10 0.5-1.0B	PC10 0.3V	PC10 0.7V	TRIPLICATE 10A
				Client sampling date / time	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00
					ES1503806-011	ES1503806-012	ES1503806-013	ES1503806-014	ES1503806-015
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	----	----	<10
Parathion-methyl	298-00-0	10	µg/kg		----	----	----	----	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	----	----	<10
Prothiofos	34643-46-4	10	µg/kg		----	----	----	----	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	----	----	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	----	----	----	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	----	----	----	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	----	----	<0.50
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	----	----	----	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	----	----	----	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	----	----	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	----	----	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	----	----	<0.50
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	----	----	----	<0.50
Endrin	72-20-8	0.50	µg/kg		----	----	----	----	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	----	----	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	----	----	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	----	----	----	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	----	----	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	----	----	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	----	----	----	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	----	----	----	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	----	----	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	----	----	<0.25
^ **Total Chlordane (sum)**	----	0.25	µg/kg		----	----	----	----	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	----	----	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	----	----	<5.0

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	PC10 0.0-0.5B	PC10 0.5-1.0B	PC10 0.3V	PC10 0.7V	TRIPLICATE 10A
				Client sampling date / time	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00
					ES1503806-011	ES1503806-012	ES1503806-013	ES1503806-014	ES1503806-015
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	----	----	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	----	----	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	----	----	<5
Acenaphthylene	208-96-8	4	µg/kg		----	----	----	----	<4
Acenaphthene	83-32-9	4	µg/kg		----	----	----	----	<4
Fluorene	86-73-7	4	µg/kg		----	----	----	----	<4
Phenanthrene	85-01-8	4	µg/kg		----	----	----	----	<4
Anthracene	120-12-7	4	µg/kg		----	----	----	----	<4
Fluoranthene	206-44-0	4	µg/kg		----	----	----	----	<4
Pyrene	129-00-0	4	µg/kg		----	----	----	----	<4
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	----	----	<4
Chrysene	218-01-9	4	µg/kg		----	----	----	----	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	----	----	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	----	----	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	----	----	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	----	----	<4
Perylene	198-55-0	4	µg/kg		----	----	----	----	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	----	----	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	----	----	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	----	----	<4
Coronene	191-07-1	5	µg/kg		----	----	----	----	<5
^ **Sum of PAHs**	----	4	µg/kg		----	----	----	----	<4
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	**96.1**	**75.7**	----
Toluene-D8	2037-26-5	0.1	%		----	----	**102**	**82.4**	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	**97.4**	**86.7**	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	----	----	**101**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	PC10 0.0-0.5B	PC10 0.5-1.0B	PC10 0.3V	PC10 0.7V	TRIPLICATE 10A
			Client sampling date / time	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503806-011	ES1503806-012	ES1503806-013	ES1503806-014	ES1503806-015
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	----	----	**69.2**
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	----	----	**71.6**
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	----	**70.2**
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	----	**94.6**
Anthracene-d10	1719-06-8	0.1	%	----	----	----	----	**113**
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	----	**106**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TRIPLICATE 10B	TRIPLICATE 11A	TRIPLICATE 11B	TRIP BLANK 13	----
				Client sampling date / time	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	----
Compound	CAS Number	LOR	Unit		ES1503806-016	ES1503806-017	ES1503806-018	ES1503806-019	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		21.3	19.4	20.1	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		5080	4700	7530	----	----
Iron	7439-89-6	50	mg/kg		11400	10600	13600	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	<0.50	----	----
Arsenic	7440-38-2	1.00	mg/kg		11.7	9.41	6.43	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	<0.1	----	----
Chromium	7440-47-3	1.0	mg/kg		8.6	8.1	14.9	----	----
Copper	7440-50-8	1.0	mg/kg		4.6	4.3	8.3	----	----
Cobalt	7440-48-4	0.5	mg/kg		5.3	4.5	6.2	----	----
Lead	7439-92-1	1.0	mg/kg		3.3	3.7	5.6	----	----
Manganese	7439-96-5	10	mg/kg		388	346	176	----	----
Nickel	7440-02-0	1.0	mg/kg		4.8	4.3	6.8	----	----
Selenium	7782-49-2	0.1	mg/kg		0.6	0.2	0.3	----	----
Silver	7440-22-4	0.1	mg/kg		<0.1	<0.1	<0.1	----	----
Vanadium	7440-62-2	2.0	mg/kg		27.5	25.9	36.2	----	----
Zinc	7440-66-6	1.0	mg/kg		17.1	13.7	24.1	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	<0.01	<0.01	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	<0.1	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	<0.1	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		120	150	90	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		120	150	90	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		158	184	124	----	----
EK255A SD Ammonia in Sediment									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TRIPLICATE 10B	TRIPLICATE 11A	TRIPLICATE 11B	TRIP BLANK 13	----
				Client sampling date / time	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	----
Compound	CAS Number	LOR	Unit		ES1503806-016	ES1503806-017	ES1503806-018	ES1503806-019	----
EK255A SD Ammonia in Sediment - Continued									
Ammonia as N	7664-41-7	0.2	mg/kg		1.4	1.2	1.1	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		0.18	0.16	0.06	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	<3	<3	<3	----
>C16 - C34 Fraction	----	3	mg/kg		<3	<3	<3	<3	----
>C34 - C40 Fraction	----	5	mg/kg		<5	<5	<5	<5	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	<3	<3	<3	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	<3	----
C10 - C14 Fraction	----	3	mg/kg		<3	<3	<3	<3	----
C15 - C28 Fraction	----	3	mg/kg		<3	<3	<3	<3	----
C29 - C36 Fraction	----	5	mg/kg		<5	<5	<5	<5	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		<3	<3	<3	<3	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	<3	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	<0.2	----
Toluene	108-88-3	0.2	mg/kg		----	----	----	<0.2	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	<0.2	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	<0.2	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	<0.2	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	----	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	<0.2	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	<1	<1	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	<1	<1	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	<0.5	<0.5	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	<10	<10	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	<10	<10	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	<10.0	<10.0	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	<10	<10	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	TRIPLICATE 10B	TRIPLICATE 11A	TRIPLICATE 11B	TRIP BLANK 13	----
				Client sampling date / time	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	----
					ES1503806-016	ES1503806-017	ES1503806-018	ES1503806-019	----
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Chlorpyrifos	2921-88-2	10	µg/kg		<10	<10	<10	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	<10	<10	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	<10	<10	----	----
Diazinon	333-41-5	10	µg/kg		<10	<10	<10	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	<10	<10	----	----
Dimethoate	60-51-5	10	µg/kg		<10	<10	<10	----	----
Ethion	563-12-2	10	µg/kg		<10	<10	<10	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	<10	<10	----	----
Fenthion	55-38-9	10	µg/kg		<10	<10	<10	----	----
Malathion	121-75-5	10	µg/kg		<10	<10	<10	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	<10	<10	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	<10	<10	----	----
Parathion	56-38-2	10	µg/kg		<10	<10	<10	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	<10	<10	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	<10	<10	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	<10	<10	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	<0.50	<0.50	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	TRIPLICATE 10B	TRIPLICATE 11A	TRIPLICATE 11B	TRIP BLANK 13	----
				Client sampling date / time	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	----
					ES1503806-016	ES1503806-017	ES1503806-018	ES1503806-019	----
EP131A: Organochlorine Pesticides - Continued									
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	<0.25	<0.25	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	<0.25	<0.25	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	<0.25	<0.25	----	----
^ **Total Chlordane (sum)**	----	0.25	µg/kg		<0.25	<0.25	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		<5.0	<5.0	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	<5.0	<5.0	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	<5.0	<5.0	----	----
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	<5.0	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	<5.0	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	<5.0	<5.0	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	<5.0	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	<5.0	<5.0	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	<5	<5	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	<5	<5	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	<4	<4	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	<4	<4	----	----
Fluorene	86-73-7	4	µg/kg		<4	<4	<4	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	<4	<4	----	----
Anthracene	120-12-7	4	µg/kg		<4	<4	<4	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	<4	<4	----	----
Pyrene	129-00-0	4	µg/kg		<4	<4	<4	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	<4	<4	----	----
Chrysene	218-01-9	4	µg/kg		<4	<4	<4	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	<4	<4	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	<4	<4	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	<4	<4	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	<4	<4	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TRIPLICATE 10B	TRIPLICATE 11A	TRIPLICATE 11B	TRIP BLANK 13	----
			Client sampling date / time	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	16-FEB-2015 15:00	----
Compound	CAS Number	LOR	Unit	ES1503806-016	ES1503806-017	ES1503806-018	ES1503806-019	----
EP132B: Polynuclear Aromatic Hydrocarbons - Continued								
Perylene	198-55-0	4	µg/kg	<4	<4	<4	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	<4	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	<4	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	<4	----	----
Coronene	191-07-1	5	µg/kg	<5	<5	<5	----	----
^ Sum of PAHs	----	4	µg/kg	<4	<4	<4	----	----
EP080-SD: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	----	----	95.9	----
Toluene-D8	2037-26-5	0.1	%	----	----	----	106	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	----	----	97.9	----
EP090S: Organotin Surrogate								
Tripropyltin	----	0.1	%	125	122	98.4	----	----
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	78.4	94.0	82.4	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	66.3	67.5	61.2	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	75.0	66.1	53.5	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	83.2	81.4	85.1	----	----
Anthracene-d10	1719-06-8	0.1	%	116	118	108	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	113	113	101	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 12	----	----	----	----
				Client sampling date / time	16-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1503806-020	----	----	----	----
EG020T: Total Metals by ICP-MS									
Antimony	7440-36-0	0.001	mg/L		<0.001	----	----	----	----
Arsenic	7440-38-2	0.001	mg/L		<0.001	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	----	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	----	----	----	----
Manganese	7439-96-5	0.001	mg/L		<0.001	----	----	----	----
Nickel	7440-02-0	0.001	mg/L		<0.001	----	----	----	----
Silver	7440-22-4	0.001	mg/L		<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L		<0.005	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	----	----	----	----
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		<0.01	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	----	0.01	mg/L		<0.01	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		<0.01	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		<0.01	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L		<0.1	----	----	----	----
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser									
^ Total Nitrogen as N	----	0.1	mg/L		<0.1	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		<0.01	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	1	µg/L		<1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.5	µg/L		<0.5	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L		<0.5	----	----	----	----
beta-BHC	319-85-7	0.5	µg/L		<0.5	----	----	----	----
gamma-BHC	58-89-9	0.5	µg/L		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 12	----	----	----	----
				Client sampling date / time	16-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1503806-020	----	----	----	----
EP068A: Organochlorine Pesticides (OC) - Continued									
delta-BHC	319-86-8	0.5	µg/L		<0.5	----	----	----	----
Heptachlor	76-44-8	0.5	µg/L		<0.5	----	----	----	----
Aldrin	309-00-2	0.5	µg/L		<0.5	----	----	----	----
Heptachlor epoxide	1024-57-3	0.5	µg/L		<0.5	----	----	----	----
trans-Chlordane	5103-74-2	0.5	µg/L		<0.5	----	----	----	----
alpha-Endosulfan	959-98-8	0.5	µg/L		<0.5	----	----	----	----
cis-Chlordane	5103-71-9	0.5	µg/L		<0.5	----	----	----	----
Dieldrin	60-57-1	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDE	72-55-9	0.5	µg/L		<0.5	----	----	----	----
Endrin	72-20-8	0.5	µg/L		<0.5	----	----	----	----
beta-Endosulfan	33213-65-9	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDD	72-54-8	0.5	µg/L		<0.5	----	----	----	----
Endrin aldehyde	7421-93-4	0.5	µg/L		<0.5	----	----	----	----
Endosulfan sulfate	1031-07-8	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDT	50-29-3	2.0	µg/L		<2.0	----	----	----	----
Endrin ketone	53494-70-5	0.5	µg/L		<0.5	----	----	----	----
Methoxychlor	72-43-5	2.0	µg/L		<2.0	----	----	----	----
^ Total Chlordane (sum)	----	0.5	µg/L		<0.5	----	----	----	----
^ Sum of DDD + DDE + DDT	----	0.5	µg/L		<0.5	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L		<0.5	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.5	µg/L		<0.5	----	----	----	----
Demeton-S-methyl	919-86-8	0.5	µg/L		<0.5	----	----	----	----
Monocrotophos	6923-22-4	2.0	µg/L		<2.0	----	----	----	----
Dimethoate	60-51-5	0.5	µg/L		<0.5	----	----	----	----
Diazinon	333-41-5	0.5	µg/L		<0.5	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L		<0.5	----	----	----	----
Parathion-methyl	298-00-0	2.0	µg/L		<2.0	----	----	----	----
Malathion	121-75-5	0.5	µg/L		<0.5	----	----	----	----
Fenthion	55-38-9	0.5	µg/L		<0.5	----	----	----	----
Chlorpyrifos	2921-88-2	0.5	µg/L		<0.5	----	----	----	----
Parathion	56-38-2	2.0	µg/L		<2.0	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	µg/L		<0.5	----	----	----	----
Chlorfenvinphos	470-90-6	0.5	µg/L		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 12	----	----	----	----
				Client sampling date / time	16-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1503806-020	----	----	----	----
EP068B: Organophosphorus Pesticides (OP) - Continued									
Bromophos-ethyl	4824-78-6	0.5	µg/L		<0.5	----	----	----	----
Fenamiphos	22224-92-6	0.5	µg/L		<0.5	----	----	----	----
Prothiofos	34643-46-4	0.5	µg/L		<0.5	----	----	----	----
Ethion	563-12-2	0.5	µg/L		<0.5	----	----	----	----
Carbophenothion	786-19-6	0.5	µg/L		<0.5	----	----	----	----
Azinphos Methyl	86-50-0	0.5	µg/L		<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L		<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L		<1.0	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L		<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	----	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		<0.5	----	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L		<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L		<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	µg/L		<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	----	----	----	----

Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Client sample ID: RINSATE 12	----	----	----	----
				Client sampling date / time: 16-FEB-2015 15:00	----	----	----	----
				ES1503806-020	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L	<20	----	----	----	----
>C10 - C16 Fraction	>C10_C16	100	µg/L	<100	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L	<100	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L	<100	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L	<100	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L	<100	----	----	----	----
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	----	----	----	----
Toluene	108-88-3	2	µg/L	<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	----	----	----	----
^ **Total Xylenes**	1330-20-7	2	µg/L	<2	----	----	----	----
^ **Sum of BTEX**	----	1	µg/L	<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L	<5	----	----	----	----
EP090: Organotin Compounds								
Monobutyltin	78763-54-9	5	ngSn/L	<5	----	----	----	----
Dibutyltin	1002-53-5	5	ngSn/L	<5	----	----	----	----
Tributyltin	56573-85-4	2	ngSn/L	<2	----	----	----	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**68.2**	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**94.2**	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**70.2**	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	**26.7**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	**44.3**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	**37.4**	----	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**59.6**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**73.8**	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 12	----	----	----	----
				Client sampling date / time	16-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1503806-020	----	----	----	----
EP075(SIM)T: PAH Surrogates - Continued									
4-Terphenyl-d14	1718-51-0	0.1	%	73.2	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%	114	----	----	----	----
Toluene-D8	2037-26-5	0.1	%	114	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	109	----	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%	90.6	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
EP080-SD: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	67	137
Toluene-D8	2037-26-5	74	134
4-Bromofluorobenzene	460-00-4	73	137
EP090S: Organotin Surrogate			
Tripropyltin	----	35	130
EP130S: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	14.4	102
EP131S: OC Pesticide Surrogate			
Dibromo-DDE	21655-73-2	10	119
EP131T: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	10	106
EP132T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	55	135
Anthracene-d10	1719-06-8	70	136
4-Terphenyl-d14	1718-51-0	57	127

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	28.5	129
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	30	120
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	26.8	129
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10.0	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27.4	113
4-Terphenyl-d14	1718-51-0	32	112
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128
EP090S: Organotin Surrogate			
Tripropyltin	----	8.2	108

QUALITY CONTROL REPORT

Work Order	: **ES1503806**	Page	: 1 of 30
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 18-FEB-2015
Sampler	: GK	Issue Date	: 09-MAR-2015
Order number	: 245553		
		No. of samples received	: 20
Quote number	: SY/1021/14 V2	No. of samples analysed	: 20

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Dianne Blane	Laboratory Coordinator (2IC)	Newcastle - Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Organics
Phalak Inthakesone	Laboratory Manager - Organics	Sydney Inorganics
Ryan Story	2IC Organic Instrument Chemist	Brisbane Organics
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils
Shobhna Chandra	Metals Coordinator	Sydney Inorganics
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA055: Moisture Content (QC Lot: 3837812)									
ES1503806-004	BH38 0.5-1.0A	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	24.7	26.0	4.9	0% - 20%
ES1503806-019	TRIP BLANK 13	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	2.3	2.7	15.1	No Limit
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3836578)									
ES1503685-008	Anonymous	EG005-SD: Aluminium	7429-90-5	50	mg/kg	13100	14200	7.7	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	24300	27300	11.6	0% - 20%
ES1503685-038	Anonymous	EG005-SD: Aluminium	7429-90-5	50	mg/kg	16700	16100	3.3	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	29900	27400	8.9	0% - 20%
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3836581)									
ES1503806-018	TRIPLICATE 11B	EG005-SD: Aluminium	7429-90-5	50	mg/kg	7530	7980	5.8	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	13600	15200	11.1	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3836577)									
ES1503685-038	Anonymous	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	1.0	0.9	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	11.0	10.8	2.1	0% - 20%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	22.8	22.1	2.7	0% - 20%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	35.6	35.9	0.9	0% - 20%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	8.4	8.2	2.4	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	11.4	11.5	1.0	0% - 50%
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	40.5	40.8	0.8	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	8.22	6.73	19.9	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	322	354	9.6	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	63.6	63.1	0.7	0% - 20%
ES1503806-018	TRIPLICATE 11B	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.3	0.2	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	6.2	6.2	0.0	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	14.9	13.9	7.0	0% - 50%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	8.3	8.8	6.2	No Limit
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	5.6	4.0	33.0	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	6.8	7.0	2.3	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	24.1	25.0	3.9	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	6.43	6.20	3.7	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	176	153	14.3	0% - 50%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3836577) - continued									
ES1503806-018	TRIPLICATE 11B	EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	36.2	33.0	9.5	0% - 50%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3836580)									
ES1503685-008	Anonymous	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.7	0.8	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	0.1	0.2	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	11.0	12.8	15.3	0% - 20%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	22.8	25.5	11.0	0% - 20%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	19.6	21.7	10.0	0% - 20%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	7.6	8.5	10.9	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	9.9	10.8	9.0	0% - 50%
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	35.0	39.0	10.7	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	14.5	16.3	12.0	0% - 50%
		EG020-SD: Manganese	7439-96-5	10	mg/kg	263	305	14.8	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	47.1	54.9	15.3	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3836576)									
ES1503685-008	Anonymous	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	0.02	0.02	0.0	No Limit
ES1503685-038	Anonymous	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	0.02	0.02	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3836579)									
ES1503806-018	TRIPLICATE 11B	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3836428)									
ES1503806-001	BH37 0.0-0.32	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1503916-001	Anonymous	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3836429)									
ES1503806-001	BH37 0.0-0.32	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1503916-001	Anonymous	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3838227)									
ES1503806-001	BH37 0.0-0.32	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	130	130	0.0	No Limit
ES1503916-001	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	120	140	9.9	No Limit
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3838228)									
ES1503806-001	BH37 0.0-0.32	EK067G: Total Phosphorus as P	----	2	mg/kg	188	190	0.7	0% - 20%
ES1503916-001	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	253	257	1.6	0% - 20%
EK255A SD: Ammonia in Sediment (QC Lot: 3830128)									
ES1503806-001	BH37 0.0-0.32	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	1.5	1.6	0.0	No Limit
EP003: Total Organic Carbon (TOC) in Soil (QC Lot: 3831287)									
EP1501035-003	Anonymous	EP003: Total Organic Carbon	----	0.02	%	0.10	0.09	0.0	No Limit
EP003: Total Organic Carbon (TOC) in Soil (QC Lot: 3835086)									
ES1503806-001	BH37 0.0-0.32	EP003: Total Organic Carbon	----	0.02	%	0.14	0.11	19.5	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3831466)									
ES1503806-001	BH37 0.0-0.32	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
ES1503916-002	Anonymous	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3831466)									
ES1503806-001	BH37 0.0-0.32	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
ES1503916-002	Anonymous	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3831471)									
ES1503806-001	BH37 0.0-0.32	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
ES1503916-016	Anonymous	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
EP080-SD: BTEXN (QC Lot: 3831471)									
ES1503806-001	BH37 0.0-0.32	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
ES1503916-016	Anonymous	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP090: Organotin Compounds (QC Lot: 3829722)									
ES1503685-008	Anonymous	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
ES1503685-038	Anonymous	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP090: Organotin Compounds (QC Lot: 3829723)									
ES1503806-018	TRIPLICATE 11B	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3831452)									
ES1503806-001	BH37 0.0-0.32	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
ES1503916-002	Anonymous	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3831452) - continued									
ES1503916-002	Anonymous	EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
EP131A: Organochlorine Pesticides (QC Lot: 3831453)									
ES1503806-001	BH37 0.0-0.32	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
ES1503916-002	Anonymous	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP131A: Organochlorine Pesticides (QC Lot: 3831453) - continued									
ES1503916-002	Anonymous	EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 3831454)									
ES1503806-001	BH37 0.0-0.32	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
ES1503916-002	Anonymous	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3831465)									
ES1503806-001	BH37 0.0-0.32	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3831465) - continued									
ES1503806-001	BH37 0.0-0.32	EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit
ES1503916-002	Anonymous	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020T: Total Metals by ICP-MS (QC Lot: 3835981)									
ES1503806-020	RINSATE 12	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG020T: Total Metals by ICP-MS (QC Lot: 3835981) - continued									
ES1503806-020	RINSATE 12	EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Manganese	7439-96-5	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.0	No Limit
ME1500240-009	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	0.001	0.001	0.0	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Manganese	7439-96-5	0.001	mg/L	0.010	0.010	0.0	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	0.010	0.010	0.0	0% - 50%
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	0.006	0.007	0.0	No Limit
EG020T: Total Metals by ICP-MS (QC Lot: 3835982)									
ES1503806-020	RINSATE 12	EG020B-T: Silver	7440-22-4	0.001	mg/L	<0.001	<0.001	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3838017)									
ES1503806-020	RINSATE 12	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
ES1504130-001	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EK055G: Ammonia as N by Discrete Analyser (QC Lot: 3832724)									
ES1503683-048	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	0.02	0.02	0.0	No Limit
ES1503922-005	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	0.08	0.11	24.3	0% - 50%
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3829227)									
ES1503844-001	Anonymous	EK057G: Nitrite as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1503874-002	Anonymous	EK057G: Nitrite as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3832723)									
ES1503683-048	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	0.01	0.0	No Limit
ES1503922-005	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	1.91	1.90	0.0	0% - 20%
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3832754)									
ES1503683-048	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	<0.1	<0.1	0.0	No Limit
ES1503922-006	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	3220	2970	8.3	0% - 20%
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3832755)									
ES1503683-048	Anonymous	EK067G: Total Phosphorus as P	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1503976-002	Anonymous	EK067G: Total Phosphorus as P	----	0.01	mg/L	0.05	0.09	53.1	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3835238)									
ES1504084-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	100	90	19.3	No Limit
ES1504085-004	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<100	<100	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3835238)									
ES1504084-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	140	100	31.1	No Limit
ES1504085-004	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<100	<100	0.0	No Limit
EP080: BTEXN (QC Lot: 3835238)									
ES1504084-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	3	3	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	17	17	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	7	7	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	4	4	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
ES1504085-004	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<5	<5	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<5	<5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<5	<5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<5	<5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<5	<5	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3836578)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	112	86	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	83.6	70	130
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3836581)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	115	86	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	85.8	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3836577)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	4.6 mg/kg	113	70	130
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	105	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	105	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	110	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	104	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	103	84	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	104	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	124	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	111	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	120	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	2.10 mg/kg	120	64	148
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	115	87	131
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	118	83	137
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3836580)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	4.6 mg/kg	117	70	130
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	104	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	102	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	108	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	102	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	102	84	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3836580) - continued								
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	109	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	118	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	108	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	117	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	2.10 mg/kg	108	64	148
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	113	87	131
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	114	83	137
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3836576)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.110 mg/kg	85.9	72	116
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3836579)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.110 mg/kg	85.9	72	116
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3836428)								
EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	100	82	120
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3836429)								
EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	96.2	89	115
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3838227)								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	----	500 mg/kg	100	70	122
				----	100 mg/kg	90.4	70	127
				<20	1000 mg/kg	87.5	64	114
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3838228)								
EK067G: Total Phosphorus as P	----	2	mg/kg	----	44.2 mg/kg	89.8	64	124
				----	100 mg/kg	98.9	69	123
				<2	442 mg/kg	90.4	68	116
EK255A SD: Ammonia in Sediment (QCLot: 3830128)								
EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	<0.2	0.1 mg/kg	97.3	70	130
EP003: Total Organic Carbon (TOC) in Soil (QCLot: 3831287)								
EP003: Total Organic Carbon	----	0.02	%	<0.02	0.11 %	98.2	70	130
EP003: Total Organic Carbon (TOC) in Soil (QCLot: 3835086)								
EP003: Total Organic Carbon	----	0.02	%	<0.02	0.11 %	97.3	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3831466)								
EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	6.25 mg/kg	93.6	70	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3831466) - continued								
EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	8.75 mg/kg	110	74	138
EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	3.75 mg/kg	89.3	63	131
EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3831466)								
EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	5 mg/kg	89.0	78	118
EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	7.5 mg/kg	104	84	118
EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	5 mg/kg	95.0	73	119
EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3831471)								
EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	6.2 mg/kg	84.4	61	133
EP080-SD: BTEXN (QCLot: 3831471)								
EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	0.2 mg/kg	99.2	66	122
EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	0.2 mg/kg	93.4	69	122
EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.2 mg/kg	93.5	66	126
EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	0.4 mg/kg	92.0	59	129
EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.2 mg/kg	97.2	66	126
EP090: Organotin Compounds (QCLot: 3829722)								
EP090: Monobutyltin	78763-54-9	1.0	µgSn/kg	<1	1.25 µgSn/kg	106	36	128
EP090: Dibutyltin	1002-53-5	1.0	µgSn/kg	<1	1.25 µgSn/kg	102	42	132
EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	1.25 µgSn/kg	105	52	139
EP090: Organotin Compounds (QCLot: 3829723)								
EP090: Monobutyltin	78763-54-9	1.0	µgSn/kg	<1	1.25 µgSn/kg	123	36	128
EP090: Dibutyltin	1002-53-5	1.0	µgSn/kg	<1	1.25 µgSn/kg	113	42	132
EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	1.25 µgSn/kg	106	52	139
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3831452)								
EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	50 µg/kg	93.3	45	139
EP130: Carbophenothion	786-19-6	10	µg/kg	<10	50 µg/kg	78.0	47	117
EP130: Chlorfenvinphos (E)	18708-86-6	10	µg/kg	<10.0	5 µg/kg	74.2	48	156
EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	50 µg/kg	82.2	62	136

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3831452) - continued								
EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	50 µg/kg	77.2	57	137
EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	50 µg/kg	72.8	57	121
EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	50 µg/kg	96.9	20.4	142
EP130: Diazinon	333-41-5	10	µg/kg	<10	50 µg/kg	73.9	57	121
EP130: Dichlorvos	62-73-7	10	µg/kg	<10	50 µg/kg	89.2	47	115
EP130: Dimethoate	60-51-5	10	µg/kg	<10	50 µg/kg	82.3	55	133
EP130: Ethion	563-12-2	10	µg/kg	<10	50 µg/kg	81.1	54	130
EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	50 µg/kg	75.0	57	131
EP130: Fenthion	55-38-9	10	µg/kg	<10	50 µg/kg	78.4	38	130
EP130: Malathion	121-75-5	10	µg/kg	<10	50 µg/kg	75.0	62	138
EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	50 µg/kg	108	33	137
EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	50 µg/kg	110	50	148
EP130: Parathion	56-38-2	10	µg/kg	<10	50 µg/kg	74.4	64	140
EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	50 µg/kg	80.6	56	136
EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	50 µg/kg	77.1	50	132
EP130: Prothiofos	34643-46-4	10	µg/kg	<10	50 µg/kg	74.2	55	135
EP131A: Organochlorine Pesticides (QCLot: 3831453)								
EP131A: Aldrin	309-00-2	0.5	µg/kg	<0.50	5 µg/kg	59.4	38	150
EP131A: alpha-BHC	319-84-6	0.5	µg/kg	<0.50	5 µg/kg	68.7	17.6	156
EP131A: beta-BHC	319-85-7	0.5	µg/kg	<0.50	5 µg/kg	66.5	30.5	152
EP131A: delta-BHC	319-86-8	0.5	µg/kg	<0.50	5 µg/kg	66.1	37	151
EP131A: 4.4`-DDD	72-54-8	0.5	µg/kg	<0.50	5 µg/kg	87.0	25.9	150
EP131A: 4.4`-DDE	72-55-9	0.5	µg/kg	<0.50	5 µg/kg	42.7	35	129
EP131A: 4.4`-DDT	50-29-3	0.5	µg/kg	<0.50	5 µg/kg	99.9	23.4	163
EP131A: Sum of DDD + DDE + DDT	----	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Dieldrin	60-57-1	0.5	µg/kg	<0.50	5 µg/kg	64.7	30.2	140
EP131A: alpha-Endosulfan	959-98-8	0.5	µg/kg	<0.50	5 µg/kg	46.6	38	140
EP131A: beta-Endosulfan	33213-65-9	0.5	µg/kg	<0.50	5 µg/kg	66.5	32	152
EP131A: Endosulfan sulfate	1031-07-8	0.5	µg/kg	<0.50	5 µg/kg	61.8	36	162

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP131A: Organochlorine Pesticides (QCLot: 3831453) - continued								
EP131A: Endosulfan (sum)	115-29-7	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Endrin	72-20-8	0.5	µg/kg	<0.50	5 µg/kg	42.3	25.8	166
EP131A: Endrin aldehyde	7421-93-4	0.5	µg/kg	<0.50	5 µg/kg	48.9	20.1	116
EP131A: Endrin ketone	53494-70-5	0.5	µg/kg	<0.50	5 µg/kg	57.9	13.4	151
EP131A: Heptachlor	76-44-8	0.5	µg/kg	<0.50	5 µg/kg	63.8	39	173
EP131A: Heptachlor epoxide	1024-57-3	0.5	µg/kg	<0.50	5 µg/kg	67.7	34	148
EP131A: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/kg	<0.50	5 µg/kg	49.3	26.1	152
EP131A: gamma-BHC	58-89-9	0.5	µg/kg	<0.50	5 µg/kg	70.5	31.2	159
EP131A: Methoxychlor	72-43-5	0.5	µg/kg	<0.50	5 µg/kg	74.9	36	160
EP131A: cis-Chlordane	5103-71-9	0.5	µg/kg	<0.50	5 µg/kg	66.3	36	142
EP131A: trans-Chlordane	5103-74-2	0.5	µg/kg	<0.50	5 µg/kg	65.5	29.5	138
EP131A: Total Chlordane (sum)	----	0.5	µg/kg	<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3831454)								
EP131B: Total Polychlorinated biphenyls	----	5	µg/kg	<5.0	50 µg/kg	70.0	44	136
EP131B: Aroclor 1016	12674-11-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1221	11104-28-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1232	11141-16-5	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1242	53469-21-9	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1248	12672-29-6	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1254	11097-69-1	5	µg/kg	<5.0	50 µg/kg	70.0	44	136
EP131B: Aroclor 1260	11096-82-5	5	µg/kg	<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3831465)								
EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	25 µg/kg	86.4	67	133
EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	25 µg/kg	86.4	63	135
EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	25 µg/kg	92.4	68	132
EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	25 µg/kg	89.9	67	133
EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	25 µg/kg	95.2	69	131
EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	25 µg/kg	97.0	66	138
EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	25 µg/kg	95.8	67	133

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3831465) - continued								
EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	25 µg/kg	94.4	64	130
EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	25 µg/kg	95.9	67	133
EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	25 µg/kg	91.8	65	133
EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	25 µg/kg	94.9	70	134
EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	25 µg/kg	85.6	63	133
EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	25 µg/kg	82.5	67	133
EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	25 µg/kg	83.7	64	130
EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	25 µg/kg	83.1	72	130
EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	25 µg/kg	86.9	70	132
EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	25 µg/kg	85.7	65	127
EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	25 µg/kg	83.2	67	135
EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	25 µg/kg	84.0	62	126
EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	25 µg/kg	99.7	66	134
EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 3835981)								
EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	----	----	----	----
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	112	79	121
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	108	83	113
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	108	84	116
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	114	83	117
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	107	84	116
EG020A-T: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	113	85	115
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	116	84	116
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	109	77	117
EG020T: Total Metals by ICP-MS (QCLot: 3835982)								
EG020B-T: Silver	7440-22-4	0.001	mg/L	<0.001	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3838017)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3838017) - continued								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	98.5	77	115
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3832724)								
EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	1.0 mg/L	108	86	112
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3829227)								
EK057G: Nitrite as N	----	0.01	mg/L	<0.01	0.5 mg/L	90.2	83	119
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3832723)								
EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	0.5 mg/L	114	87	119
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3832754)								
EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	<0.1	10 mg/L	92.3	66	114
				----	1.0 mg/L	104	66	126
				----	5 mg/L	111	66	119
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3832755)								
EK067G: Total Phosphorus as P	----	0.01	mg/L	----	0.442 mg/L	92.9	63	123
				----	1.0 mg/L	104	66	124
				<0.01	4.42 mg/L	92.1	67	117
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3832912)								
EP066: Total Polychlorinated biphenyls	----	1	µg/L	<1	10 µg/L	94.3	61.6	107
EP068A: Organochlorine Pesticides (OC) (QCLot: 3832911)								
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	5 µg/L	99.2	65	107
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	5 µg/L	89.5	51	119
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	5 µg/L	90.4	63	113
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	5 µg/L	104	62	112
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	5 µg/L	106	60	106
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	5 µg/L	95.8	58	108
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	5 µg/L	99.8	58	114
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	5 µg/L	108	59	111
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	5 µg/L	108	62	114
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	5 µg/L	102	64	114
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	5 µg/L	107	62	114
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	5 µg/L	98.9	59	111

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 3832911) - continued								
EP068: 4.4`-DDE	72-55-9	0.5	µg/L	<0.5	5 µg/L	100	63	111
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	5 µg/L	100	61	119
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	5 µg/L	100	71	119
EP068: 4.4`-DDD	72-54-8	0.5	µg/L	<0.5	5 µg/L	102	70	118
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	5 µg/L	103	62	112
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	5 µg/L	92.3	53	113
EP068: 4.4`-DDT	50-29-3	2.0	µg/L	<2.0	5 µg/L	80.3	52	120
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	5 µg/L	88.6	51	117
EP068: Methoxychlor	72-43-5	2.0	µg/L	<2.0	5 µg/L	84.6	53	127
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3832911)								
EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	5 µg/L	105	52	122
EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	5 µg/L	101	51	123
EP068: Monocrotophos	6923-22-4	0.5	µg/L	<2.0	5 µg/L	38.8	10	89.1
EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	5 µg/L	96.8	61	119
EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	5 µg/L	91.9	67	113
EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	5 µg/L	97.8	60	116
EP068: Parathion-methyl	298-00-0	2.0	µg/L	<2.0	5 µg/L	103	64	120
EP068: Malathion	121-75-5	0.5	µg/L	<0.5	5 µg/L	80.6	67	115
EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	5 µg/L	105	64	110
EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	5 µg/L	96.1	63	109
EP068: Parathion	56-38-2	2.0	µg/L	<2.0	5 µg/L	98.3	63	121
EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	5 µg/L	109	60	110
EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	5 µg/L	93.2	68	114
EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	5 µg/L	107	61	109
EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	5 µg/L	106	63	117
EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	5 µg/L	84.0	63	111
EP068: Ethion	563-12-2	0.5	µg/L	<0.5	5 µg/L	102	65	115
EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	5 µg/L	96.9	55	115
EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	5 µg/L	72.9	44	124

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3832909)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	<1.0	5 µg/L	74.8	58.6	119
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	<1.0	5 µg/L	67.8	63.6	114
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	<1.0	5 µg/L	65.9	62.2	113
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	<1.0	5 µg/L	70.6	63.9	115
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	<1.0	5 µg/L	78.9	62.6	116
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	<1.0	5 µg/L	77.4	64.3	116
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	<1.0	5 µg/L	90.1	63.6	118
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	<1.0	5 µg/L	91.4	63.1	118
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	<1.0	5 µg/L	83.7	64.1	117
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	<1.0	5 µg/L	78.7	62.5	116
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.2	µg/L	<1.0	5 µg/L	84.4	61.7	119
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	<1.0	5 µg/L	90.6	61.7	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	<0.5	5 µg/L	71.6	63.3	117
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.2	µg/L	<1.0	5 µg/L	74.0	59.9	118
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.2	µg/L	<1.0	5 µg/L	74.1	61.2	117
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.2	µg/L	<1.0	5 µg/L	74.4	59.1	118
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3832914)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	2000 µg/L	92.8	59	129
EP071: C15 - C28 Fraction	----	100	µg/L	<100	3000 µg/L	98.0	71	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	2000 µg/L	97.2	62	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3835238)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	89.9	75	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3832914)								
EP071: >C10 - C16 Fraction	>C10_C16	100	µg/L	<100	2500 µg/L	94.3	58.9	131
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	3500 µg/L	101	73.9	138
EP071: >C34 - C40 Fraction	----	50	µg/L	<100	1500 µg/L	98.2	67	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3835238)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	91.5	75	127
EP080: BTEXN (QCLot: 3835238)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP080: BTEXN (QCLot: 3835238) - continued								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	98.8	70	124
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	94.8	65	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	97.9	70	120
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	99.7	69	121
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	103	72	122
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	99.8	70	124
EP090: Organotin Compounds (QCLot: 3831189)								
EP090H: Monobutyltin	78763-54-9	2	ngSn/L	<5	50 ngSn/L	91.7	25	139
EP090H: Dibutyltin	1002-53-5	2	ngSn/L	<5	50 ngSn/L	85.2	50	114
EP090H: Tributyltin	56573-85-4	1	ngSn/L	<2	50 ngSn/L	72.5	39	120

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3836577)							
ES1503685-013	Anonymous	EG020-SD: Arsenic	7440-38-2	50 mg/kg	102	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	97.8	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	113	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	99.9	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	94.3	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	98.2	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	102	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3836576)							
ES1503685-008	Anonymous	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	121	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3836579)							
ES1503806-018	TRIPLICATE 11B	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	123	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3836428)							
ES1503806-001	BH37 0.0-0.32	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	101	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3836429)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3836429) - continued							
ES1503806-001	BH37 0.0-0.32	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	111	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3838227)							
ES1503806-001	BH37 0.0-0.32	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	79.4	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3838228)							
ES1503806-001	BH37 0.0-0.32	EK067G: Total Phosphorus as P	----	100 mg/kg	85.5	70	130
EK255A SD: Ammonia in Sediment (QCLot: 3830128)							
ES1503806-001	BH37 0.0-0.32	EK255A: Ammonia as N	7664-41-7	1.0 mg/kg	82.4	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3831466)							
ES1503806-001	BH37 0.0-0.32	EP071-SD: C10 - C14 Fraction	----	16 mg/kg	87.5	70	130
		EP071-SD: C15 - C28 Fraction	----	78.5 mg/kg	105	70	130
		EP071-SD: C29 - C36 Fraction	----	71.5 mg/kg	81.0	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3831471)							
ES1503806-001	BH37 0.0-0.32	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	88.7	70	130
EP080-SD: BTEXN (QCLot: 3831471)							
ES1503806-001	BH37 0.0-0.32	EP080-SD: Benzene	71-43-2	0.5 mg/kg	81.4	70	130
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	78.1	70	130
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	81.8	70	130
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	80.5	70	130
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	83.4	70	130
EP090: Organotin Compounds (QCLot: 3829722)							
ES1503685-013	Anonymous	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	# 18.8	35	130
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	80.9	20	130
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	91.5	20	130
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3831452)							
ES1503806-001	BH37 0.0-0.32	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	107	36	144
		EP130: Carbophenothion	786-19-6	50 µg/kg	82.6	38	120
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	82.7	49	157
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	87.7	53	145
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	83.5	60	140
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	79.7	56	126
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	86.6	9.7	148
		EP130: Diazinon	333-41-5	50 µg/kg	78.1	60	122
		EP130: Dichlorvos	62-73-7	50 µg/kg	72.8	33	123
		EP130: Dimethoate	60-51-5	50 µg/kg	81.6	36	142

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3831452) - continued							
ES1503806-001	BH37 0.0-0.32	EP130: Ethion	563-12-2	50 µg/kg	88.1	48	136
		EP130: Fenamiphos	22224-92-6	50 µg/kg	102	42	136
		EP130: Fenthion	55-38-9	50 µg/kg	96.4	35	131
		EP130: Malathion	121-75-5	50 µg/kg	81.1	55	141
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	113	23.5	132
		EP130: Monocrotophos	6923-22-4	50 µg/kg	75.6	35	153
		EP130: Parathion	56-38-2	50 µg/kg	83.5	57	147
		EP130: Parathion-methyl	298-00-0	50 µg/kg	90.1	48	140
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	78.3	45	137
		EP130: Prothiofos	34643-46-4	50 µg/kg	80.8	51	137
EP131A: Organochlorine Pesticides (QCLot: 3831453)							
ES1503806-001	BH37 0.0-0.32	EP131A: Aldrin	309-00-2	5 µg/kg	66.2	23.4	153
		EP131A: alpha-BHC	319-84-6	5 µg/kg	81.0	17.6	156
		EP131A: beta-BHC	319-85-7	5 µg/kg	81.4	24.9	153
		EP131A: delta-BHC	319-86-8	5 µg/kg	68.2	25.2	147
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	108	25.9	150
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	54.4	31.2	125
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	58.4	23.4	163
		EP131A: Dieldrin	60-57-1	5 µg/kg	81.5	30.2	140
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	54.6	28.8	135
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	59.0	22.6	141
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	93.0	16.1	156
		EP131A: Endrin	72-20-8	5 µg/kg	92.8	17.7	162
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	60.8	20.1	116
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	76.3	13.4	151
		EP131A: Heptachlor	76-44-8	5 µg/kg	73.5	23.8	170
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	80.9	28.3	140
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	63.8	17.7	144
		EP131A: gamma-BHC	58-89-9	5 µg/kg	87.4	21.8	158
		EP131A: Methoxychlor	72-43-5	5 µg/kg	74.2	24.4	158
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	59.9	27.3	139
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	74.1	29.5	138
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3831454)							
ES1503806-001	BH37 0.0-0.32	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	67.5	44	136
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	67.5	44	136
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3831465)							

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Matrix Spike (MS) Report: Recovery Limits (%) Low	Matrix Spike (MS) Report: Recovery Limits (%) High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3831465) - continued							
ES1503806-001	BH37 0.0-0.32	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	123	70	130
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	101	70	130
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	96.1	70	130
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	94.8	70	130
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	93.7	70	130
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	114	70	130
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	113	70	130
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	106	70	130
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	106	70	130
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	108	70	130
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	110	70	130
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	89.6	70	130
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	103	70	130
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	98.7	70	130
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	103	70	130
		EP132B-SD: Perylene	198-55-0	25 µg/kg	105	70	130
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	106	70	130
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	105	70	130
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	103	70	130
		EP132B-SD: Coronene	191-07-1	25 µg/kg	121	70	130

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Matrix Spike (MS) Report: Recovery Limits (%) Low	Matrix Spike (MS) Report: Recovery Limits (%) High
EG020T: Total Metals by ICP-MS (QCLot: 3835981)							
ES1504120-038	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	114	70	130
		EG020A-T: Cadmium	7440-43-9	0.250 mg/L	109	70	130
		EG020A-T: Chromium	7440-47-3	1 mg/L	102	70	130
		EG020A-T: Copper	7440-50-8	1 mg/L	118	70	130
		EG020A-T: Lead	7439-92-1	1 mg/L	110	70	130
		EG020A-T: Manganese	7439-96-5	1 mg/L	122	70	130
		EG020A-T: Nickel	7440-02-0	1 mg/L	110	70	130
		EG020A-T: Zinc	7440-66-6	1 mg/L	118	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3838017)							
ES1503885-001	Anonymous	EG035T: Mercury	7439-97-6	0.010 mg/L	89.5	70	130
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3832724)							

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3832724) - continued							
ES1503683-048	Anonymous	EK055G: Ammonia as N	7664-41-7	1 mg/L	98.0	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3829227)							
ES1503844-001	Anonymous	EK057G: Nitrite as N	----	0.5 mg/L	97.2	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3832723)							
ES1503683-048	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.5 mg/L	110	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3832754)							
ES1503684-014	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	5 mg/L	108	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3832755)							
ES1503684-014	Anonymous	EK067G: Total Phosphorus as P	----	1.0 mg/L	103	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3835238)							
ES1503958-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	121	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3835238)							
ES1503958-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	125	70	130
EP080: BTEXN (QCLot: 3835238)							
ES1503958-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	109	70	130
		EP080: Toluene	108-88-3	25 µg/L	107	70	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	114	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	111	70	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	115	70	130
		EP080: Naphthalene	91-20-3	25 µg/L	114	70	130

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

The quality control term Matrix Spike (MS) and Matrix Spike Duplicate (MSD) refers to intralaboratory split samples spiked with a representative set of target analytes. The purpose of these QC parameters are to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP090: Organotin Compounds (QCLot: 3829722)										
ES1503685-013	Anonymous	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	# 18.8	----	35	130	----	----
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	80.9	----	20	130	----	----
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	91.5	----	20	130	----	----
EK255A SD: Ammonia in Sediment (QCLot: 3830128)										
ES1503806-001	BH37 0.0-0.32	EK255A: Ammonia as N	7664-41-7	1.0 mg/kg	82.4	----	70	130	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3831452)										
ES1503806-001	BH37 0.0-0.32	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	107	----	36	144	----	----
		EP130: Carbophenothion	786-19-6	50 µg/kg	82.6	----	38	120	----	----
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	82.7	----	49	157	----	----
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	87.7	----	53	145	----	----
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	83.5	----	60	140	----	----
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	79.7	----	56	126	----	----
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	86.6	----	9.7	148	----	----
		EP130: Diazinon	333-41-5	50 µg/kg	78.1	----	60	122	----	----
		EP130: Dichlorvos	62-73-7	50 µg/kg	72.8	----	33	123	----	----
		EP130: Dimethoate	60-51-5	50 µg/kg	81.6	----	36	142	----	----
		EP130: Ethion	563-12-2	50 µg/kg	88.1	----	48	136	----	----
		EP130: Fenamiphos	22224-92-6	50 µg/kg	102	----	42	136	----	----
		EP130: Fenthion	55-38-9	50 µg/kg	96.4	----	35	131	----	----
		EP130: Malathion	121-75-5	50 µg/kg	81.1	----	55	141	----	----
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	113	----	23.5	132	----	----
		EP130: Monocrotophos	6923-22-4	50 µg/kg	75.6	----	35	153	----	----
		EP130: Parathion	56-38-2	50 µg/kg	83.5	----	57	147	----	----
		EP130: Parathion-methyl	298-00-0	50 µg/kg	90.1	----	48	140	----	----
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	78.3	----	45	137	----	----
		EP130: Prothiofos	34643-46-4	50 µg/kg	80.8	----	51	137	----	----
EP131A: Organochlorine Pesticides (QCLot: 3831453)										
ES1503806-001	BH37 0.0-0.32	EP131A: Aldrin	309-00-2	5 µg/kg	66.2	----	23.4	153	----	----
		EP131A: alpha-BHC	319-84-6	5 µg/kg	81.0	----	17.6	156	----	----
		EP131A: beta-BHC	319-85-7	5 µg/kg	81.4	----	24.9	153	----	----
		EP131A: delta-BHC	319-86-8	5 µg/kg	68.2	----	25.2	147	----	----
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	108	----	25.9	150	----	----
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	54.4	----	31.2	125	----	----
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	58.4	----	23.4	163	----	----
		EP131A: Dieldrin	60-57-1	5 µg/kg	81.5	----	30.2	140	----	----
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	54.6	----	28.8	135	----	----
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	59.0	----	22.6	141	----	----
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	93.0	----	16.1	156	----	----
		EP131A: Endrin	72-20-8	5 µg/kg	92.8	----	17.7	162	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP131A: Organochlorine Pesticides (QCLot: 3831453) - continued										
ES1503806-001	BH37 0.0-0.32	EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	60.8	----	20.1	116	----	----
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	76.3	----	13.4	151	----	----
		EP131A: Heptachlor	76-44-8	5 µg/kg	73.5	----	23.8	170	----	----
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	80.9	----	28.3	140	----	----
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	63.8	----	17.7	144	----	----
		EP131A: gamma-BHC	58-89-9	5 µg/kg	87.4	----	21.8	158	----	----
		EP131A: Methoxychlor	72-43-5	5 µg/kg	74.2	----	24.4	158	----	----
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	59.9	----	27.3	139	----	----
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	74.1	----	29.5	138	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3831454)										
ES1503806-001	BH37 0.0-0.32	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	67.5	----	44	136	----	----
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	67.5	----	44	136	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3831465)										
ES1503806-001	BH37 0.0-0.32	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	123	----	70	130	----	----
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	101	----	70	130	----	----
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	96.1	----	70	130	----	----
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	94.8	----	70	130	----	----
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	93.7	----	70	130	----	----
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	114	----	70	130	----	----
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	113	----	70	130	----	----
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	106	----	70	130	----	----
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	106	----	70	130	----	----
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	108	----	70	130	----	----
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	110	----	70	130	----	----
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	89.6	----	70	130	----	----
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	103	----	70	130	----	----
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	98.7	----	70	130	----	----
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	103	----	70	130	----	----
		EP132B-SD: Perylene	198-55-0	25 µg/kg	105	----	70	130	----	----
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	106	----	70	130	----	----
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	105	----	70	130	----	----
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	103	----	70	130	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3831465) - continued										
ES1503806-001	BH37 0.0-0.32	EP132B-SD: Coronene	191-07-1	25 µg/kg	121	----	70	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3831466)										
ES1503806-001	BH37 0.0-0.32	EP071-SD: C10 - C14 Fraction	----	16 mg/kg	87.5	----	70	130	----	----
		EP071-SD: C15 - C28 Fraction	----	78.5 mg/kg	105	----	70	130	----	----
		EP071-SD: C29 - C36 Fraction	----	71.5 mg/kg	81.0	----	70	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3831471)										
ES1503806-001	BH37 0.0-0.32	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	88.7	----	70	130	----	----
EP080-SD: BTEXN (QCLot: 3831471)										
ES1503806-001	BH37 0.0-0.32	EP080-SD: Benzene	71-43-2	0.5 mg/kg	81.4	----	70	130	----	----
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	78.1	----	70	130	----	----
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	81.8	----	70	130	----	----
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	80.5	----	70	130	----	----
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	83.4	----	70	130	----	----
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3836428)										
ES1503806-001	BH37 0.0-0.32	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	101	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3836429)										
ES1503806-001	BH37 0.0-0.32	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	111	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3836576)										
ES1503685-008	Anonymous	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	121	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3836577)										
ES1503685-013	Anonymous	EG020-SD: Arsenic	7440-38-2	50 mg/kg	102	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	97.8	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	113	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	99.9	----	70	130	----	----
		EG020-SD: Lead	7439-92-1	250 mg/kg	94.3	----	70	130	----	----
		EG020-SD: Nickel	7440-02-0	50 mg/kg	98.2	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	102	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3836579)										
ES1503806-018	TRIPLICATE 11B	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	123	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3838227)										
ES1503806-001	BH37 0.0-0.32	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	79.4	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3838228)										

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3838228) - continued										
ES1503806-001	BH37 0.0-0.32	EK067G: Total Phosphorus as P	----	100 mg/kg	85.5	----	70	130	----	----

Sub-Matrix: **WATER**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3829227)										
ES1503844-001	Anonymous	EK057G: Nitrite as N	----	0.5 mg/L	97.2	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3832723)										
ES1503683-048	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.5 mg/L	110	----	70	130	----	----
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3832724)										
ES1503683-048	Anonymous	EK055G: Ammonia as N	7664-41-7	1 mg/L	98.0	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3832754)										
ES1503684-014	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	5 mg/L	108	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3832755)										
ES1503684-014	Anonymous	EK067G: Total Phosphorus as P	----	1.0 mg/L	103	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3835238)										
ES1503958-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	121	----	70	130	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3835238)										
ES1503958-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	125	----	70	130	----	----
EP080: BTEXN (QCLot: 3835238)										
ES1503958-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	109	----	70	130	----	----
		EP080: Toluene	108-88-3	25 µg/L	107	----	70	130	----	----
		EP080: Ethylbenzene	100-41-4	25 µg/L	114	----	70	130	----	----
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	111	----	70	130	----	----
		EP080: ortho-Xylene	95-47-6	25 µg/L	115	----	70	130	----	----
		EP080: Naphthalene	91-20-3	25 µg/L	114	----	70	130	----	----
EG020T: Total Metals by ICP-MS (QCLot: 3835981)										
ES1504120-038	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	114	----	70	130	----	----
		EG020A-T: Cadmium	7440-43-9	0.250 mg/L	109	----	70	130	----	----
		EG020A-T: Chromium	7440-47-3	1 mg/L	102	----	70	130	----	----
		EG020A-T: Copper	7440-50-8	1 mg/L	118	----	70	130	----	----
		EG020A-T: Lead	7439-92-1	1 mg/L	110	----	70	130	----	----
		EG020A-T: Manganese	7439-96-5	1 mg/L	122	----	70	130	----	----

Sub-Matrix: **WATER**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EG020T: Total Metals by ICP-MS (QCLot: 3835981) - continued										
ES1504120-038	Anonymous	EG020A-T: Nickel	7440-02-0	1 mg/L	110	----	70	130	----	----
		EG020A-T: Zinc	7440-66-6	1 mg/L	118	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3838017)										
ES1503885-001	Anonymous	EG035T: Mercury	7439-97-6	0.010 mg/L	89.5	----	70	130	----	----

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1503806**	Page	: 1 of 15
Client	: AURECON AUSTRALASIA PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
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Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 18-FEB-2015
Sampler	: GK	Issue Date	: 09-MAR-2015
Order number	: 245553		
		No. of samples received	: 20
Quote number	: SY/1021/14 V2	No. of samples analysed	: 20

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with recommended holding times (USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content							
Soil Glass Jar - Unpreserved (EA055-103)							
BH37 0.0-0.32, BH38 0.0-0.5A, BH38 0.5-1.0A, BH38 0.3V, BH38 0.7V, PC10 0.0-0.5A, PC10 0.5-1.0A, PC10 0.3V, PC10 0.7V, TRIPLICATE 10A, TRIPLICATE 10B, TRIPLICATE 11A, TRIPLICATE 11B	**16-FEB-2015**	**----**	----	----	**26-FEB-2015**	02-MAR-2015	✓
EA150: Particle Sizing							
Snap Lock Bag (EA150H)							
BH37 0.0-0.32B, BH38 0.0-0.5B, BH38 0.5-1.0B, PC10 0.0-0.5B, PC10 0.5-1.0B	**16-FEB-2015**	**---**	15-AUG-2015	----	**04-MAR-2015**	15-AUG-2015	✓
EA150: Soil Classification based on Particle Size							
Snap Lock Bag (EA150H)							
BH37 0.0-0.32B, BH38 0.0-0.5B, BH38 0.5-1.0B, PC10 0.0-0.5B, PC10 0.5-1.0B	**16-FEB-2015**	**---**	15-AUG-2015	----	**04-MAR-2015**	15-AUG-2015	✓
EA152: Soil Particle Density							
Snap Lock Bag (EA152)							
BH37 0.0-0.32B, BH38 0.0-0.5B, BH38 0.5-1.0B, PC10 0.0-0.5B, PC10 0.5-1.0B	**16-FEB-2015**	**---**	15-AUG-2015	----	**05-MAR-2015**	15-AUG-2015	✓
EG005-SD: Total Metals in Sediments by ICP-AES							
Soil Glass Jar - Unpreserved (EG005-SD)							
BH37 0.0-0.32, BH38 0.0-0.5A, BH38 0.5-1.0A, PC10 0.0-0.5A, PC10 0.5-1.0A, TRIPLICATE 10A, TRIPLICATE 10B, TRIPLICATE 11A, TRIPLICATE 11B	**16-FEB-2015**	**25-FEB-2015**	15-AUG-2015	✓	**27-FEB-2015**	15-AUG-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020-SD: Total Metals in Sediments by ICPMS							
Soil Glass Jar - Unpreserved (EG020-SD)							
BH37 0.0-0.32, BH38 0.0-0.5A, BH38 0.5-1.0A, PC10 0.0-0.5A, PC10 0.5-1.0A, TRIPLICATE 10A, TRIPLICATE 10B, TRIPLICATE 11A, TRIPLICATE 11B	**16-FEB-2015**	**25-FEB-2015**	15-AUG-2015	✓	**27-FEB-2015**	15-AUG-2015	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T-LL)							
BH37 0.0-0.32, BH38 0.0-0.5A, BH38 0.5-1.0A, PC10 0.0-0.5A, PC10 0.5-1.0A, TRIPLICATE 10A, TRIPLICATE 10B, TRIPLICATE 11A, TRIPLICATE 11B	**16-FEB-2015**	**25-FEB-2015**	16-MAR-2015	✓	**27-FEB-2015**	16-MAR-2015	✓
EK057G: Nitrite as N by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK057G)							
BH37 0.0-0.32, BH38 0.0-0.5A, BH38 0.5-1.0A, PC10 0.0-0.5A, PC10 0.5-1.0A, TRIPLICATE 10A, TRIPLICATE 10B, TRIPLICATE 11A, TRIPLICATE 11B	**16-FEB-2015**	**26-FEB-2015**	15-AUG-2015	✓	**26-FEB-2015**	15-AUG-2015	✓
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK059G)							
BH37 0.0-0.32, BH38 0.0-0.5A, BH38 0.5-1.0A, PC10 0.0-0.5A, PC10 0.5-1.0A, TRIPLICATE 10A, TRIPLICATE 10B, TRIPLICATE 11A, TRIPLICATE 11B	**16-FEB-2015**	**26-FEB-2015**	15-AUG-2015	✓	**26-FEB-2015**	15-AUG-2015	✓
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser							
Soil Glass Jar - Unpreserved (EK061G)							
BH37 0.0-0.32, BH38 0.0-0.5A, BH38 0.5-1.0A, PC10 0.0-0.5A, PC10 0.5-1.0A, TRIPLICATE 10A, TRIPLICATE 10B, TRIPLICATE 11A, TRIPLICATE 11B	**16-FEB-2015**	**26-FEB-2015**	15-AUG-2015	✓	**27-FEB-2015**	15-AUG-2015	✓
EK067G: Total Phosphorus as P by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK067G)							
BH37 0.0-0.32, BH38 0.0-0.5A, BH38 0.5-1.0A, PC10 0.0-0.5A, PC10 0.5-1.0A, TRIPLICATE 10A, TRIPLICATE 10B, TRIPLICATE 11A, TRIPLICATE 11B	**16-FEB-2015**	**26-FEB-2015**	15-AUG-2015	✓	**27-FEB-2015**	15-AUG-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK255A SD Ammonia in Sediment							
Soil Glass Jar - Unpreserved (EK255A SD)							
BH37 0.0-0.32, BH38 0.0-0.5A, BH38 0.5-1.0A, PC10 0.0-0.5A, PC10 0.5-1.0A, TRIPLICATE 10A, TRIPLICATE 10B, TRIPLICATE 11A, TRIPLICATE 11B	**16-FEB-2015**	**----**	----	----	**19-FEB-2015**	15-AUG-2015	✓
EP003: Total Organic Carbon (TOC) in Soil							
Pulp Bag (EP003)							
BH38 0.0-0.5A	**16-FEB-2015**	**20-FEB-2015**	16-MAR-2015	✓	**20-FEB-2015**	16-MAR-2015	✓
Pulp Bag (EP003)							
BH37 0.0-0.32, BH38 0.5-1.0A, PC10 0.0-0.5A, PC10 0.5-1.0A, TRIPLICATE 10A, TRIPLICATE 10B, TRIPLICATE 11A, TRIPLICATE 11B	**16-FEB-2015**	**24-FEB-2015**	16-MAR-2015	✓	**24-FEB-2015**	16-MAR-2015	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013							
Soil Glass Jar - Unpreserved (EP071-SD)							
BH37 0.0-0.32, BH38 0.0-0.5A, BH38 0.5-1.0A, PC10 0.0-0.5A, PC10 0.5-1.0A, TRIPLICATE 10A, TRIPLICATE 10B, TRIPLICATE 11A, TRIPLICATE 11B, TRIP BLANK 13	**16-FEB-2015**	**26-FEB-2015**	02-MAR-2015	✓	**27-FEB-2015**	07-APR-2015	✓
EP080-SD: BTEXN							
Soil Glass Jar - Unpreserved (EP080-SD)							
BH37 0.0-0.32, BH38 0.3V, BH38 0.7V, PC10 0.3V, PC10 0.7V, TRIP BLANK 13	**16-FEB-2015**	**23-FEB-2015**	02-MAR-2015	✓	**27-FEB-2015**	02-MAR-2015	✓
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080-SD)							
BH37 0.0-0.32, BH38 0.3V, BH38 0.7V, PC10 0.3V, PC10 0.7V, TRIP BLANK 13	**16-FEB-2015**	**23-FEB-2015**	02-MAR-2015	✓	**27-FEB-2015**	02-MAR-2015	✓
EP090: Organotin Compounds							
Soil Glass Jar - Unpreserved (EP090)							
TRIPLICATE 11B	**16-FEB-2015**	**23-FEB-2015**	02-MAR-2015	✓	**24-FEB-2015**	04-APR-2015	✓
Soil Glass Jar - Unpreserved (EP090)							
BH37 0.0-0.32, BH38 0.0-0.5A, BH38 0.5-1.0A, PC10 0.0-0.5A, PC10 0.5-1.0A, TRIPLICATE 10A, TRIPLICATE 10B, TRIPLICATE 11A	**16-FEB-2015**	**24-FEB-2015**	02-MAR-2015	✓	**26-FEB-2015**	05-APR-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP130A: Organophosphorus Pesticides (Ultra-trace)							
Soil Glass Jar - Unpreserved (EP130)							
BH37 0.0-0.32, BH38 0.0-0.5A, BH38 0.5-1.0A, PC10 0.0-0.5A, PC10 0.5-1.0A, TRIPLICATE 10A, TRIPLICATE 10B, TRIPLICATE 11A, TRIPLICATE 11B	**16-FEB-2015**	**24-FEB-2015**	02-MAR-2015	✓	**02-MAR-2015**	05-APR-2015	✓
EP131A: Organochlorine Pesticides							
Soil Glass Jar - Unpreserved (EP131A)							
BH37 0.0-0.32, BH38 0.0-0.5A, BH38 0.5-1.0A, PC10 0.0-0.5A, PC10 0.5-1.0A, TRIPLICATE 10A, TRIPLICATE 10B, TRIPLICATE 11A, TRIPLICATE 11B	**16-FEB-2015**	**24-FEB-2015**	02-MAR-2015	✓	**02-MAR-2015**	05-APR-2015	✓
EP131B: Polychlorinated Biphenyls (as Aroclors)							
Soil Glass Jar - Unpreserved (EP131B)							
BH37 0.0-0.32, BH38 0.0-0.5A, BH38 0.5-1.0A, PC10 0.0-0.5A, PC10 0.5-1.0A, TRIPLICATE 10A, TRIPLICATE 10B, TRIPLICATE 11A, TRIPLICATE 11B	**16-FEB-2015**	**24-FEB-2015**	02-MAR-2015	✓	**02-MAR-2015**	05-APR-2015	✓
EP132B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP132B-SD)							
BH37 0.0-0.32, BH38 0.0-0.5A, BH38 0.5-1.0A, PC10 0.0-0.5A, PC10 0.5-1.0A, TRIPLICATE 10A, TRIPLICATE 10B, TRIPLICATE 11A, TRIPLICATE 11B	**16-FEB-2015**	**26-FEB-2015**	02-MAR-2015	✓	**27-FEB-2015**	07-APR-2015	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG020A-T)							
RINSATE 12	**16-FEB-2015**	**25-FEB-2015**	15-AUG-2015	✓	**25-FEB-2015**	15-AUG-2015	✓
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG020B-T)							
RINSATE 12	**16-FEB-2015**	**25-FEB-2015**	15-AUG-2015	✓	**25-FEB-2015**	15-AUG-2015	✓
EG035T: Total Recoverable Mercury by FIMS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG035T)							
RINSATE 12	**16-FEB-2015**	**----**	----	----	**27-FEB-2015**	16-MAR-2015	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK055G: Ammonia as N by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK055G)							
RINSATE 12	**16-FEB-2015**	---	16-MAR-2015	----	**23-FEB-2015**	16-MAR-2015	✓
EK057G: Nitrite as N by Discrete Analyser							
Clear Plastic Bottle - Natural (EK057G)							
RINSATE 12	**16-FEB-2015**	---	18-FEB-2015	----	**18-FEB-2015**	18-FEB-2015	✓
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK059G)							
RINSATE 12	**16-FEB-2015**	---	16-MAR-2015	----	**23-FEB-2015**	16-MAR-2015	✓
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK061G)							
RINSATE 12	**16-FEB-2015**	**23-FEB-2015**	16-MAR-2015	✓	**23-FEB-2015**	16-MAR-2015	✓
EK067G: Total Phosphorus as P by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK067G)							
RINSATE 12	**16-FEB-2015**	**23-FEB-2015**	16-MAR-2015	✓	**23-FEB-2015**	16-MAR-2015	✓
EP066: Polychlorinated Biphenyls (PCB)							
Amber Glass Bottle - Unpreserved (EP066)							
RINSATE 12	**16-FEB-2015**	**23-FEB-2015**	23-FEB-2015	✓	**24-FEB-2015**	04-APR-2015	✓
EP068A: Organochlorine Pesticides (OC)							
Amber Glass Bottle - Unpreserved (EP068)							
RINSATE 12	**16-FEB-2015**	**23-FEB-2015**	23-FEB-2015	✓	**24-FEB-2015**	04-APR-2015	✓
EP068B: Organophosphorus Pesticides (OP)							
Amber Glass Bottle - Unpreserved (EP068)							
RINSATE 12	**16-FEB-2015**	**23-FEB-2015**	23-FEB-2015	✓	**24-FEB-2015**	04-APR-2015	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
RINSATE 12	**16-FEB-2015**	**23-FEB-2015**	23-FEB-2015	✓	**23-FEB-2015**	04-APR-2015	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
RINSATE 12	**16-FEB-2015**	**23-FEB-2015**	23-FEB-2015	✓	**24-FEB-2015**	04-APR-2015	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
RINSATE 12	**16-FEB-2015**	**25-FEB-2015**	02-MAR-2015	✓	**25-FEB-2015**	02-MAR-2015	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber VOC Vial - Sulfuric Acid (EP080)							
RINSATE 12	**16-FEB-2015**	**25-FEB-2015**	02-MAR-2015	✓	**25-FEB-2015**	02-MAR-2015	✓
EP090: Organotin Compounds							
Amber Glass Bottle - Unpreserved (EP090H)							
RINSATE 12	**16-FEB-2015**	---	23-FEB-2015	----	**20-FEB-2015**	23-FEB-2015	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Ammonia in Sediments	EK255A SD	1	9	**11.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Moisture Content	EA055-103	2	19	**10.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	2	19	**10.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	2	16	**12.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	2	16	**12.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	2	16	**12.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	3	21	**14.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	2	16	**12.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	2	16	**12.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	2	21	**9.5**	**9.5**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	3	21	**14.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	3	21	**14.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	3	21	**14.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	2	12	**16.7**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	2	18	**11.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	2	13	**15.4**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Ammonia in Sediments	EK255A SD	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	1	16	**6.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	16	**6.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	16	**6.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	2	21	**9.5**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	16	**6.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	16	**6.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	3	21	**14.3**	**14.3**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	21	**9.5**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	21	**9.5**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	21	**9.5**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	2	12	**16.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	3	20	**15.0**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	1	13	**7.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Method Blanks (MB)							
Ammonia in Sediments	EK255A SD	1	9	11.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	1	19	5.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	1	16	6.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	16	6.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	16	6.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	2	21	9.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	16	6.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	16	6.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	1	21	4.8	4.8	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	21	9.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	21	9.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	21	9.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	2	12	16.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	1	18	5.6	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	1	13	7.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia in Sediments	EK255A SD	1	9	11.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	1	19	5.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	1	16	6.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	16	6.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	16	6.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	16	6.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	16	6.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	1	21	4.8	4.8	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	21	9.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	1	18	5.6	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	1	13	7.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Ammonia as N by Discrete analyser	EK055G	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP) - Continued							
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	2	**50.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	2	11	**18.2**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Ammonia as N by Discrete analyser	EK055G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Compounds (Soluble)	EP090H	1	2	**50.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	2	**50.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	2	**50.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	3	20	**15.0**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	2	**50.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	3	20	**15.0**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	11	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Ammonia as N by Discrete analyser	EK055G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Compounds (Soluble)	EP090H	1	2	**50.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	2	**50.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	2	**50.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	2	**50.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	11	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia as N by Discrete analyser	EK055G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Matrix Spikes (MS) - Continued							
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	11	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055-103	SOIL	In-house. A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Particle Size Analysis by Hydrometer	EA150H	SOIL	Particle Size Analysis by Hydrometer according to AS1289.3.6.3 - 2003
Soil Particle Density	* EA152	SOIL	Soil Particle Density by AS 1289.3.5.1-2006 : Methods of testing soils for engineering purposes - Soil classification tests - Determination of the soil particle density of a soil - Standard method A modification of the AS 1289.3.5.1 method may apply when testing dispersed soils also tested by AS1289.3.6.3. This modification uses the dispersion solution from AS1289.3.6.3 in place of water for density determinations
Total Fe and Al in Sediments by ICPAES	EG005-SD	SOIL	In house: Referenced to APHA 21st ed., 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3). LORs per NODG
Total Metals in Sediments by ICPMS	EG020-SD	SOIL	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector. Analyte list and LORs per NODG.
Total Mercury by FIMS (Low Level)	EG035T-LL	SOIL	In house: Referenced to AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Nitrite as N - Soluble by Discrete Analyser	EK057G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3- B. Nitrite in a water extract is determined by direct colourimetry by Discrete Analyser.
Nitrate as N - Soluble by Discrete Analyser	EK058G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3--F. Nitrate in the 1:5 soil:water extract is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results.
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3- F. Combined oxidised Nitrogen (NO2+NO3) in a water extract is determined by Chemical Reduction, and direct colourimetry by Discrete Analyser.
TKN as N By Discrete Analyser	EK061G	SOIL	In house: Referenced to APHA 21st ed., 4500-Norg-D Soil samples are digested using Kjeldahl digestion followed by determination by Discrete Analyser.
Total Nitrogen as N (TKN + NOx) By Discrete Analyser	EK062G	SOIL	In house: Referenced to APHA 21st ed., 4500 Norg/NO3- Total Nitrogen is determined as the sum of TKN and Oxidised Nitrrogen, each determined seperately as N.
Total Phosporus By Discrete Analyser	EK067G	SOIL	In house: Referenced to APHA 21st ed., 4500 P-B&F This procedure involves sulfuric acid digestion and quantification using Discrete Analyser.
Ammonia in Sediments	EK255A SD	SOIL	Rayment and Higginson (1992) Method 7C1 and 7C2. This method measures exchangeable ammonium which is defined by the amount of ammonium released by shaking sediment with an un-buffered 2M potassium chloride solution.

Analytical Methods	Method	Matrix	Method Descriptions
Total Organic Carbon	EP003	SOIL	In-house C-IR17. Dried and pulverised sample is reacted with acid to remove inorganic Carbonates, then combusted in a LECO furnace in the presence of strong oxidants / catalysts. The evolved (Organic) Carbon (as CO2) is automaticaly measured by infra-red detector.
TPH - Semivolatile Fraction	EP071-SD	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 504)
TRH Volatiles/BTEX in Sediments	EP080-SD	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve.
Organotin Analysis	EP090	SOIL	(USEPA SW 846 - 8270D) Prepared sample extracts are analysed by GC/MS coupled with high volume injection, and quanitified against an established calibration curve.
Organophosphorus Pesticides (Ultra-trace)	EP130	SOIL	USEPA Method 3640 (GPC cleanup), 8141 (GC/FPD - Capillary Column) This technique is compliant with NEPM (2013) Schedule B(3) (Method 505)
Organochlorine Pesticides (Ultra-trace)	EP131A	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (2013) Schedule B(3) (Method 504)
PCB's (Ultra-trace)	EP131B	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (2013) Schedule B(3) (Method 504)
PAHs in Sediments by GCMS(SIM)	EP132B-SD	SOIL	USEPA 8270 GCMS Capillary column, SIM mode using large volume programmed temperature vaporisation injection.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Metals by ICP-MS - Suite B	EG020B-T	WATER	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Mercury by FIMS	EG035T	WATER	In house: Referenced to AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Ammonia as N by Discrete analyser	EK055G	WATER	In house: Referenced to APHA 21st ed., 4500-NH3 G Ammonia is determined by direct colorimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Nitrite as N by Discrete Analyser	EK057G	WATER	In house: Referenced to APHA 21st ed., 4500-NO2- B. Nitrite is determined by direct colourimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Nitrate as N by Discrete Analyser	EK058G	WATER	In house: Referenced to APHA 21st ed., 4500-NO3- F. Nitrate is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results. This method is compliant with NEPM (2013) Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	WATER	In house: Referenced to APHA 21st ed., 4500-NO3- F. Combined oxidised Nitrogen (NO2+NO3) is determined by Chemical Reduction and direct colourimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	WATER	In house: Referenced to APHA 21st ed., 4500-Norg D (In house). An aliquot of sample is digested using a high temperature Kjeldahl digestion to convert nitrogenous compounds to ammonia. Ammonia is determined colorimetrically by discrete analyser. This method is compliant with NEPM (2013) Schedule B(3)
Total Nitrogen as N (TKN + Nox) By Discrete Analyser	EK062G	WATER	In house: Referenced to APHA 21st ed., 4500-Norg / 4500-NO3-. This method is compliant with NEPM (2013) Schedule B(3)
Total Phosphorus as P By Discrete Analyser	EK067G	WATER	In house: Referenced to APHA 21st ed., 4500-P H, Jirka et al (1976), Zhang et al (2006). This procedure involves sulphuric acid digestion of a sample aliquot to break phosphorus down to orthophosphate. The orthophosphate reacts with ammonium molybdate and antimony potassium tartrate to form a complex which is then reduced and its concentration measured at 880nm using discrete analyser. This method is compliant with NEPM (2013) Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Pesticides by GCMS	EP068	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
Organotin Compounds (Soluble)	EP090H	WATER	(USEPA SW 846 - 8270D, ALS QWI-ORG/EP090) Sample extracts (ALS QWI-ORG/035) are analysed by GC/MS coupled with high volume injection (10-50µL). Quantitation is achieved using internal standard and average response factor quantitation techniques against an established five-point curve. Butyltin results are reported in either "as tin" units eg. ng Sn/L or "ng TBT+/L". The analytical standards are prepared in "as tin" units. Sample results are converted to TBT+ results as required.

Preparation Methods	Method	Matrix	Method Descriptions
TKN/TP Digestion	EK061/EK067	SOIL	APHA 21st ed., 4500 Norg- D; APHA 21st ed., 4500 P - H. Macro Kjeldahl digestion.
1:5 solid / water leach for soluble analytes	EN34	SOIL	10 g of soil is mixed with 50 mL of distilled water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids/ Sample Cleanup	ORG17A-UTP	SOIL	In-house, Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. Samples are extracted, concentrated (by KD) and exchanged into an appropriate solvent for GPC and florisil cleanup as required.

Preparation Methods	Method	Matrix	Method Descriptions
Tumbler Extraction of Solids for LVI (Non-concentrating)	ORG17D	SOIL	In house: 10g of sample, Na2SO4 and surrogate are extracted with 50mL 1:1 DCM/Acetone by end over end tumbling. An aliquot is concentrated by nitrogen blowdown to a reduced volume for analysis if required.
Organotin Sample Preparation	ORG35	SOIL	In house. 20g sample is spiked with surrogate and leached in a methanol:acetic acid:UHP water mix and vacuum filtered. Reagents and solvents are added to the sample and the mixture tumbled. The butyltin compounds are simultaneously derivatised and extracted. The extract is further extracted with petroleum ether. The resultant extracts are combined and concentrated for analysis.
TKN/TP Digestion	EK061/EK067	WATER	APHA 21st ed., 4500 Norg - D; APHA 21st ed., 4500 P - H. This method is compliant with NEPM (2013) Schedule B(3)
Digestion for Total Recoverable Metals	EN25	WATER	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (2013) Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (2013) Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Organotin Sample Preparation	ORG34H	WATER	(IN HOUSE, ALS QWI-ORG/35) A specified volume (determined by the detection limit requirement) of sample is spiked with surrogate, acidified and vacuum filtered. Reagents and solvent are added to the sample and the mixture tumbled for 20 minutes. The butyltin compounds is derivitisated, extracted and the subtitution reaction is completed. The extracts is transferred to a separatory funnel and further extracted two times using petroleum ether. The resultant extracts are combined and concentrated to the desired volume for analysis.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW 846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EP090: Organotin Compounds	ES1503685-013	Anonymous	**Monobutyltin**	78763-54-9	18.8 %	35-130%	**Recovery less than lower data quality objective**

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Duplicate outliers occur.**
- **For all matrices, no Laboratory Control outliers occur.**

Regular Sample Surrogates

- **For all regular sample matrices, no surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- **No Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

Subcon / Forward Lab / Split WO
Lab / Analysis: Newcastle / PSD
Organised By / Date:
Relinquished By / Date:
Courier:
WO No:
Attach By PO / Internal Sheet:

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes No N/A
ORDER NUMBER: 245553		Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	Other comments:	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

COC SEQUENCE NUMBER (Circle)
COC: (1) 2 3 4 5 6 7
OF: 1 2 3 4 (5) 6 7

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	*K Schafer*	*David*
DATE/TIME: 17 February 2015	DATE/TIME: 17 February 2015 1500	DATE/TIME: 18-2-15 1600	DATE/TIME: 19/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	BH12 0.0-0.5A	17/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
2	BH12 0.5-1.0A	17/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
3	BH12 0.0-0.5B	17/02/2015	S	Bag (White label)	1		1							
4	BH12 0.5-1.0B	17/02/2015	S	Bag (White label)	1		1							
5	BH12 0.3V	17/02/2015	S	Glass Jar (150 ml)	1			1						
6	BH12 0.7V	17/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	6	1	2	2						

150ml Jars sent direct to Brisbane for TOC/TBT

Environmental Division Sydney
Work Order
ES1503916

Telephone : +61-2-8784 8555

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric P
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free Ice / frozen Ice Bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 (2) 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 (5) 6 7	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		17 February 2015	17 February 2015 1500

RELINQUISHED BY:	RECEIVED BY:
KSchafer	Da..J
DATE/TIME: 18.2.15 1600	DATE/TIME: 19/2 0400

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS (MATRIX: SOLID (S) WATER (W))			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
7	BH16 0.0-0.4A	17/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
8	BH16 0.0-0.4B	17/02/2015	S	Bag (White label)	1		1							
9	BH16 0.3V	17/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 (3) 4 5 6 7	Random Sample Temperature on Receipt	°C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006 DF: 1 2 3 4 (5) 6 7	Other comments:	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.teyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.teyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	Kelly Schafer	Schafer	David
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
17 February 2015	17 February 2015 1500	18-2-15 1600	19/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
10	BH18 0.0-0.5A	17/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
11	BH18 0.5-1.0A	17/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
12	BH18 1.0-1.35A	17/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
13	BH18 0.0-0.5B	17/02/2015	S	Bag (White label)	1		1							
14	BH18 0.5-1.0B	17/02/2015	S	Bag (White label)	1		1							
15	BH18 0.3V	17/02/2015	S	Glass Jar (150 ml)	1			1						
16	BH18 0.7V	17/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

ADELAIDE 21 Burma Road Pooraka SA 5095
Ph: 08 8359 0890 E: adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053
Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 46 Callemondah Drive Clinton QLD 4680
Ph: 07 7471 5600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 24 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
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NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: samples.townsville@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	*KSchafer*	*Dan*
DATE/TIME: 17 February 2015	DATE/TIME: 17 February 2015 1500	DATE/TIME: 18-2-15 1600	DATE/TIME: 19/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH				Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
17	BH19 0.0-0.4A	17/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
18	BH19 0.0-0.4B	17/02/2015	S	Bag (White label)	1		1								
19	BH19 0.3V	17/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	4	1	1	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

☐ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
☐BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
☐GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
☐MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
☐MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
☐MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee mail@alsglobal.com
☐NEWCASTLE 5 Rose Gum Road Wrattertook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
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☐PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
☐SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS: ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006 OF: 1 2 3 4 5 6 7	Other comment:	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	KSchafer	Dan
DATE/TIME: 17 February 2015	DATE/TIME: 17 February 2015 1500	DATE/TIME: 18-2-15 1600	DATE/TIME: 19/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB, Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	Rinsate Suite	Trip blank suite	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
20	Trip Blank 13	17/02/2015	S	Pre-filled glass jar	1								1	
				TOTAL	1								1	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1503916**	Page	: 1 of 27
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553		
C-O-C number	: ----	Date Samples Received	: 19-FEB-2015
Sampler	: GK	Issue Date	: 08-MAR-2015
Site	: ----		
		No. of samples received	: 20
Quote number	: SY/1021/14 V2	No. of samples analysed	: 20

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **EG020T: Poor precision was obtained for some elements on sample ES1503916-001 due to sample heterogeneity. Results have been confirmed by re-extraction and reanalysis.**
- **EP090: Sample 'BH12 0.0-0.5A' shows poor matrix spike recovery due to matrix interference. Insufficient sample for re-extraction and re-analysis.**

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Dianne Blane	Laboratory Coordinator (2IC)	Newcastle - Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
		Sydney Organics
Ryan Story	2IC Organic Instrument Chemist	Brisbane Organics
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils
Shobhna Chandra	Metals Coordinator	Sydney Inorganics

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH12 0.0-0.5A	BH12 0.5-1.0A	BH12 0.0-0.5B	BH12 0.5-1.0B	BH12 0.3V
				Client sampling date / time	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00
					ES1503916-001	ES1503916-002	ES1503916-003	ES1503916-004	ES1503916-005
EA150: Particle Sizing									
+75µm	----	1	%		----	----	**75**	**61**	----
+150µm	----	1	%		----	----	**74**	**60**	----
+300µm	----	1	%		----	----	**69**	**58**	----
+425µm	----	1	%		----	----	**61**	**56**	----
+600µm	----	1	%		----	----	**49**	**53**	----
+1180µm	----	1	%		----	----	**33**	**49**	----
+2.36mm	----	1	%		----	----	**22**	**46**	----
+4.75mm	----	1	%		----	----	**14**	**43**	----
+9.5mm	----	1	%		----	----	**7**	**38**	----
+19.0mm	----	1	%		----	----	**7**	**38**	----
+37.5mm	----	1	%		----	----	<1	<1	----
+75.0mm	----	1	%		----	----	<1	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**24.2**	**21.7**	----	----	**17.8**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	**13**	**23**	----
Silt (2-60 µm)	----	1	%		----	----	**9**	**16**	----
Sand (0.06-2.00 mm)	----	1	%		----	----	**52**	**14**	----
Gravel (>2mm)	----	1	%		----	----	**26**	**47**	----
Cobbles (>6cm)	----	1	%		----	----	<1	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	**2.65**	**2.67**	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**12300**	**18800**	----	----	----
Iron	7439-89-6	50	mg/kg		**17100**	**33800**	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		**9.44**	**4.13**	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	----	----	----
Chromium	7440-47-3	1.0	mg/kg		**13.3**	**20.8**	----	----	----
Copper	7440-50-8	1.0	mg/kg		**11.7**	**53.0**	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		**11.4**	**14.6**	----	----	----
Lead	7439-92-1	1.0	mg/kg		**6.2**	**9.7**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH12 0.0-0.5A	BH12 0.5-1.0A	BH12 0.0-0.5B	BH12 0.5-1.0B	BH12 0.3V
				Client sampling date / time	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00
					ES1503916-001	ES1503916-002	ES1503916-003	ES1503916-004	ES1503916-005
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		273	236	----	----	----
Nickel	7440-02-0	1.0	mg/kg		8.9	14.0	----	----	----
Selenium	7782-49-2	0.1	mg/kg		0.4	1.1	----	----	----
Silver	7440-22-4	0.1	mg/kg		0.1	0.6	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		36.9	81.3	----	----	----
Zinc	7440-66-6	1.0	mg/kg		22.8	57.9	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	0.04	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		120	180	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		120	180	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		253	398	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		0.4	0.8	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		0.31	0.11	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	<3	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		<3	<3	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	<5	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	<3	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		<3	<3	----	----	----
C15 - C28 Fraction	----	3	mg/kg		<3	<3	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH12 0.0-0.5A	BH12 0.5-1.0A	BH12 0.0-0.5B	BH12 0.5-1.0B	BH12 0.3V
				Client sampling date / time	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00
					ES1503916-001	ES1503916-002	ES1503916-003	ES1503916-004	ES1503916-005
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	<5	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		<3	<3	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	----	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	<1	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	<1	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	<0.5	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	<10	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	<10	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	<10.0	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	<10	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	<10	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	<10	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	<10	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	<10	----	----	----
Ethion	563-12-2	10	µg/kg		<10	<10	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	<10	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	<10	----	----	----
Malathion	121-75-5	10	µg/kg		<10	<10	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	<10	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	<10	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH12 0.0-0.5A	BH12 0.5-1.0A	BH12 0.0-0.5B	BH12 0.5-1.0B	BH12 0.3V
				Client sampling date / time	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503916-001	ES1503916-002	ES1503916-003	ES1503916-004	ES1503916-005
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	<10	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	<10	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	<10	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	<10	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	<0.50	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	<0.50	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	<0.50	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	<0.50	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	<0.50	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	<0.25	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	<0.50	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	<0.25	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	<0.25	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	<0.25	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	<0.50	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	<5.0	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH12 0.0-0.5A	BH12 0.5-1.0A	BH12 0.0-0.5B	BH12 0.5-1.0B	BH12 0.3V
				Client sampling date / time	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503916-001	ES1503916-002	ES1503916-003	ES1503916-004	ES1503916-005
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	<5.0	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	<5	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	<5	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	<4	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	<4	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	<4	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	<4	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	<4	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	<4	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	<4	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	<4	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	<4	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	<4	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	<4	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	<4	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	<4	----	----	----
Perylene	198-55-0	4	µg/kg		<4	<4	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	<4	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	<4	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	<4	----	----	----
Coronene	191-07-1	5	µg/kg		<5	<5	----	----	----
^ Sum of PAHs	----	4	µg/kg		<4	<4	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	----	93.6
Toluene-D8	2037-26-5	0.1	%		----	----	----	----	101
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	----	93.7
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		86.2	92.6	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH12 0.0-0.5A	BH12 0.5-1.0A	BH12 0.0-0.5B	BH12 0.5-1.0B	BH12 0.3V
			Client sampling date / time	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503916-001	ES1503916-002	ES1503916-003	ES1503916-004	ES1503916-005
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	76.5	65.6	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	65.4	73.1	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	71.2	62.5	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	89.1	98.3	----	----	----
Anthracene-d10	1719-06-8	0.1	%	121	122	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	124	121	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH12 0.7V	BH16 0.0-0.4A	BH16 0.0-0.4B	BH16 0.3V	BH18 0.0-0.5A
				Client sampling date / time	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00
					ES1503916-006	ES1503916-007	ES1503916-008	ES1503916-009	ES1503916-010
EA150: Particle Sizing									
+75µm	----	1	%		----	----	93	----	----
+150µm	----	1	%		----	----	91	----	----
+300µm	----	1	%		----	----	85	----	----
+425µm	----	1	%		----	----	76	----	----
+600µm	----	1	%		----	----	69	----	----
+1180µm	----	1	%		----	----	54	----	----
+2.36mm	----	1	%		----	----	40	----	----
+4.75mm	----	1	%		----	----	31	----	----
+9.5mm	----	1	%		----	----	26	----	----
+19.0mm	----	1	%		----	----	26	----	----
+37.5mm	----	1	%		----	----	<1	----	----
+75.0mm	----	1	%		----	----	<1	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		14.2	20.9	----	20.4	22.6
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	5	----	----
Silt (2-60 µm)	----	1	%		----	----	2	----	----
Sand (0.06-2.00 mm)	----	1	%		----	----	49	----	----
Gravel (>2mm)	----	1	%		----	----	44	----	----
Cobbles (>6cm)	----	1	%		----	----	<1	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	2.65	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	7550	----	----	7420
Iron	7439-89-6	50	mg/kg		----	13900	----	----	14900
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	<0.50	----	----	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	7.07	----	----	13.4
Cadmium	7440-43-9	0.1	mg/kg		----	<0.1	----	----	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	12.0	----	----	12.3
Copper	7440-50-8	1.0	mg/kg		----	7.0	----	----	6.1
Cobalt	7440-48-4	0.5	mg/kg		----	5.7	----	----	6.0
Lead	7439-92-1	1.0	mg/kg		----	2.8	----	----	5.0

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH12 0.7V	BH16 0.0-0.4A	BH16 0.0-0.4B	BH16 0.3V	BH18 0.0-0.5A
				Client sampling date / time	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00
					ES1503916-006	ES1503916-007	ES1503916-008	ES1503916-009	ES1503916-010
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	**187**	----	----	**562**
Nickel	7440-02-0	1.0	mg/kg		----	**6.3**	----	----	**6.1**
Selenium	7782-49-2	0.1	mg/kg		----	**0.5**	----	----	**0.4**
Silver	7440-22-4	0.1	mg/kg		----	**0.1**	----	----	<0.1
Vanadium	7440-62-2	2.0	mg/kg		----	**36.5**	----	----	**35.2**
Zinc	7440-66-6	1.0	mg/kg		----	**18.9**	----	----	**15.5**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	<0.01	----	----	<0.01
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	<0.1	----	----	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	----	----	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	----	----	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	**70**	----	----	**150**
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	**70**	----	----	**150**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	**136**	----	----	**195**
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	**0.6**	----	----	**0.9**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	**0.15**	----	----	**0.14**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	<3	----	----	<3
>C16 - C34 Fraction	----	3	mg/kg		----	<3	----	----	<3
>C34 - C40 Fraction	----	5	mg/kg		----	<5	----	----	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	<3	----	----	<3
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	----	----	<3	----
C10 - C14 Fraction	----	3	mg/kg		----	<3	----	----	<3
C15 - C28 Fraction	----	3	mg/kg		----	<3	----	----	<3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH12 0.7V	BH16 0.0-0.4A	BH16 0.0-0.4B	BH16 0.3V	BH18 0.0-0.5A
				Client sampling date / time	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00
					ES1503916-006	ES1503916-007	ES1503916-008	ES1503916-009	ES1503916-010
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	<5	----	----	<5
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	<3	----	----	<3
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	----	----	<3	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	<0.2	----
Toluene	108-88-3	0.2	mg/kg		<0.2	----	----	<0.2	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	----	----	<0.2	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	----	----	<0.2	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	----	----	<0.2	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	----	----	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	<0.2	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	<1	----	----	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	<1	----	----	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	<0.5	----	----	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	<10	----	----	<10
Carbophenothion	786-19-6	10	µg/kg		----	<10	----	----	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	<10.0	----	----	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	<10	----	----	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	<10	----	----	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	<10	----	----	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	<10	----	----	<10
Diazinon	333-41-5	10	µg/kg		----	<10	----	----	<10
Dichlorvos	62-73-7	10	µg/kg		----	<10	----	----	<10
Dimethoate	60-51-5	10	µg/kg		----	<10	----	----	<10
Ethion	563-12-2	10	µg/kg		----	<10	----	----	<10
Fenamiphos	22224-92-6	10	µg/kg		----	<10	----	----	<10
Fenthion	55-38-9	10	µg/kg		----	<10	----	----	<10
Malathion	121-75-5	10	µg/kg		----	<10	----	----	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	<10	----	----	<10
Monocrotophos	6923-22-4	10	µg/kg		----	<10	----	----	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH12 0.7V	BH16 0.0-0.4A	BH16 0.0-0.4B	BH16 0.3V	BH18 0.0-0.5A
				Client sampling date / time	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00
					ES1503916-006	ES1503916-007	ES1503916-008	ES1503916-009	ES1503916-010
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	<10	----	----	<10
Parathion-methyl	298-00-0	10	µg/kg		----	<10	----	----	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	<10	----	----	<10
Prothiofos	34643-46-4	10	µg/kg		----	<10	----	----	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	<0.50	----	----	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	<0.50	----	----	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	<0.50	----	----	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	<0.50	----	----	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	<0.50	----	----	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	<0.50	----	----	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	<0.50	----	----	<0.50
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	<0.50	----	----	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	<0.50	----	----	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	<0.50	----	----	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	<0.50	----	----	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	<0.50	----	----	<0.50
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	<0.50	----	----	<0.50
Endrin	72-20-8	0.50	µg/kg		----	<0.50	----	----	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	<0.50	----	----	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	<0.50	----	----	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	<0.50	----	----	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	<0.50	----	----	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	<0.50	----	----	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	<0.25	----	----	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	<0.50	----	----	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	<0.25	----	----	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	<0.25	----	----	<0.25
^ **Total Chlordane (sum)**	----	0.25	µg/kg		----	<0.25	----	----	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	<0.50	----	----	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	<5.0	----	----	<5.0

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH12 0.7V	BH16 0.0-0.4A	BH16 0.0-0.4B	BH16 0.3V	BH18 0.0-0.5A
				Client sampling date / time	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00
					ES1503916-006	ES1503916-007	ES1503916-008	ES1503916-009	ES1503916-010
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	<5.0	----	----	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	<5	----	----	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	<5	----	----	<5
Acenaphthylene	208-96-8	4	µg/kg		----	<4	----	----	<4
Acenaphthene	83-32-9	4	µg/kg		----	<4	----	----	<4
Fluorene	86-73-7	4	µg/kg		----	<4	----	----	<4
Phenanthrene	85-01-8	4	µg/kg		----	<4	----	----	<4
Anthracene	120-12-7	4	µg/kg		----	<4	----	----	<4
Fluoranthene	206-44-0	4	µg/kg		----	<4	----	----	<4
Pyrene	129-00-0	4	µg/kg		----	<4	----	----	<4
Benz(a)anthracene	56-55-3	4	µg/kg		----	<4	----	----	<4
Chrysene	218-01-9	4	µg/kg		----	<4	----	----	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	<4	----	----	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	<4	----	----	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		----	<4	----	----	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		----	<4	----	----	<4
Perylene	198-55-0	4	µg/kg		----	<4	----	----	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	<4	----	----	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	<4	----	----	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	<4	----	----	<4
Coronene	191-07-1	5	µg/kg		----	<5	----	----	<5
^ **Sum of PAHs**	----	4	µg/kg		----	<4	----	----	<4
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**93.9**	----	----	**92.8**	----
Toluene-D8	2037-26-5	0.1	%		**100**	----	----	**98.6**	----
4-Bromofluorobenzene	460-00-4	0.1	%		**94.0**	----	----	**92.2**	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	**93.4**	----	----	**81.9**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH12 0.7V	BH16 0.0-0.4A	BH16 0.0-0.4B	BH16 0.3V	BH18 0.0-0.5A
			Client sampling date / time	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503916-006	ES1503916-007	ES1503916-008	ES1503916-009	ES1503916-010
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	77.8	----	----	82.1
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	72.5	----	----	77.2
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	66.5	----	----	62.5
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	84.1	----	----	81.4
Anthracene-d10	1719-06-8	0.1	%	----	108	----	----	108
4-Terphenyl-d14	1718-51-0	0.1	%	----	109	----	----	114

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH18 0.5-1.0A	BH18 1.0-1.35A	BH18 0.0-0.5B	BH18 0.5-1.0B	BH18 0.3V
				Client sampling date / time	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00
					ES1503916-011	ES1503916-012	ES1503916-013	ES1503916-014	ES1503916-015
EA150: Particle Sizing									
+75µm	----	1	%		----	----	92	92	----
+150µm	----	1	%		----	----	90	91	----
+300µm	----	1	%		----	----	87	86	----
+425µm	----	1	%		----	----	81	81	----
+600µm	----	1	%		----	----	70	73	----
+1180µm	----	1	%		----	----	58	52	----
+2.36mm	----	1	%		----	----	48	40	----
+4.75mm	----	1	%		----	----	41	36	----
+9.5mm	----	1	%		----	----	35	33	----
+19.0mm	----	1	%		----	----	22	32	----
+37.5mm	----	1	%		----	----	<1	32	----
+75.0mm	----	1	%		----	----	<1	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		18.3	19.0	----	----	18.6
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	5	4	----
Silt (2-60 µm)	----	1	%		----	----	2	2	----
Sand (0.06-2.00 mm)	----	1	%		----	----	42	50	----
Gravel (>2mm)	----	1	%		----	----	51	18	----
Cobbles (>6cm)	----	1	%		----	----	<1	26	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	2.67	2.65	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		4910	3630	----	----	----
Iron	7439-89-6	50	mg/kg		13500	6520	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		3.20	1.14	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	----	----	----
Chromium	7440-47-3	1.0	mg/kg		6.8	4.6	----	----	----
Copper	7440-50-8	1.0	mg/kg		7.9	6.1	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		4.9	3.5	----	----	----
Lead	7439-92-1	1.0	mg/kg		2.5	1.6	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH18 0.5-1.0A	BH18 1.0-1.35A	BH18 0.0-0.5B	BH18 0.5-1.0B	BH18 0.3V
				Client sampling date / time	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00
					ES1503916-011	ES1503916-012	ES1503916-013	ES1503916-014	ES1503916-015
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		**102**	**48**	----	----	----
Nickel	7440-02-0	1.0	mg/kg		**4.6**	**2.3**	----	----	----
Selenium	7782-49-2	0.1	mg/kg		**0.2**	**0.1**	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.1	<0.1	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		**26.4**	**19.0**	----	----	----
Zinc	7440-66-6	1.0	mg/kg		**15.4**	**9.0**	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	<0.01	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		**30**	<20	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		**30**	<20	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		**202**	**165**	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		**0.9**	**0.6**	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		**0.11**	**0.02**	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	<3	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		<3	<3	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	<5	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	<3	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		<3	<3	----	----	----
C15 - C28 Fraction	----	3	mg/kg		<3	<3	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH18 0.5-1.0A	BH18 1.0-1.35A	BH18 0.0-0.5B	BH18 0.5-1.0B	BH18 0.3V
				Client sampling date / time	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00
					ES1503916-011	ES1503916-012	ES1503916-013	ES1503916-014	ES1503916-015
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	<5	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		<3	<3	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	----	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	<1	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	<1	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	<0.5	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	<10	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	<10	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	<10.0	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	<10	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	<10	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	<10	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	<10	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	<10	----	----	----
Ethion	563-12-2	10	µg/kg		<10	<10	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	<10	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	<10	----	----	----
Malathion	121-75-5	10	µg/kg		<10	<10	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	<10	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	<10	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH18 0.5-1.0A	BH18 1.0-1.35A	BH18 0.0-0.5B	BH18 0.5-1.0B	BH18 0.3V
				Client sampling date / time	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503916-011	ES1503916-012	ES1503916-013	ES1503916-014	ES1503916-015
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	<10	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	<10	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	<10	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	<10	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	<0.50	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	<0.50	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	<0.50	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	<0.50	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	<0.50	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	<0.25	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	<0.50	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	<0.25	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	<0.25	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	<0.25	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	<0.50	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	<5.0	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH18 0.5-1.0A	BH18 1.0-1.35A	BH18 0.0-0.5B	BH18 0.5-1.0B	BH18 0.3V
				Client sampling date / time	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00
					ES1503916-011	ES1503916-012	ES1503916-013	ES1503916-014	ES1503916-015
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	<5.0	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	<5	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	<5	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	<4	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	<4	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	<4	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	<4	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	<4	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	<4	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	<4	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	<4	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	<4	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	<4	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	<4	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	<4	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	<4	----	----	----
Perylene	198-55-0	4	µg/kg		<4	<4	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	<4	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	<4	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	<4	----	----	----
Coronene	191-07-1	5	µg/kg		<5	<5	----	----	----
^ **Sum of PAHs**	----	4	µg/kg		<4	<4	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	----	**73.6**
Toluene-D8	2037-26-5	0.1	%		----	----	----	----	**78.5**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	----	**74.7**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**93.2**	**80.8**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH18 0.5-1.0A	BH18 1.0-1.35A	BH18 0.0-0.5B	BH18 0.5-1.0B	BH18 0.3V
			Client sampling date / time	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503916-011	ES1503916-012	ES1503916-013	ES1503916-014	ES1503916-015
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**77.6**	**76.6**	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**52.5**	**72.9**	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**52.5**	**62.5**	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**87.0**	**87.2**	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**105**	**112**	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	**104**	**121**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH18 0.7V	BH19 0.0-0.4A	BH19 0.0-0.4B	BH19 0.3V	TRIP BLANK 13
				Client sampling date / time	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1503916-016	ES1503916-017	ES1503916-018	ES1503916-019	ES1503916-020
EA150: Particle Sizing									
+75µm	----	1	%		----	----	92	----	----
+150µm	----	1	%		----	----	90	----	----
+300µm	----	1	%		----	----	87	----	----
+425µm	----	1	%		----	----	83	----	----
+600µm	----	1	%		----	----	74	----	----
+1180µm	----	1	%		----	----	53	----	----
+2.36mm	----	1	%		----	----	41	----	----
+4.75mm	----	1	%		----	----	34	----	----
+9.5mm	----	1	%		----	----	28	----	----
+19.0mm	----	1	%		----	----	10	----	----
+37.5mm	----	1	%		----	----	<1	----	----
+75.0mm	----	1	%		----	----	<1	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		22.6	18.6	----	18.6	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	5	----	----
Silt (2-60 µm)	----	1	%		----	----	2	----	----
Sand (0.06-2.00 mm)	----	1	%		----	----	48	----	----
Gravel (>2mm)	----	1	%		----	----	45	----	----
Cobbles (>6cm)	----	1	%		----	----	<1	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	2.65	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	6250	----	----	----
Iron	7439-89-6	50	mg/kg		----	11200	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	<0.50	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		----	7.51	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		----	<0.1	----	----	----
Chromium	7440-47-3	1.0	mg/kg		----	8.4	----	----	----
Copper	7440-50-8	1.0	mg/kg		----	5.2	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		----	4.8	----	----	----
Lead	7439-92-1	1.0	mg/kg		----	3.0	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH18 0.7V	BH19 0.0-0.4A	BH19 0.0-0.4B	BH19 0.3V	TRIP BLANK 13
				Client sampling date / time	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00
					ES1503916-016	ES1503916-017	ES1503916-018	ES1503916-019	ES1503916-020
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	**203**	----	----	----
Nickel	7440-02-0	1.0	mg/kg		----	**4.9**	----	----	----
Selenium	7782-49-2	0.1	mg/kg		----	**0.3**	----	----	----
Silver	7440-22-4	0.1	mg/kg		----	<0.1	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		----	**29.6**	----	----	----
Zinc	7440-66-6	1.0	mg/kg		----	**14.1**	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	<0.01	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	<0.1	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	**130**	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	**130**	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	**227**	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	**0.6**	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	**0.14**	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	<3	----	----	<3
>C16 - C34 Fraction	----	3	mg/kg		----	<3	----	----	<3
>C34 - C40 Fraction	----	5	mg/kg		----	<5	----	----	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	<3	----	----	<3
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	----	----	<3	<3
C10 - C14 Fraction	----	3	mg/kg		----	<3	----	----	<3
C15 - C28 Fraction	----	3	mg/kg		----	<3	----	----	<3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH18 0.7V	BH19 0.0-0.4A	BH19 0.0-0.4B	BH19 0.3V	TRIP BLANK 13
				Client sampling date / time	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00
					ES1503916-016	ES1503916-017	ES1503916-018	ES1503916-019	ES1503916-020
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	<5	----	----	<5
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	<3	----	----	<3
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	----	----	<3	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	<0.2	<0.2
Toluene	108-88-3	0.2	mg/kg		<0.2	----	----	<0.2	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	----	----	<0.2	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	----	----	<0.2	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	----	----	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	----	----	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	<0.2	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	<1	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	<1	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	<0.5	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	<10	----	----	----
Carbophenothion	786-19-6	10	µg/kg		----	<10	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	<10.0	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	<10	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	<10	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	<10	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	<10	----	----	----
Diazinon	333-41-5	10	µg/kg		----	<10	----	----	----
Dichlorvos	62-73-7	10	µg/kg		----	<10	----	----	----
Dimethoate	60-51-5	10	µg/kg		----	<10	----	----	----
Ethion	563-12-2	10	µg/kg		----	<10	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		----	<10	----	----	----
Fenthion	55-38-9	10	µg/kg		----	<10	----	----	----
Malathion	121-75-5	10	µg/kg		----	<10	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		----	<10	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		----	<10	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH18 0.7V	BH19 0.0-0.4A	BH19 0.0-0.4B	BH19 0.3V	TRIP BLANK 13
				Client sampling date / time	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00
					ES1503916-016	ES1503916-017	ES1503916-018	ES1503916-019	ES1503916-020
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	<10	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		----	<10	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	<10	----	----	----
Prothiofos	34643-46-4	10	µg/kg		----	<10	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	<0.50	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		----	<0.50	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		----	<0.50	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		----	<0.50	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	<0.50	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	<0.50	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	<0.50	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	<0.50	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		----	<0.50	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	<0.50	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	<0.50	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	<0.50	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	<0.50	----	----	----
Endrin	72-20-8	0.50	µg/kg		----	<0.50	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	<0.50	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	<0.50	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		----	<0.50	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	<0.50	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	<0.50	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		----	<0.25	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		----	<0.50	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	<0.25	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	<0.25	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		----	<0.25	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	<0.50	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	<5.0	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	<5.0	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	<5.0	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH18 0.7V	BH19 0.0-0.4A	BH19 0.0-0.4B	BH19 0.3V	TRIP BLANK 13
				Client sampling date / time	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00
					ES1503916-016	ES1503916-017	ES1503916-018	ES1503916-019	ES1503916-020
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	<5.0	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	<5.0	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	<5.0	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	<5.0	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	<5.0	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	<5	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	<5	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		----	<4	----	----	----
Acenaphthene	83-32-9	4	µg/kg		----	<4	----	----	----
Fluorene	86-73-7	4	µg/kg		----	<4	----	----	----
Phenanthrene	85-01-8	4	µg/kg		----	<4	----	----	----
Anthracene	120-12-7	4	µg/kg		----	<4	----	----	----
Fluoranthene	206-44-0	4	µg/kg		----	<4	----	----	----
Pyrene	129-00-0	4	µg/kg		----	<4	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	<4	----	----	----
Chrysene	218-01-9	4	µg/kg		----	<4	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	<4	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	<4	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	<4	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	<4	----	----	----
Perylene	198-55-0	4	µg/kg		----	<4	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	<4	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	<4	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	<4	----	----	----
Coronene	191-07-1	5	µg/kg		----	<5	----	----	----
^ **Sum of PAHs**	----	4	µg/kg		----	<4	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**87.6**	----	----	**100**	**96.1**
Toluene-D8	2037-26-5	0.1	%		**93.9**	----	----	**109**	**103**
4-Bromofluorobenzene	460-00-4	0.1	%		**89.7**	----	----	**103**	**94.7**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	**97.4**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH18 0.7V	BH19 0.0-0.4A	BH19 0.0-0.4B	BH19 0.3V	TRIP BLANK 13
			Client sampling date / time	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00	17-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1503916-016	ES1503916-017	ES1503916-018	ES1503916-019	ES1503916-020
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	**90.8**	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	**70.9**	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	**87.5**	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	**101**	----	----	----
Anthracene-d10	1719-06-8	0.1	%	----	**115**	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	**113**	----	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	Recovery Limits (%) High
EP080-SD: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	67	137
Toluene-D8	2037-26-5	74	134
4-Bromofluorobenzene	460-00-4	73	137
EP090S: Organotin Surrogate			
Tripropyltin	----	35	130
EP130S: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	14.4	102
EP131S: OC Pesticide Surrogate			
Dibromo-DDE	21655-73-2	10	119
EP131T: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	10	106
EP132T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	55	135
Anthracene-d10	1719-06-8	70	136
4-Terphenyl-d14	1718-51-0	57	127

QUALITY CONTROL REPORT

Work Order	: **ES1503916**	Page	: 1 of 21
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 19-FEB-2015
Sampler	: GK	Issue Date	: 08-MAR-2015
Order number	: 245553		
		No. of samples received	: 20
Quote number	: SY/1021/14 V2	No. of samples analysed	: 20

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Dianne Blane	Laboratory Coordinator (2IC)	Newcastle - Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
		Sydney Organics
Ryan Story	2IC Organic Instrument Chemist	Brisbane Organics
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils
Shobhna Chandra	Metals Coordinator	Sydney Inorganics

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA055: Moisture Content (QC Lot: 3840090)									
ES1503916-001	BH12 0.0-0.5A	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	24.2	29.1	18.4	0% - 20%
ES1503916-011	BH18 0.5-1.0A	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	18.3	20.1	9.6	0% - 20%
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3840989)									
ES1503916-001	BH12 0.0-0.5A	EG005-SD: Aluminium	7429-90-5	50	mg/kg	12300	11000	10.9	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	17100	19800	14.5	0% - 20%
ES1503973-004	Anonymous	EG005-SD: Aluminium	7429-90-5	50	mg/kg	10800	10000	7.4	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	18400	16100	13.6	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3840988)									
ES1503916-001	BH12 0.0-0.5A	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.4	0.5	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	0.1	0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	11.4	15.0	# 26.6	0% - 20%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	13.3	15.6	15.9	0% - 50%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	11.7	18.4	44.1	0% - 50%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	6.2	7.4	17.8	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	8.9	10.2	14.5	0% - 50%
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	22.8	28.9	# 23.8	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	9.44	9.37	0.7	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	273	480	# 55.1	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	36.9	44.2	18.1	0% - 20%
ES1503973-004	Anonymous	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	0.4	0.3	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.7	0.6	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	1.5	1.5	0.0	0% - 50%
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	3.7	3.3	10.0	No Limit
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	0.63	0.61	4.3	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	34.5	26.6	# 25.7	0% - 20%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	112	95.6	16.0	0% - 20%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	231	259	11.3	0% - 20%
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	8.5	7.9	7.9	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	478	459	4.1	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	14.3	13.0	9.9	0% - 50%
		EG020-SD: Manganese	7439-96-5	10	mg/kg	128	104	20.6	0% - 50%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	31.4	30.4	3.0	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3840987)									
ES1503916-001	BH12 0.0-0.5A	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3840987) - continued									
ES1503973-004	Anonymous	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	1.08	1.01	6.8	0% - 20%
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3836428)									
ES1503806-001	Anonymous	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1503916-001	BH12 0.0-0.5A	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3836429)									
ES1503806-001	Anonymous	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1503916-001	BH12 0.0-0.5A	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3838227)									
ES1503806-001	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	130	130	0.0	No Limit
ES1503916-001	BH12 0.0-0.5A	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	120	140	9.9	No Limit
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3838228)									
ES1503806-001	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	188	190	0.7	0% - 20%
ES1503916-001	BH12 0.0-0.5A	EK067G: Total Phosphorus as P	----	2	mg/kg	253	257	1.6	0% - 20%
EK255A SD: Ammonia in Sediment (QC Lot: 3833330)									
ES1503916-001	BH12 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	0.4	0.5	0.0	No Limit
EP003: Total Organic Carbon (TOC) in Soil (QC Lot: 3841795)									
ES1503916-001	BH12 0.0-0.5A	EP003: Total Organic Carbon	----	0.02	%	0.31	0.30	3.8	0% - 50%
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3831466)									
ES1503806-001	Anonymous	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
ES1503916-002	BH12 0.5-1.0A	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3831466)									
ES1503806-001	Anonymous	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
ES1503916-002	BH12 0.5-1.0A	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3831471)									
ES1503806-001	Anonymous	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
ES1503916-016	BH18 0.7V	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP080-SD: BTEXN (QC Lot: 3831471)									
ES1503806-001	Anonymous	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
ES1503916-016	BH18 0.7V	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP090: Organotin Compounds (QC Lot: 3831613)									
EM1501768-001	Anonymous	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
ES1503973-003	Anonymous	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3831452)									
ES1503806-001	Anonymous	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3831452) - continued									
ES1503916-002	BH12 0.5-1.0A	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
EP131A: Organochlorine Pesticides (QC Lot: 3831453)									
ES1503806-001	Anonymous	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP131A: Organochlorine Pesticides (QC Lot: 3831453) - continued									
ES1503806-001	Anonymous	EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
ES1503916-002	BH12 0.5-1.0A	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 3831454)									
ES1503806-001	Anonymous	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
ES1503916-002	BH12 0.5-1.0A	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 3831454) - continued									
ES1503916-002	BH12 0.5-1.0A	EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3831465)									
ES1503806-001	Anonymous	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit
ES1503916-002	BH12 0.5-1.0A	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3831465) - continued									
ES1503916-002	BH12 0.5-1.0A	EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3840989)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	135	86	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	100	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3840988)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	4.6 mg/kg	126	70	130
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	102	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	101	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	110	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	106	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	105	84	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	106	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	116	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	111	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	129	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	----	----	----	----
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	111	87	131
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	112	83	137
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3840987)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.090 mg/kg	81.1	72	116
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3836428)								
EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	100	82	120
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3836429)								
EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	96.2	89	115
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3838227)								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	----	500 mg/kg	100	70	122
				<20	1000 mg/kg	87.5	64	114
				----	100 mg/kg	90.4	70	127
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3838228)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3838228) - continued								
EK067G: Total Phosphorus as P	----	2	mg/kg	----	44.2 mg/kg	89.8	64	124
				----	100 mg/kg	98.9	69	123
				<2	442 mg/kg	90.4	68	116
EK255A SD: Ammonia in Sediment (QCLot: 3833330)								
EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	<0.2	0.1 mg/kg	97.3	70	130
EP003: Total Organic Carbon (TOC) in Soil (QCLot: 3841795)								
EP003: Total Organic Carbon	----	0.02	%	<0.02	0.44 %	102	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3831466)								
EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	6.25 mg/kg	93.6	70	130
EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	8.75 mg/kg	110	74	138
EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	3.75 mg/kg	89.3	63	131
EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3831466)								
EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	5 mg/kg	89.0	78	118
EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	7.5 mg/kg	104	84	118
EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	5 mg/kg	95.0	73	119
EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3831471)								
EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	6.2 mg/kg	84.4	61	133
EP080-SD: BTEXN (QCLot: 3831471)								
EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	0.2 mg/kg	99.2	66	122
EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	0.2 mg/kg	93.4	69	122
EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.2 mg/kg	93.5	66	126
EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	0.4 mg/kg	92.0	59	129
EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.2 mg/kg	97.2	66	126
EP090: Organotin Compounds (QCLot: 3831613)								
EP090: Monobutyltin	78763-54-9	1.0	µgSn/kg	<1	1.25 µgSn/kg	105	36	128
EP090: Dibutyltin	1002-53-5	1.0	µgSn/kg	<1	1.25 µgSn/kg	87.5	42	132
EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	1.25 µgSn/kg	94.0	52	139
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3831452)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3831452) - continued								
EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	50 µg/kg	93.3	45	139
EP130: Carbophenothion	786-19-6	10	µg/kg	<10	50 µg/kg	78.0	47	117
EP130: Chlorfenvinphos (E)	18708-86-6	10	µg/kg	<10.0	5 µg/kg	74.2	48	156
EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	50 µg/kg	82.2	62	136
EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	50 µg/kg	77.2	57	137
EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	50 µg/kg	72.8	57	121
EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	50 µg/kg	96.9	20.4	142
EP130: Diazinon	333-41-5	10	µg/kg	<10	50 µg/kg	73.9	57	121
EP130: Dichlorvos	62-73-7	10	µg/kg	<10	50 µg/kg	89.2	47	115
EP130: Dimethoate	60-51-5	10	µg/kg	<10	50 µg/kg	82.3	55	133
EP130: Ethion	563-12-2	10	µg/kg	<10	50 µg/kg	81.1	54	130
EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	50 µg/kg	75.0	57	131
EP130: Fenthion	55-38-9	10	µg/kg	<10	50 µg/kg	78.4	38	130
EP130: Malathion	121-75-5	10	µg/kg	<10	50 µg/kg	75.0	62	138
EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	50 µg/kg	108	33	137
EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	50 µg/kg	110	50	148
EP130: Parathion	56-38-2	10	µg/kg	<10	50 µg/kg	74.4	64	140
EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	50 µg/kg	80.6	56	136
EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	50 µg/kg	77.1	50	132
EP130: Prothiofos	34643-46-4	10	µg/kg	<10	50 µg/kg	74.2	55	135
EP131A: Organochlorine Pesticides (QCLot: 3831453)								
EP131A: Aldrin	309-00-2	0.5	µg/kg	<0.50	5 µg/kg	59.4	38	150
EP131A: alpha-BHC	319-84-6	0.5	µg/kg	<0.50	5 µg/kg	68.7	17.6	156
EP131A: beta-BHC	319-85-7	0.5	µg/kg	<0.50	5 µg/kg	66.5	30.5	152
EP131A: delta-BHC	319-86-8	0.5	µg/kg	<0.50	5 µg/kg	66.1	37	151
EP131A: 4.4`-DDD	72-54-8	0.5	µg/kg	<0.50	5 µg/kg	87.0	25.9	150
EP131A: 4.4`-DDE	72-55-9	0.5	µg/kg	<0.50	5 µg/kg	42.7	35	129
EP131A: 4.4`-DDT	50-29-3	0.5	µg/kg	<0.50	5 µg/kg	99.9	23.4	163
EP131A: Sum of DDD + DDE + DDT	----	0.5	µg/kg	<0.50	----	----	----	----

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP131A: Organochlorine Pesticides (QCLot: 3831453) - continued								
EP131A: Dieldrin	60-57-1	0.5	µg/kg	<0.50	5 µg/kg	64.7	30.2	140
EP131A: alpha-Endosulfan	959-98-8	0.5	µg/kg	<0.50	5 µg/kg	46.6	38	140
EP131A: beta-Endosulfan	33213-65-9	0.5	µg/kg	<0.50	5 µg/kg	66.5	32	152
EP131A: Endosulfan sulfate	1031-07-8	0.5	µg/kg	<0.50	5 µg/kg	61.8	36	162
EP131A: Endosulfan (sum)	115-29-7	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Endrin	72-20-8	0.5	µg/kg	<0.50	5 µg/kg	42.3	25.8	166
EP131A: Endrin aldehyde	7421-93-4	0.5	µg/kg	<0.50	5 µg/kg	48.9	20.1	116
EP131A: Endrin ketone	53494-70-5	0.5	µg/kg	<0.50	5 µg/kg	57.9	13.4	151
EP131A: Heptachlor	76-44-8	0.5	µg/kg	<0.50	5 µg/kg	63.8	39	173
EP131A: Heptachlor epoxide	1024-57-3	0.5	µg/kg	<0.50	5 µg/kg	67.7	34	148
EP131A: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/kg	<0.50	5 µg/kg	49.3	26.1	152
EP131A: gamma-BHC	58-89-9	0.5	µg/kg	<0.50	5 µg/kg	70.5	31.2	159
EP131A: Methoxychlor	72-43-5	0.5	µg/kg	<0.50	5 µg/kg	74.9	36	160
EP131A: cis-Chlordane	5103-71-9	0.5	µg/kg	<0.50	5 µg/kg	66.3	36	142
EP131A: trans-Chlordane	5103-74-2	0.5	µg/kg	<0.50	5 µg/kg	65.5	29.5	138
EP131A: Total Chlordane (sum)	----	0.5	µg/kg	<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3831454)								
EP131B: Total Polychlorinated biphenyls	----	5	µg/kg	<5.0	50 µg/kg	70.0	44	136
EP131B: Aroclor 1016	12674-11-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1221	11104-28-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1232	11141-16-5	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1242	53469-21-9	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1248	12672-29-6	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1254	11097-69-1	5	µg/kg	<5.0	50 µg/kg	70.0	44	136
EP131B: Aroclor 1260	11096-82-5	5	µg/kg	<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3831465)								
EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	25 µg/kg	86.4	67	133
EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	25 µg/kg	86.4	63	135
EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	25 µg/kg	92.4	68	132

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3831465) - continued								
EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	25 µg/kg	89.9	67	133
EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	25 µg/kg	95.2	69	131
EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	25 µg/kg	97.0	66	138
EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	25 µg/kg	95.8	67	133
EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	25 µg/kg	94.4	64	130
EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	25 µg/kg	95.9	67	133
EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	25 µg/kg	91.8	65	133
EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	25 µg/kg	94.9	70	134
EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	25 µg/kg	85.6	63	133
EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	25 µg/kg	82.5	67	133
EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	25 µg/kg	83.7	64	130
EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	25 µg/kg	83.1	72	130
EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	25 µg/kg	86.9	70	132
EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	25 µg/kg	85.7	65	127
EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	25 µg/kg	83.2	67	135
EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	25 µg/kg	84.0	62	126
EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	25 µg/kg	99.7	66	134
EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3840988)							
ES1503916-002	BH12 0.5-1.0A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	86.6	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	96.0	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	98.6	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	92.7	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	100	70	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3840988) - continued							
ES1503916-002	BH12 0.5-1.0A	EG020-SD: Nickel	7440-02-0	50 mg/kg	89.6	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	92.7	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3840987)							
ES1503916-001	BH12 0.0-0.5A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	129	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3836428)							
ES1503806-001	Anonymous	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	101	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3836429)							
ES1503806-001	Anonymous	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	111	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3838227)							
ES1503806-001	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	79.4	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3838228)							
ES1503806-001	Anonymous	EK067G: Total Phosphorus as P	----	100 mg/kg	85.5	70	130
EK255A SD: Ammonia in Sediment (QCLot: 3833330)							
ES1503916-001	BH12 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	81.6	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3831466)							
ES1503806-001	Anonymous	EP071-SD: C10 - C14 Fraction	----	16 mg/kg	87.5	70	130
		EP071-SD: C15 - C28 Fraction	----	78.5 mg/kg	105	70	130
		EP071-SD: C29 - C36 Fraction	----	71.5 mg/kg	81.0	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3831471)							
ES1503806-001	Anonymous	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	88.7	70	130
EP080-SD: BTEXN (QCLot: 3831471)							
ES1503806-001	Anonymous	EP080-SD: Benzene	71-43-2	0.5 mg/kg	81.4	70	130
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	78.1	70	130
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	81.8	70	130
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	80.5	70	130
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	83.4	70	130
EP090: Organotin Compounds (QCLot: 3831613)							
ES1503916-001	BH12 0.0-0.5A	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	# 17.8	35	130
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	75.8	20	130
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	91.3	20	130
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3831452)							
ES1503806-001	Anonymous	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	107	36	144
		EP130: Carbophenothion	786-19-6	50 µg/kg	82.6	38	120

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3831452) - continued							
ES1503806-001	Anonymous	EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	82.7	49	157
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	87.7	53	145
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	83.5	60	140
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	79.7	56	126
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	86.6	9.7	148
		EP130: Diazinon	333-41-5	50 µg/kg	78.1	60	122
		EP130: Dichlorvos	62-73-7	50 µg/kg	72.8	33	123
		EP130: Dimethoate	60-51-5	50 µg/kg	81.6	36	142
		EP130: Ethion	563-12-2	50 µg/kg	88.1	48	136
		EP130: Fenamiphos	22224-92-6	50 µg/kg	102	42	136
		EP130: Fenthion	55-38-9	50 µg/kg	96.4	35	131
		EP130: Malathion	121-75-5	50 µg/kg	81.1	55	141
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	113	23.5	132
		EP130: Monocrotophos	6923-22-4	50 µg/kg	75.6	35	153
		EP130: Parathion	56-38-2	50 µg/kg	83.5	57	147
		EP130: Parathion-methyl	298-00-0	50 µg/kg	90.1	48	140
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	78.3	45	137
		EP130: Prothiofos	34643-46-4	50 µg/kg	80.8	51	137
EP131A: Organochlorine Pesticides (QCLot: 3831453)							
ES1503806-001	Anonymous	EP131A: Aldrin	309-00-2	5 µg/kg	66.2	23.4	153
		EP131A: alpha-BHC	319-84-6	5 µg/kg	81.0	17.6	156
		EP131A: beta-BHC	319-85-7	5 µg/kg	81.4	24.9	153
		EP131A: delta-BHC	319-86-8	5 µg/kg	68.2	25.2	147
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	108	25.9	150
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	54.4	31.2	125
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	58.4	23.4	163
		EP131A: Dieldrin	60-57-1	5 µg/kg	81.5	30.2	140
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	54.6	28.8	135
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	59.0	22.6	141
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	93.0	16.1	156
		EP131A: Endrin	72-20-8	5 µg/kg	92.8	17.7	162
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	60.8	20.1	116
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	76.3	13.4	151
		EP131A: Heptachlor	76-44-8	5 µg/kg	73.5	23.8	170
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	80.9	28.3	140
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	63.8	17.7	144
		EP131A: gamma-BHC	58-89-9	5 µg/kg	87.4	21.8	158

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP131A: Organochlorine Pesticides (QCLot: 3831453) - continued							
ES1503806-001	Anonymous	EP131A: Methoxychlor	72-43-5	5 µg/kg	74.2	24.4	158
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	59.9	27.3	139
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	74.1	29.5	138
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3831454)							
ES1503806-001	Anonymous	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	67.5	44	136
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	67.5	44	136
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3831465)							
ES1503806-001	Anonymous	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	123	70	130
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	101	70	130
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	96.1	70	130
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	94.8	70	130
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	93.7	70	130
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	114	70	130
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	113	70	130
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	106	70	130
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	106	70	130
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	108	70	130
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	110	70	130
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	89.6	70	130
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	103	70	130
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	98.7	70	130
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	103	70	130
		EP132B-SD: Perylene	198-55-0	25 µg/kg	105	70	130
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	106	70	130
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	105	70	130
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	103	70	130
		EP132B-SD: Coronene	191-07-1	25 µg/kg	121	70	130

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

The quality control term Matrix Spike (MS) and Matrix Spike Duplicate (MSD) refers to intralaboratory split samples spiked with a representative set of target analytes. The purpose of these QC parameters are to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3831452)										

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3831452) - continued										
ES1503806-001	Anonymous	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	107	----	36	144	----	----
		EP130: Carbophenothion	786-19-6	50 µg/kg	82.6	----	38	120	----	----
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	82.7	----	49	157	----	----
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	87.7	----	53	145	----	----
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	83.5	----	60	140	----	----
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	79.7	----	56	126	----	----
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	86.6	----	9.7	148	----	----
		EP130: Diazinon	333-41-5	50 µg/kg	78.1	----	60	122	----	----
		EP130: Dichlorvos	62-73-7	50 µg/kg	72.8	----	33	123	----	----
		EP130: Dimethoate	60-51-5	50 µg/kg	81.6	----	36	142	----	----
		EP130: Ethion	563-12-2	50 µg/kg	88.1	----	48	136	----	----
		EP130: Fenamiphos	22224-92-6	50 µg/kg	102	----	42	136	----	----
		EP130: Fenthion	55-38-9	50 µg/kg	96.4	----	35	131	----	----
		EP130: Malathion	121-75-5	50 µg/kg	81.1	----	55	141	----	----
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	113	----	23.5	132	----	----
		EP130: Monocrotophos	6923-22-4	50 µg/kg	75.6	----	35	153	----	----
		EP130: Parathion	56-38-2	50 µg/kg	83.5	----	57	147	----	----
		EP130: Parathion-methyl	298-00-0	50 µg/kg	90.1	----	48	140	----	----
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	78.3	----	45	137	----	----
		EP130: Prothiofos	34643-46-4	50 µg/kg	80.8	----	51	137	----	----
EP131A: Organochlorine Pesticides (QCLot: 3831453)										
ES1503806-001	Anonymous	EP131A: Aldrin	309-00-2	5 µg/kg	66.2	----	23.4	153	----	----
		EP131A: alpha-BHC	319-84-6	5 µg/kg	81.0	----	17.6	156	----	----
		EP131A: beta-BHC	319-85-7	5 µg/kg	81.4	----	24.9	153	----	----
		EP131A: delta-BHC	319-86-8	5 µg/kg	68.2	----	25.2	147	----	----
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	108	----	25.9	150	----	----
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	54.4	----	31.2	125	----	----
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	58.4	----	23.4	163	----	----
		EP131A: Dieldrin	60-57-1	5 µg/kg	81.5	----	30.2	140	----	----
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	54.6	----	28.8	135	----	----
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	59.0	----	22.6	141	----	----
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	93.0	----	16.1	156	----	----
		EP131A: Endrin	72-20-8	5 µg/kg	92.8	----	17.7	162	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP131A: Organochlorine Pesticides (QCLot: 3831453) - continued										
ES1503806-001	Anonymous	EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	60.8	----	20.1	116	----	----
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	76.3	----	13.4	151	----	----
		EP131A: Heptachlor	76-44-8	5 µg/kg	73.5	----	23.8	170	----	----
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	80.9	----	28.3	140	----	----
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	63.8	----	17.7	144	----	----
		EP131A: gamma-BHC	58-89-9	5 µg/kg	87.4	----	21.8	158	----	----
		EP131A: Methoxychlor	72-43-5	5 µg/kg	74.2	----	24.4	158	----	----
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	59.9	----	27.3	139	----	----
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	74.1	----	29.5	138	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3831454)										
ES1503806-001	Anonymous	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	67.5	----	44	136	----	----
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	67.5	----	44	136	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3831465)										
ES1503806-001	Anonymous	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	123	----	70	130	----	----
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	101	----	70	130	----	----
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	96.1	----	70	130	----	----
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	94.8	----	70	130	----	----
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	93.7	----	70	130	----	----
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	114	----	70	130	----	----
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	113	----	70	130	----	----
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	106	----	70	130	----	----
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	106	----	70	130	----	----
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	108	----	70	130	----	----
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	110	----	70	130	----	----
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	89.6	----	70	130	----	----
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	103	----	70	130	----	----
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	98.7	----	70	130	----	----
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	103	----	70	130	----	----
		EP132B-SD: Perylene	198-55-0	25 µg/kg	105	----	70	130	----	----
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	106	----	70	130	----	----
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	105	----	70	130	----	----
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	103	----	70	130	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3831465) - continued										
ES1503806-001	Anonymous	EP132B-SD: Coronene	191-07-1	25 µg/kg	121	----	70	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3831466)										
ES1503806-001	Anonymous	EP071-SD: C10 - C14 Fraction	----	16 mg/kg	87.5	----	70	130	----	----
		EP071-SD: C15 - C28 Fraction	----	78.5 mg/kg	105	----	70	130	----	----
		EP071-SD: C29 - C36 Fraction	----	71.5 mg/kg	81.0	----	70	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3831471)										
ES1503806-001	Anonymous	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	88.7	----	70	130	----	----
EP080-SD: BTEXN (QCLot: 3831471)										
ES1503806-001	Anonymous	EP080-SD: Benzene	71-43-2	0.5 mg/kg	81.4	----	70	130	----	----
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	78.1	----	70	130	----	----
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	81.8	----	70	130	----	----
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	80.5	----	70	130	----	----
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	83.4	----	70	130	----	----
EP090: Organotin Compounds (QCLot: 3831613)										
ES1503916-001	BH12 0.0-0.5A	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	# 17.8	----	35	130	----	----
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	75.8	----	20	130	----	----
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	91.3	----	20	130	----	----
EK255A SD: Ammonia in Sediment (QCLot: 3833330)										
ES1503916-001	BH12 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	81.6	----	70	130	----	----
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3836428)										
ES1503806-001	Anonymous	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	101	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3836429)										
ES1503806-001	Anonymous	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	111	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3838227)										
ES1503806-001	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	79.4	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3838228)										
ES1503806-001	Anonymous	EK067G: Total Phosphorus as P	----	100 mg/kg	85.5	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3840987)										
ES1503916-001	BH12 0.0-0.5A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	129	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3840988)										
ES1503916-002	BH12 0.5-1.0A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	86.6	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	96.0	----	70	130	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3840988) - continued										
ES1503916-002	BH12 0.5-1.0A	EG020-SD: Chromium	7440-47-3	50 mg/kg	98.6	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	92.7	----	70	130	----	----
		EG020-SD: Lead	7439-92-1	250 mg/kg	100	----	70	130	----	----
		EG020-SD: Nickel	7440-02-0	50 mg/kg	89.6	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	92.7	----	70	130	----	----

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1503916**	Page	: 1 of 10
Client	: AURECON AUSTRALASIA PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 19-FEB-2015
Sampler	: GK	Issue Date	: 08-MAR-2015
Order number	: 245553		
		No. of samples received	: 20
Quote number	: SY/1021/14 V2	No. of samples analysed	: 20

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with recommended holding times (USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content							
Soil Glass Jar - Unpreserved (EA055-103)							
BH12 0.0-0.5A, BH12 0.5-1.0A, BH12 0.3V, BH12 0.7V, BH16 0.0-0.4A, BH16 0.3V, BH18 0.0-0.5A, BH18 0.5-1.0A, BH18 1.0-1.35A, BH18 0.3V, BH18 0.7V, BH19 0.0-0.4A, BH19 0.3V	**17-FEB-2015**	**----**	----	----	**27-FEB-2015**	03-MAR-2015	✓
EA150: Particle Sizing							
Snap Lock Bag (EA150H)							
BH12 0.0-0.5B, BH12 0.5-1.0B, BH16 0.0-0.4B, BH18 0.0-0.5B, BH18 0.5-1.0B, BH19 0.0-0.4B	**17-FEB-2015**	**---**	16-AUG-2015	----	**04-MAR-2015**	16-AUG-2015	✓
EA150: Soil Classification based on Particle Size							
Snap Lock Bag (EA150H)							
BH12 0.0-0.5B, BH12 0.5-1.0B, BH16 0.0-0.4B, BH18 0.0-0.5B, BH18 0.5-1.0B, BH19 0.0-0.4B	**17-FEB-2015**	**---**	16-AUG-2015	----	**04-MAR-2015**	16-AUG-2015	✓
EA152: Soil Particle Density							
Snap Lock Bag (EA152)							
BH12 0.0-0.5B, BH12 0.5-1.0B, BH16 0.0-0.4B, BH18 0.0-0.5B, BH18 0.5-1.0B, BH19 0.0-0.4B	**17-FEB-2015**	**---**	16-AUG-2015	----	**05-MAR-2015**	16-AUG-2015	✓
EG005-SD: Total Metals in Sediments by ICP-AES							
Soil Glass Jar - Unpreserved (EG005-SD)							
BH12 0.0-0.5A, BH12 0.5-1.0A, BH16 0.0-0.4A, BH18 0.0-0.5A, BH18 0.5-1.0A, BH18 1.0-1.35A, BH19 0.0-0.4A	**17-FEB-2015**	**28-FEB-2015**	16-AUG-2015	✓	**02-MAR-2015**	16-AUG-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020-SD: Total Metals in Sediments by ICPMS							
Soil Glass Jar - Unpreserved (EG020-SD)							
BH12 0.0-0.5A, BH12 0.5-1.0A, BH16 0.0-0.4A, BH18 0.0-0.5A, BH18 0.5-1.0A, BH18 1.0-1.35A, BH19 0.0-0.4A	**17-FEB-2015**	**28-FEB-2015**	16-AUG-2015	✓	**02-MAR-2015**	16-AUG-2015	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T-LL)							
BH12 0.0-0.5A, BH12 0.5-1.0A, BH16 0.0-0.4A, BH18 0.0-0.5A, BH18 0.5-1.0A, BH18 1.0-1.35A, BH19 0.0-0.4A	**17-FEB-2015**	**28-FEB-2015**	17-MAR-2015	✓	**02-MAR-2015**	17-MAR-2015	✓
EK057G: Nitrite as N by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK057G)							
BH12 0.0-0.5A, BH12 0.5-1.0A, BH16 0.0-0.4A, BH18 0.0-0.5A, BH18 0.5-1.0A, BH18 1.0-1.35A, BH19 0.0-0.4A	**17-FEB-2015**	**26-FEB-2015**	16-AUG-2015	✓	**26-FEB-2015**	16-AUG-2015	✓
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK059G)							
BH12 0.0-0.5A, BH12 0.5-1.0A, BH16 0.0-0.4A, BH18 0.0-0.5A, BH18 0.5-1.0A, BH18 1.0-1.35A, BH19 0.0-0.4A	**17-FEB-2015**	**26-FEB-2015**	16-AUG-2015	✓	**26-FEB-2015**	16-AUG-2015	✓
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser							
Soil Glass Jar - Unpreserved (EK061G)							
BH12 0.0-0.5A, BH12 0.5-1.0A, BH16 0.0-0.4A, BH18 0.0-0.5A, BH18 0.5-1.0A, BH18 1.0-1.35A, BH19 0.0-0.4A	**17-FEB-2015**	**26-FEB-2015**	16-AUG-2015	✓	**27-FEB-2015**	16-AUG-2015	✓
EK067G: Total Phosphorus as P by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK067G)							
BH12 0.0-0.5A, BH12 0.5-1.0A, BH16 0.0-0.4A, BH18 0.0-0.5A, BH18 0.5-1.0A, BH18 1.0-1.35A, BH19 0.0-0.4A	**17-FEB-2015**	**26-FEB-2015**	16-AUG-2015	✓	**27-FEB-2015**	16-AUG-2015	✓
EK255A SD Ammonia in Sediment							
Soil Glass Jar - Unpreserved (EK255A SD)							
BH12 0.0-0.5A, BH12 0.5-1.0A, BH16 0.0-0.4A, BH18 0.0-0.5A, BH18 0.5-1.0A, BH18 1.0-1.35A, BH19 0.0-0.4A	**17-FEB-2015**	**----**	----	----	**23-FEB-2015**	16-AUG-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP003: Total Organic Carbon (TOC) in Soil							
Pulp Bag (EP003)							
BH12 0.0-0.5A, BH12 0.5-1.0A, BH16 0.0-0.4A, BH18 0.0-0.5A, BH18 0.5-1.0A, BH18 1.0-1.35A, BH19 0.0-0.4A	**17-FEB-2015**	**02-MAR-2015**	17-MAR-2015	✓	**02-MAR-2015**	17-MAR-2015	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013							
Soil Glass Jar - Unpreserved (EP071-SD)							
BH12 0.0-0.5A, BH12 0.5-1.0A, BH16 0.0-0.4A, BH18 0.0-0.5A, BH18 0.5-1.0A, BH18 1.0-1.35A, BH19 0.0-0.4A, TRIP BLANK 13	**17-FEB-2015**	**26-FEB-2015**	03-MAR-2015	✓	**27-FEB-2015**	07-APR-2015	✓
EP080-SD: BTEXN							
Soil Glass Jar - Unpreserved (EP080-SD)							
BH12 0.3V, BH12 0.7V, BH16 0.3V, BH18 0.3V, BH18 0.7V, BH19 0.3V, TRIP BLANK 13	**17-FEB-2015**	**23-FEB-2015**	03-MAR-2015	✓	**27-FEB-2015**	03-MAR-2015	✓
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080-SD)							
BH12 0.3V, BH12 0.7V, BH16 0.3V, BH18 0.3V, BH18 0.7V, BH19 0.3V, TRIP BLANK 13	**17-FEB-2015**	**23-FEB-2015**	03-MAR-2015	✓	**27-FEB-2015**	03-MAR-2015	✓
EP090: Organotin Compounds							
Soil Glass Jar - Unpreserved (EP090)							
BH12 0.0-0.5A, BH12 0.5-1.0A, BH16 0.0-0.4A, BH18 0.0-0.5A, BH18 0.5-1.0A, BH18 1.0-1.35A, BH19 0.0-0.4A	**17-FEB-2015**	**20-FEB-2015**	03-MAR-2015	✓	**23-FEB-2015**	01-APR-2015	✓
EP130A: Organophosphorus Pesticides (Ultra-trace)							
Soil Glass Jar - Unpreserved (EP130)							
BH12 0.0-0.5A, BH12 0.5-1.0A, BH16 0.0-0.4A, BH18 0.0-0.5A, BH18 0.5-1.0A, BH18 1.0-1.35A, BH19 0.0-0.4A	**17-FEB-2015**	**24-FEB-2015**	03-MAR-2015	✓	**02-MAR-2015**	05-APR-2015	✓
EP131A: Organochlorine Pesticides							
Soil Glass Jar - Unpreserved (EP131A)							
BH12 0.0-0.5A, BH12 0.5-1.0A, BH16 0.0-0.4A, BH18 0.0-0.5A, BH18 0.5-1.0A, BH18 1.0-1.35A, BH19 0.0-0.4A	**17-FEB-2015**	**24-FEB-2015**	03-MAR-2015	✓	**02-MAR-2015**	05-APR-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP131B: Polychlorinated Biphenyls (as Aroclors)							
Soil Glass Jar - Unpreserved (EP131B)							
BH12 0.0-0.5A, BH12 0.5-1.0A, BH16 0.0-0.4A, BH18 0.0-0.5A, BH18 0.5-1.0A, BH18 1.0-1.35A, BH19 0.0-0.4A	**17-FEB-2015**	**24-FEB-2015**	03-MAR-2015	✓	**02-MAR-2015**	05-APR-2015	✓
EP132B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP132B-SD)							
BH12 0.0-0.5A, BH12 0.5-1.0A, BH16 0.0-0.4A, BH18 0.0-0.5A, BH18 0.5-1.0A, BH18 1.0-1.35A, BH19 0.0-0.4A	**17-FEB-2015**	**26-FEB-2015**	03-MAR-2015	✓	**27-FEB-2015**	07-APR-2015	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Ammonia in Sediments	EK255A SD	1	7	14.3	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Moisture Content	EA055-103	2	13	15.4	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	2	19	10.5	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	2	16	12.5	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	2	16	12.5	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	2	16	12.5	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	2	14	14.3	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	2	16	12.5	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	2	16	12.5	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	2	21	9.5	9.5	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	19	10.5	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	19	10.5	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	19	10.5	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	1	9	11.1	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	2	18	11.1	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	2	13	15.4	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Ammonia in Sediments	EK255A SD	1	7	14.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	1	19	5.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	1	16	6.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	16	6.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	16	6.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	1	14	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	16	6.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	16	6.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	3	21	14.3	14.3	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	1	19	5.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	1	19	5.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	1	19	5.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	1	9	11.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	3	20	15.0	15.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	1	18	5.6	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	1	13	7.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Method Blanks (MB)							
Ammonia in Sediments	EK255A SD	1	7	**14.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	1	16	**6.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	16	**6.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	16	**6.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	1	14	**7.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	16	**6.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	16	**6.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	1	21	**4.8**	**4.8**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	1	13	**7.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia in Sediments	EK255A SD	1	7	**14.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	1	16	**6.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	16	**6.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	16	**6.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	1	14	**7.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	16	**6.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	16	**6.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	1	21	**4.8**	**4.8**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	1	18	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	1	13	**7.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055-103	SOIL	In-house. A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Particle Size Analysis by Hydrometer	EA150H	SOIL	Particle Size Analysis by Hydrometer according to AS1289.3.6.3 - 2003
Soil Particle Density	* EA152	SOIL	Soil Particle Density by AS 1289.3.5.1-2006 : Methods of testing soils for engineering purposes - Soil classification tests - Determination of the soil particle density of a soil - Standard method A modification of the AS 1289.3.5.1 method may apply when testing dispersed soils also tested by AS1289.3.6.3. This modification uses the dispersion solution from AS1289.3.6.3 in place of water for density determinations
Total Fe and Al in Sediments by ICPAES	EG005-SD	SOIL	In house: Referenced to APHA 21st ed., 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3). LORs per NODG
Total Metals in Sediments by ICPMS	EG020-SD	SOIL	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector. Analyte list and LORs per NODG.
Total Mercury by FIMS (Low Level)	EG035T-LL	SOIL	In house: Referenced to AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Nitrite as N - Soluble by Discrete Analyser	EK057G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3- B. Nitrite in a water extract is determined by direct colourimetry by Discrete Analyser.
Nitrate as N - Soluble by Discrete Analyser	EK058G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3--F. Nitrate in the 1:5 soil:water extract is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results.
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3- F. Combined oxidised Nitrogen (NO2+NO3) in a water extract is determined by Chemical Reduction, and direct colourimetry by Discrete Analyser.
TKN as N By Discrete Analyser	EK061G	SOIL	In house: Referenced to APHA 21st ed., 4500-Norg-D Soil samples are digested using Kjeldahl digestion followed by determination by Discrete Analyser.
Total Nitrogen as N (TKN + NOx) By Discrete Analyser	EK062G	SOIL	In house: Referenced to APHA 21st ed., 4500 Norg/NO3- Total Nitrogen is determined as the sum of TKN and Oxidised Nitrrogen, each determined seperately as N.
Total Phosporus By Discrete Analyser	EK067G	SOIL	In house: Referenced to APHA 21st ed., 4500 P-B&F This procedure involves sulfuric acid digestion and quantification using Discrete Analyser.
Ammonia in Sediments	EK255A SD	SOIL	Rayment and Higginson (1992) Method 7C1 and 7C2. This method measures exchangeable ammonium which is defined by the amount of ammonium released by shaking sediment with an un-buffered 2M potassium chloride solution.

Analytical Methods	Method	Matrix	Method Descriptions
Total Organic Carbon	EP003	SOIL	In-house C-IR17. Dried and pulverised sample is reacted with acid to remove inorganic Carbonates, then combusted in a LECO furnace in the presence of strong oxidants / catalysts. The evolved (Organic) Carbon (as CO2) is automaticaly measured by infra-red detector.
TPH - Semivolatile Fraction	EP071-SD	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 504)
TRH Volatiles/BTEX in Sediments	EP080-SD	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve.
Organotin Analysis	EP090	SOIL	(USEPA SW 846 - 8270D) Prepared sample extracts are analysed by GC/MS coupled with high volume injection, and quanitified against an established calibration curve.
Organophosphorus Pesticides (Ultra-trace)	EP130	SOIL	USEPA Method 3640 (GPC cleanup), 8141 (GC/FPD - Capillary Column) This technique is compliant with NEPM (2013) Schedule B(3) (Method 505)
Organochlorine Pesticides (Ultra-trace)	EP131A	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (2013) Schedule B(3) (Method 504)
PCB's (Ultra-trace)	EP131B	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (2013) Schedule B(3) (Method 504)
PAHs in Sediments by GCMS(SIM)	EP132B-SD	SOIL	USEPA 8270 GCMS Capillary column, SIM mode using large volume programmed temperature vaporisation injection.

Preparation Methods	Method	Matrix	Method Descriptions
TKN/TP Digestion	EK061/EK067	SOIL	APHA 21st ed., 4500 Norg- D; APHA 21st ed., 4500 P - H. Macro Kjeldahl digestion.
1:5 solid / water leach for soluble analytes	EN34	SOIL	10 g of soil is mixed with 50 mL of distilled water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids/ Sample Cleanup	ORG17A-UTP	SOIL	In-house, Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. Samples are extracted, concentrated (by KD) and exchanged into an appropriate solvent for GPC and florisil cleanup as required.
Tumbler Extraction of Solids for LVI (Non-concentrating)	ORG17D	SOIL	In house: 10g of sample, Na2SO4 and surrogate are extracted with 50mL 1:1 DCM/Acetone by end over end tumbling. An aliquot is concentrated by nitrogen blowdown to a reduced volume for analysis if required.
Organotin Sample Preparation	ORG35	SOIL	In house. 20g sample is spiked with surrogate and leached in a methanol:acetic acid:UHP water mix and vacuum filtered. Reagents and solvents are added to the sample and the mixture tumbled. The butyltin compounds are simultaneously derivatised and extracted. The extract is further extracted with petroleum ether. The resultant extracts are combined and concentrated for analysis.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW 846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG020-SD: Total Metals in Sediments by ICPMS	ES1503973-004	Anonymous	**Chromium**	7440-47-3	25.7 %	0-20%	**RPD exceeds LOR based limits**
EG020-SD: Total Metals in Sediments by ICPMS	ES1503916-001	BH12 0.0-0.5A	**Cobalt**	7440-48-4	26.6 %	0-20%	**RPD exceeds LOR based limits**
EG020-SD: Total Metals in Sediments by ICPMS	ES1503916-001	BH12 0.0-0.5A	**Manganese**	7439-96-5	55.1 %	0-20%	**RPD exceeds LOR based limits**
EG020-SD: Total Metals in Sediments by ICPMS	ES1503916-001	BH12 0.0-0.5A	**Zinc**	7440-66-6	23.8 %	0-20%	**RPD exceeds LOR based limits**
Matrix Spike (MS) Recoveries							
EP090: Organotin Compounds	ES1503916-001	BH12 0.0-0.5A	**Monobutyltin**	78763-54-9	17.8 %	35-130%	**Recovery less than lower data quality objective**

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Laboratory Control outliers occur.**

Regular Sample Surrogates

- **For all regular sample matrices, no surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- **No Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle): Custody Seal Intact? Yes / No / N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: (1) 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 (14)	Other comments:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 22-Feb-15	DATE/TIME: 22-Feb-15 1845
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: KSchafer	RECEIVED BY: Dan
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 23.2.15 1600	DATE/TIME: 24/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	EB8 0.0-0.5 A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
2	EB8 0.5-1.0 A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
3	EB8 0.0-0.5 B	22/02/2015	S	Bag (White label)	1		1							
4	EB8 0.5-1.0 B	22/02/2015	S	Bag (White label)	1		1							
5	EB8 0.3V	22/02/2015	S	Glass Jar (150 ml)	1			1						
6	EB8 0.7V	22/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	7	2	2	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

150ml A Jars and 500ml Amber sent direct to Brisbane for TOC/TBT

Subcon / Forward Lab / Split WO
Lab / Analysis: Newcastle / PSD
Organised By / Date:
Relinquished By / Date:
Connote / Courier:
WO No:
Attach By PO / Internal Sheet:

Environmental Division Sydney

Work Order

ES1504301

Telephone : +61-2-8784 8555

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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle): Custody Seal Intact? Yes No N/A; Free ice / frozen ice bricks present upon receipt? Yes No N/A; Random Sample Temperature on Receipt: °C; Other comment:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 (2) 3 4 5 6 7	
ORDER NUMBER: 245563		OF: 1 2 3 4 5 6 (14)	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: *Georgina Kerr*	RECEIVED BY: *Kelly Schafer*	RELINQUISHED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 22-Feb-15	DATE/TIME: 22-Feb-15 1845	DATE/TIME: 23.2.15 1600
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com				
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com				

RECEIVED BY: Paul	
DATE/TIME: 24/2 0900	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH				Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
7	EB10 0.0-0.5 A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
8	EB10 0.5-1.0 A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
9	EB10 0.0-0.5 B	22/02/2015	S	Bag (White label)	1		1								
10	EB10 0.5-1.0 B	22/02/2015	S	Bag (White label)	1		1								
11	EB10 0.3V	22/02/2015	S	Glass Jar (150 ml)	1			1							
12	EB10 0.7V	22/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	8	2	2	2							

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

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ALS Laboratory: please tick →

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle):**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround		Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 (3) 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Other comments:

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		22-Feb-15	22-Feb-15 1845	23.2.15 1600

RECEIVED BY:	**DATE/TIME:**
Dan	24/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
13	EB13 0.0-0.7A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
14	EB13 0.0-0.7B	22/02/2015	S	Bag (White label)	1		1							
15	EB13 0.3V	22/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	2		1	1						

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 08 9209 7655 E: samples.perth@alsglobe.com

SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: patricia.t.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		22-Feb-15	22-Feb-15 1845

RELINQUISHED BY:	RECEIVED BY:
KS	Dan
DATE/TIME: 23-2-15 1600	DATE/TIME: 24/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP068-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
16	EB18 0.0-0.5A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
17	EB18 0.5-0.85A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
18	EB18 0.0-0.5B	22/02/2015	S	Bag (White label)	1		1							
19	EB18 0.5-0.85B	22/02/2015	S	Bag (White label)	1		1							
20	EB18 0.3V	22/02/2015	S	Glass Jar (150 ml)	1			1						
21	EB18 0.7V	22/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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GLADSTONE 46 Callemondah Drive Clinton QLD 4680
Ph: 07 7471 5600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 0433 E: samples.newcastle@alsglobal.com
ORANGE 4-13 Gilray Place North Orange NSW 2800
Ph: 02 6393 2063 E: orange@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
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Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 22-Feb-15	DATE/TIME: 22-Feb-15 1815
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 23.2.15 1600	DATE/TIME: 24/2 0905

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
22	EB19 0.0-0.5 A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
23	EB19 0.5-0.8 A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
24	EB19 0.0-0.5 B	22/02/2015	S	Bag (White label)	1		1								
25	EB19 0.5-0.8 B	22/02/2015	S	Bag (White label)	1		1								
26	EB19 0.3V	22/02/2015	S	Glass Jar (150 ml)	1			1							
27	EB19 0.7V	22/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	7	2	2	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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MACKAY 78 Harbour Road Mackay QLD 4740
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MELBOURNE 2-4 Westall Road Springvale VIC 3171
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MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
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Ph: 02 7784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: laminaville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245563		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 8	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		22-Feb-15	22-Feb-15 1845

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME:	DATE/TIME:
23.2.15 1600	24/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
28	EB20 0.0-0.6 A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
29	EB20 0.0-0.6 B	22/02/2015	S	Bag (White label)	1		1							
30	EB20 0.3V	22/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 07 4944 0177 E: mackay@alsglobal.com
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PERTH 90 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes / No / N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 7A	Other comments:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 22-Feb-15	DATE/TIME: 22-Feb-15 1845
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY:	RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 23.2.15 1600	DATE/TIME: 24/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
31	EB21 0.0-0.5 A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
32	EB21 0.5-1.0 A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
33	EB21 0.0-0.5 B	22/02/2015	S	Bag (White label)	1		1							
34	EB21 0.5-1.0 B	22/02/2015	S	Bag (White label)	1		1							
35	EB21 0.3V	22/02/2015	S	Glass Jar (150 ml)	1			1						
36	EB21 0.7V	22/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (30) OF: 1 2 3 4 5 6 (4)
PROJECT: GPC Geochemical Investigation		FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A; Free ice / frozen ice blocks present upon receipt? Yes No N/A; Random Sample Temperature on Receipt: °C; Other comment:
ORDER NUMBER: 245553		
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*		Dan
DATE/TIME: 22-Feb-15	DATE/TIME: 22-Feb-15 1845	DATE/TIME: 23.2.15 1600	DATE/TIME: 24/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
37	EB23 0.0-0.5 A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
38	EB23 0.5-~~1.0~~ 0.7 A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
39	EB23 0.0-0.5 B	22/02/2015	S	Bag (White label)	1		1								
40	EB23 0.5-1.0 B	22/02/2015	S	Bag (White label)	1		1								
41	EB23 0.3V	22/02/2015	S	Glass Jar (150 ml)	1			1							
42	EB23 0.7V	22/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	7	2	2	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

received as EB23 0.5-0.7 B

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes / No / N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6	Random Sample Temperature on Receipt: °C
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6	Other comment:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 22-Feb-15	DATE/TIME: 22-Feb-15 1845
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: KS	RECEIVED BY: Dan
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 23.2.15 1600	DATE/TIME: 24/2 am

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
43	EB24 0.0-0.5 A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
44	EB24 0.5-1.0 A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
45	EB24 0.0-0.5 B	22/02/2015	S	Bag (White label)	1		1								
46	EB24 0.5-1.0 B	22/02/2015	S	Bag (White label)	1		1								
47	EB24 0.3V	22/02/2015	S	Glass Jar (150 ml)	1			1							
48	EB24 0.7V	22/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	7	2	2	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 8403 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 024423 2063 E: nowra@als.global.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 246563	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (10)	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Other comment:	

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer		Dan
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		22-Feb-15	22-Feb-15 1805	23.2.15 1600	24/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
49	EB25 0.0-0.6 A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
50	EB25 0.0-0.6 B	22/02/2015	S	Bag (White label)	1		1							
51	EB25 0.3V	22/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com

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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (11)	Random Sample Temperature on Receipt: C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (4)	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		22-Feb-15	22-Feb-15 1845

RELINQUISHED BY:	RECEIVED BY:
KS	Dan
DATE/TIME: 23-2-15 1600	DATE/TIME: 24/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION	ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
52	EB29 0.0-0.5 A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
53	EB29 0.0-0.5 B	22/02/2015	S	Bag (White label)	1		1							
54	EB29 0.3V	22/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date):	5 day turnaround
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (12) OF: 1 2 3 4 5 6 (14)	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A; Free ice / frozen ice bricks present upon receipt? Yes No N/A; Random Sample Temperature on Receipt: °C; Other comment:
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 22-Feb-15	DATE/TIME: 22-Feb-15 1845
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: KS	RECEIVED BY: Paul
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 23.2.15 1600	DATE/TIME: 24/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
55	EB30 0.0-0.5 A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
56	EB30 0.5-0.8 A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
57	EB30 0.0-0.5 B	22/02/2015	S	Bag (White label)	1		1							
58	EB30 0.5-0.8 B	22/02/2015	S	Bag (White label)	1		1							
59	EB30 0.3V	22/02/2015	S	Glass Jar (150 ml)	1			1						
60	EB30 0.7V	22/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	7	2	2	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (13)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 22-Feb-15	DATE/TIME: 22-Feb-15 1895
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: XS	RECEIVED BY: Dan
		DATE/TIME: 23-2-15 1600	DATE/TIME: 24/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
61	EB35 0.0-0.5 A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
62	EB35 0.5-1.0 A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
63	EB35 0.0-0.5 B	22/02/2015	S	Bag (White label)	1		1							
64	EB35 0.5-1.0 B	22/02/2015	S	Bag (White label)	1		1							
65	EB35 0.3V	22/02/2015	S	Glass Jar (150 ml)	1			1						
66	EB35 0.7V	22/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	7	2	2	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; CRC = Nitric Preserved CRC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

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ALS Laboratory: please tick →

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OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free Ice / Frozen Ice Bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6	Random Sample Temperature on Receipt °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 22-Feb-15	DATE/TIME: 22-Feb-15 1845
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY:	RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 23.2.15 1600	DATE/TIME: 24/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	Rinsate Suite	Trip blank suite	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
67	Triplicate 12A	22/02/2015	S	Glass Jar (250 ml)	2	1								
68	Duplicate 5A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
~~69~~	~~Duplicate 5B~~	~~22/02/2015~~	~~S~~	~~Glass Jar (250 ml and 150 ml)~~	~~2~~									~~Send to Eurofins~~
69	~~Rinsate 12~~ Rinsate 13	22/02/2015	W	Bottle	8							1		
				TOTAL	12	1						1		

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

As per attached email.

Jacob Waugh

From: Saman Taeidi
Sent: Tuesday, 24 February 2015 8:18 AM
To: Jacob Waugh
Subject: FW: Emailing: 150222 ALS COC_GPC Geochem.xls, 150222 Eurofins Chain of Custody.xls
Attachments: 150222 ALS COC_GPC Geochem Rev 2.xls

Hi Jacob,

For this Aurecon batch ES1504301 received yesterday, the client wants to change a sample ID, 'Rinsate 12' to 'Rinsate 13'. I have changed it in the work order but can you please get someone to check the sample ID on the jar as well and change it?

Kind Regards

Saman Taeidi
Client Services Officer
ALS | Environmental Division
277-289 Woodpark Road
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-----Original Message-----
From: Sally Leyland [mailto:Sally.Leyland@aurecongroup.com]
Sent: Monday, 23 February 2015 5:53 PM
To: Kelly Schafer; Saman Taeidi
Cc: Zachary Chataway; Vanessa Turnbull
Subject: RE: Emailing: 150222 ALS COC_GPC Geochem.xls, 150222 Eurofins Chain of Custody.xls

Hi Saman,

Please can you change the Rinsate sample collected on 22 Feb 2015 from 'Rinsate 12' to 'Rinsate 13'? I expect these samples have already left Gladstone, so hope you can make the amendment.Thanks.

Regards,
Sally

Sally Leyland
Senior Environmental Scientist, Aurecon
T +61 7 3173 8006 F +61 7 3173 8001 M +61 477 736 809 E sally.leyland@aurecongroup.com Level 14, 32 Turbot Street, Brisbane | QLD 4000 | Australia Locked Bag 331, Brisbane I QLD 4001 | Australia aurecongroup.com

-----Original Message-----
From: Sally Leyland

ALS Environmental

Tailored Analytical Services & Charges - Sediments - Aurecon Suite 1

Parameter	ALS Code	Technique/ Method Reference	LOR (mg/kg) (or as indicated)	No.	Price per Sample $	Total ($)
Moisture	EA055	In-house	1%	-	No Charge	Nil
Metals by ICP/MS (15 metals incl. Sb, As, Cd, Cr, Cu, Pb, Mn, Ni, Ag, Zn + low level Hg)	SD-3	USEPA 6020 APHA 3112 Hg-B	Sb:0.5 Cd, Ag:0.1 Mn:10 Others:1 Hg: 0.01	412	48.00	19,776.00
Organotins (Monobutyltin, Dibutyltin, Tributyltin)	EP090	In house GC/MS	0.5-1 µg Sn/kg		130.00	53,560.00
TRH (C10-C40) - Ultra trace including sum of C10-C40	EP071-SD	USEPA 3510/8015	3-5 per fraction		24.00	9,888.00
Ultra trace OC/OP Pesticides, PCB and PAH	SD-2	USEPA 3640/3620 USEPA8081/8082 USEPA 3640/8270	PAH: 0.004-0.005 PCB: 0.005 OC/OP: 0.0005-0.01		175.00	72,100.00
Ammonia as N - Low level	EK255A-SD	Rayment & Lyon 7C1 & 7C2	0.2		20.00	8,240.00
Nitrites N and Nitrates N	NT-4S	APHA 4500 NO3- - I/NO_2^--B APHA 4500 NO2- - I	0.1		55.00	22,660.00
Total Phosphorus as P	EK067	APHA 4500-P	2			
Total Nitrogen	EK062	APHA 4500 N_{org}/NO_3	20			
TOC (High temp furnace incl. prep)	EP003	In house	0.02%		20.00	8,240.00
TOTAL PROJECT COST FOR SEDIMENT SAMPLES (EXCL. GST):						194,464.00

Tailored Analytical Services & Charges - Sediments - Aurecon Suite 2

Parameter	ALS Code	Technique/ Method Reference	LOR (mg/kg) (or as indicated)	No.	Price per Sample $	Total ($)
Sizing - Particle Sizing plus Soil Particle Density (<2.36mm) and Hydrometer to 1-5 µm[1]	EA150-H/EA152	AS 1289 3.6.3	1%	412	110.00	45,320.00
TOTAL PROJECT COST FOR SEDIMENT SAMPLES (EXCL. GST):						45,320.00

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1504301**	Page	: 1 of 91
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553		
C-O-C number	: ----	Date Samples Received	: 23-FEB-2015
Sampler	: Georgina Kerr	Issue Date	: 19-MAR-2015
Site	: ----		
		No. of samples received	: 69
Quote number	: SY/1021/14 V2	No. of samples analysed	: 69

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.**
- **EG020T: Poor precision was obtained for Manganese on samples ES1504301# 001. Results have been confirmed by re-extraction and reanalysis.**
- **EP090: Matrix spike shows poor recovey for monobutyltin due to matrix interference, as shown by comparison with LCS recovery.**
- **EP090H: LCS shows poor recovery due to laboratory error. Insufficient sample for re-extraction and re-analysis.**

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Dianne Blane	Laboratory Coordinator (2IC)	Newcastle - Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
		Sydney Organics
Ryan Story	2IC Organic Instrument Chemist	Brisbane Organics
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils
Shobhna Chandra	Metals Coordinator	Sydney Inorganics
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB8 0.0-0.5A	EB8 0.5-1.0A	EB8 0.0-0.5B	EB8 0.5-1.0B	EB8 0.3V
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-001	ES1504301-002	ES1504301-003	ES1504301-004	ES1504301-005
EA150: Particle Sizing									
+75µm	----	1	%		----	----	**79**	**49**	----
+150µm	----	1	%		----	----	**51**	**25**	----
+300µm	----	1	%		----	----	**34**	**6**	----
+425µm	----	1	%		----	----	**23**	**2**	----
+600µm	----	1	%		----	----	**13**	<1	----
+1180µm	----	1	%		----	----	**9**	<1	----
+2.36mm	----	1	%		----	----	**8**	<1	----
+4.75mm	----	1	%		----	----	**5**	<1	----
+9.5mm	----	1	%		----	----	**5**	<1	----
+19.0mm	----	1	%		----	----	**5**	<1	----
+37.5mm	----	1	%		----	----	<1	<1	----
+75.0mm	----	1	%		----	----	<1	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**20.4**	**23.7**	----	----	**23.1**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	**8**	**24**	----
Silt (2-60 µm)	----	1	%		----	----	**5**	**17**	----
Sand (0.06-2.00 mm)	----	1	%		----	----	**79**	**59**	----
Gravel (>2mm)	----	1	%		----	----	**8**	<1	----
Cobbles (>6cm)	----	1	%		----	----	<1	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	**2.64**	**2.64**	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**6840**	**12400**	----	----	----
Iron	7439-89-6	50	mg/kg		**11800**	**22400**	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		**5.54**	**6.65**	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	----	----	----
Chromium	7440-47-3	1.0	mg/kg		**10.6**	**16.4**	----	----	----
Copper	7440-50-8	1.0	mg/kg		**4.4**	**13.3**	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		**4.0**	**7.4**	----	----	----
Lead	7439-92-1	1.0	mg/kg		**3.1**	**5.4**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB8 0.0-0.5A	EB8 0.5-1.0A	EB8 0.0-0.5B	EB8 0.5-1.0B	EB8 0.3V
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-001	ES1504301-002	ES1504301-003	ES1504301-004	ES1504301-005
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		108	94	----	----	----
Nickel	7440-02-0	1.0	mg/kg		4.5	8.9	----	----	----
Selenium	7782-49-2	0.1	mg/kg		0.2	0.4	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.1	<0.1	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		24.6	40.4	----	----	----
Zinc	7440-66-6	1.0	mg/kg		13.8	32.6	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	0.01	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		230	60	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		230	60	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		213	148	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		0.6	0.8	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		0.10	0.12	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	<3	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		<3	5	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	<5	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	5	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		<3	<3	----	----	----
C15 - C28 Fraction	----	3	mg/kg		<3	<3	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB8 0.0-0.5A	EB8 0.5-1.0A	EB8 0.0-0.5B	EB8 0.5-1.0B	EB8 0.3V
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-001	ES1504301-002	ES1504301-003	ES1504301-004	ES1504301-005
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	<5	----	----	----
^ **C10 - C36 Fraction (sum)**	----	3	mg/kg		<3	<3	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	----	<0.2
^ **Total Xylenes**	1330-20-7	0.5	mg/kg		----	----	----	----	<0.5
^ **Sum of BTEX**	----	0.2	mg/kg		----	----	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	<1	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	<1	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	<0.5	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	<10	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	<10	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	<10.0	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	<10	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	<10	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	<10	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	<10	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	<10	----	----	----
Ethion	563-12-2	10	µg/kg		<10	<10	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	<10	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	<10	----	----	----
Malathion	121-75-5	10	µg/kg		<10	<10	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	<10	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	<10	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB8 0.0-0.5A	EB8 0.5-1.0A	EB8 0.0-0.5B	EB8 0.5-1.0B	EB8 0.3V
			Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504301-001	ES1504301-002	ES1504301-003	ES1504301-004	ES1504301-005
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued								
Parathion	56-38-2	10	µg/kg	<10	<10	----	----	----
Parathion-methyl	298-00-0	10	µg/kg	<10	<10	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	----	----	----
Prothiofos	34643-46-4	10	µg/kg	<10	<10	----	----	----
EP131A: Organochlorine Pesticides								
Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	----	----	----
beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	----	----	----
delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	----	----	----
Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	----	----	----
Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	----	----	----
Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg	<0.50	<0.50	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)								
^ Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB8 0.0-0.5A	EB8 0.5-1.0A	EB8 0.0-0.5B	EB8 0.5-1.0B	EB8 0.3V
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504301-001	ES1504301-002	ES1504301-003	ES1504301-004	ES1504301-005
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	<5.0	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	<5	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	<5	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	<4	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	<4	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	<4	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	<4	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	<4	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	<4	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	<4	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	<4	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	<4	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	<4	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	<4	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	<4	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	<4	----	----	----
Perylene	198-55-0	4	µg/kg		<4	<4	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	<4	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	<4	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	<4	----	----	----
Coronene	191-07-1	5	µg/kg		<5	<5	----	----	----
^ Sum of PAHs	----	4	µg/kg		<4	<4	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	----	**120**
Toluene-D8	2037-26-5	0.1	%		----	----	----	----	**117**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	----	**107**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**96.9**	**82.5**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB8 0.0-0.5A	EB8 0.5-1.0A	EB8 0.0-0.5B	EB8 0.5-1.0B	EB8 0.3V
			Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504301-001	ES1504301-002	ES1504301-003	ES1504301-004	ES1504301-005
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	92.0	72.6	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	98.9	88.1	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	100	87.5	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	80.0	88.3	----	----	----
Anthracene-d10	1719-06-8	0.1	%	113	110	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	123	121	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB8 0.7V	EB10 0.0-0.5A	EB10 0.5-1.0A	EB10 0.0-0.5B	EB10 0.5-1.0B
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-006	ES1504301-007	ES1504301-008	ES1504301-009	ES1504301-010
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	**77**	**82**
+150µm	----	1	%		----	----	----	**64**	**64**
+300µm	----	1	%		----	----	----	**47**	**39**
+425µm	----	1	%		----	----	----	**40**	**31**
+600µm	----	1	%		----	----	----	**33**	**24**
+1180µm	----	1	%		----	----	----	**17**	**14**
+2.36mm	----	1	%		----	----	----	**5**	**8**
+4.75mm	----	1	%		----	----	----	<1	**4**
+9.5mm	----	1	%		----	----	----	<1	**3**
+19.0mm	----	1	%		----	----	----	<1	<1
+37.5mm	----	1	%		----	----	----	<1	<1
+75.0mm	----	1	%		----	----	----	<1	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**19.9**	**25.6**	**25.2**	----	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	**8**	**8**
Silt (2-60 µm)	----	1	%		----	----	----	**3**	**3**
Sand (0.06-2.00 mm)	----	1	%		----	----	----	**81**	**79**
Gravel (>2mm)	----	1	%		----	----	----	**8**	**10**
Cobbles (>6cm)	----	1	%		----	----	----	<1	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	**2.65**	**2.64**
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	**7840**	**7540**	----	----
Iron	7439-89-6	50	mg/kg		----	**14000**	**14800**	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	<0.50	<0.50	----	----
Arsenic	7440-38-2	1.00	mg/kg		----	**18.6**	**12.0**	----	----
Cadmium	7440-43-9	0.1	mg/kg		----	<0.1	<0.1	----	----
Chromium	7440-47-3	1.0	mg/kg		----	**13.1**	**11.8**	----	----
Copper	7440-50-8	1.0	mg/kg		----	**3.6**	**4.4**	----	----
Cobalt	7440-48-4	0.5	mg/kg		----	**5.8**	**6.1**	----	----
Lead	7439-92-1	1.0	mg/kg		----	**3.9**	**3.4**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB8 0.7V	EB10 0.0-0.5A	EB10 0.5-1.0A	EB10 0.0-0.5B	EB10 0.5-1.0B
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504301-006	ES1504301-007	ES1504301-008	ES1504301-009	ES1504301-010
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	**312**	**301**	----	----
Nickel	7440-02-0	1.0	mg/kg		----	**5.9**	**5.8**	----	----
Selenium	7782-49-2	0.1	mg/kg		----	**0.4**	**0.3**	----	----
Silver	7440-22-4	0.1	mg/kg		----	<0.1	<0.1	----	----
Vanadium	7440-62-2	2.0	mg/kg		----	**27.2**	**22.9**	----	----
Zinc	7440-66-6	1.0	mg/kg		----	**13.6**	**13.7**	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	<0.01	<0.01	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	**180**	**160**	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	**180**	**160**	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	**274**	**314**	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	**0.6**	**0.4**	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	**0.16**	**0.15**	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	<3	<3	----	----
>C16 - C34 Fraction	----	3	mg/kg		----	**6**	**12**	----	----
>C34 - C40 Fraction	----	5	mg/kg		----	<5	**5**	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	**6**	**17**	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	----	----	----	----
C10 - C14 Fraction	----	3	mg/kg		----	**4**	**3**	----	----
C15 - C28 Fraction	----	3	mg/kg		----	**3**	**5**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB8 0.7V	EB10 0.0-0.5A	EB10 0.5-1.0A	EB10 0.0-0.5B	EB10 0.5-1.0B
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-006	ES1504301-007	ES1504301-008	ES1504301-009	ES1504301-010
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	<5	10	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	7	18	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	----	----	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.2	mg/kg		<0.2	----	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	----	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	----	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	<1	<1	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	<1	<1	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	<0.5	<0.5	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	<10	<10	----	----
Carbophenothion	786-19-6	10	µg/kg		----	<10	<10	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	<10.0	<10.0	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	<10	<10	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	<10	<10	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	<10	<10	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	<10	<10	----	----
Diazinon	333-41-5	10	µg/kg		----	<10	<10	----	----
Dichlorvos	62-73-7	10	µg/kg		----	<10	<10	----	----
Dimethoate	60-51-5	10	µg/kg		----	<10	<10	----	----
Ethion	563-12-2	10	µg/kg		----	<10	<10	----	----
Fenamiphos	22224-92-6	10	µg/kg		----	<10	<10	----	----
Fenthion	55-38-9	10	µg/kg		----	<10	<10	----	----
Malathion	121-75-5	10	µg/kg		----	<10	<10	----	----
Azinphos Methyl	86-50-0	10	µg/kg		----	<10	<10	----	----
Monocrotophos	6923-22-4	10	µg/kg		----	<10	<10	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB8 0.7V	EB10 0.0-0.5A	EB10 0.5-1.0A	EB10 0.0-0.5B	EB10 0.5-1.0B
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-006	ES1504301-007	ES1504301-008	ES1504301-009	ES1504301-010
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	<10	<10	----	----
Parathion-methyl	298-00-0	10	µg/kg		----	<10	<10	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	<10	<10	----	----
Prothiofos	34643-46-4	10	µg/kg		----	<10	<10	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg		----	<0.50	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	<0.50	<0.50	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	<0.50	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	<0.50	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	<0.50	<0.50	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	<0.50	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	<0.50	<0.50	----	----
gamma-BHC	58-89-9	0.25	µg/kg		----	<0.25	<0.25	----	----
Methoxychlor	72-43-5	0.50	µg/kg		----	<0.50	<0.50	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	<0.25	<0.25	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	<0.25	<0.25	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		----	<0.25	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	<0.50	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	<5.0	<5.0	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB8 0.7V	EB10 0.0-0.5A	EB10 0.5-1.0A	EB10 0.0-0.5B	EB10 0.5-1.0B
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504301-006	ES1504301-007	ES1504301-008	ES1504301-009	ES1504301-010
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	<5.0	<5.0	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	<5	<5	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	<5	<5	----	----
Acenaphthylene	208-96-8	4	µg/kg		----	<4	<4	----	----
Acenaphthene	83-32-9	4	µg/kg		----	<4	<4	----	----
Fluorene	86-73-7	4	µg/kg		----	<4	<4	----	----
Phenanthrene	85-01-8	4	µg/kg		----	<4	<4	----	----
Anthracene	120-12-7	4	µg/kg		----	<4	<4	----	----
Fluoranthene	206-44-0	4	µg/kg		----	<4	<4	----	----
Pyrene	129-00-0	4	µg/kg		----	<4	<4	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	<4	<4	----	----
Chrysene	218-01-9	4	µg/kg		----	<4	<4	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	<4	<4	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	<4	<4	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	<4	<4	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	<4	<4	----	----
Perylene	198-55-0	4	µg/kg		----	<4	<4	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	<4	<4	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	<4	<4	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	<4	<4	----	----
Coronene	191-07-1	5	µg/kg		----	<5	<5	----	----
^ Sum of PAHs	----	4	µg/kg		----	<4	<4	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**74.1**	----	----	----	----
Toluene-D8	2037-26-5	0.1	%		**74.6**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**80.0**	----	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	**100**	**99.5**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB8 0.7V	EB10 0.0-0.5A	EB10 0.5-1.0A	EB10 0.0-0.5B	EB10 0.5-1.0B
			Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504301-006	ES1504301-007	ES1504301-008	ES1504301-009	ES1504301-010
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	79.5	73.6	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	92.1	75.1	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	100	87.5	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	86.1	75.3	----	----
Anthracene-d10	1719-06-8	0.1	%	----	111	122	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	108	117	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB10 0.3V	EB10 0.7V	EB13 0.0-0.7A	EB13 0.0-0.7B	EB13 0.3V
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-011	ES1504301-012	ES1504301-013	ES1504301-014	ES1504301-015
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	**40**	----
+150µm	----	1	%		----	----	----	**12**	----
+300µm	----	1	%		----	----	----	**8**	----
+425µm	----	1	%		----	----	----	**6**	----
+600µm	----	1	%		----	----	----	**4**	----
+1180µm	----	1	%		----	----	----	**2**	----
+2.36mm	----	1	%		----	----	----	**1**	----
+4.75mm	----	1	%		----	----	----	<1	----
+9.5mm	----	1	%		----	----	----	<1	----
+19.0mm	----	1	%		----	----	----	<1	----
+37.5mm	----	1	%		----	----	----	<1	----
+75.0mm	----	1	%		----	----	----	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**20.4**	**25.9**	**29.5**	----	**23.9**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	**27**	----
Silt (2-60 µm)	----	1	%		----	----	----	**19**	----
Sand (0.06-2.00 mm)	----	1	%		----	----	----	**52**	----
Gravel (>2mm)	----	1	%		----	----	----	**2**	----
Cobbles (>6cm)	----	1	%		----	----	----	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	**2.65**	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	**17200**	----	----
Iron	7439-89-6	50	mg/kg		----	----	**24600**	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	<0.50	----	----
Arsenic	7440-38-2	1.00	mg/kg		----	----	**9.68**	----	----
Cadmium	7440-43-9	0.1	mg/kg		----	----	**0.1**	----	----
Chromium	7440-47-3	1.0	mg/kg		----	----	**22.8**	----	----
Copper	7440-50-8	1.0	mg/kg		----	----	**21.9**	----	----
Cobalt	7440-48-4	0.5	mg/kg		----	----	**8.9**	----	----
Lead	7439-92-1	1.0	mg/kg		----	----	**7.3**	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB10 0.3V	EB10 0.7V	EB13 0.0-0.7A	EB13 0.0-0.7B	EB13 0.3V
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-011	ES1504301-012	ES1504301-013	ES1504301-014	ES1504301-015
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	**248**	----	----
Nickel	7440-02-0	1.0	mg/kg		----	----	**12.9**	----	----
Selenium	7782-49-2	0.1	mg/kg		----	----	**0.5**	----	----
Silver	7440-22-4	0.1	mg/kg		----	----	<0.1	----	----
Vanadium	7440-62-2	2.0	mg/kg		----	----	**51.8**	----	----
Zinc	7440-66-6	1.0	mg/kg		----	----	**35.2**	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	**0.02**	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	**290**	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ **Total Nitrogen as N**	----	20	mg/kg		----	----	**290**	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	**267**	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	**2.2**	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	**0.17**	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	<3	----	----
>C16 - C34 Fraction	----	3	mg/kg		----	----	**11**	----	----
>C34 - C40 Fraction	----	5	mg/kg		----	----	<5	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	**11**	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	<3	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		----	----	**3**	----	----
C15 - C28 Fraction	----	3	mg/kg		----	----	**6**	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB10 0.3V	EB10 0.7V	EB13 0.0-0.7A	EB13 0.0-0.7B	EB13 0.3V
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-011	ES1504301-012	ES1504301-013	ES1504301-014	ES1504301-015
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	**8**	----	----
^ **C10 - C36 Fraction (sum)**	----	3	mg/kg		----	----	**17**	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	<3	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
^ **Total Xylenes**	1330-20-7	0.5	mg/kg		<0.5	<0.5	----	----	<0.5
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	<1	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	<1	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	<0.5	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	<10	----	----
Carbophenothion	786-19-6	10	µg/kg		----	----	<10	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	<10.0	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	<10	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	<10	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	<10	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	<10	----	----
Diazinon	333-41-5	10	µg/kg		----	----	<10	----	----
Dichlorvos	62-73-7	10	µg/kg		----	----	<10	----	----
Dimethoate	60-51-5	10	µg/kg		----	----	<10	----	----
Ethion	563-12-2	10	µg/kg		----	----	<10	----	----
Fenamiphos	22224-92-6	10	µg/kg		----	----	<10	----	----
Fenthion	55-38-9	10	µg/kg		----	----	<10	----	----
Malathion	121-75-5	10	µg/kg		----	----	<10	----	----
Azinphos Methyl	86-50-0	10	µg/kg		----	----	<10	----	----
Monocrotophos	6923-22-4	10	µg/kg		----	----	<10	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB10 0.3V	EB10 0.7V	EB13 0.0-0.7A	EB13 0.0-0.7B	EB13 0.3V
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-011	ES1504301-012	ES1504301-013	ES1504301-014	ES1504301-015
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	<10	----	----
Parathion-methyl	298-00-0	10	µg/kg		----	----	<10	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	<10	----	----
Prothiofos	34643-46-4	10	µg/kg		----	----	<10	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg		----	----	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg		----	----	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg		----	----	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	<0.50	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	<0.50	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	----	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		----	----	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	<0.50	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	----	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		----	----	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg		----	----	<0.50	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	<0.50	----	----
gamma-BHC	58-89-9	0.25	µg/kg		----	----	<0.25	----	----
Methoxychlor	72-43-5	0.50	µg/kg		----	----	<0.50	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	<0.25	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	<0.25	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		----	----	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	<5.0	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB10 0.3V	EB10 0.7V	EB13 0.0-0.7A	EB13 0.0-0.7B	EB13 0.3V
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-011	ES1504301-012	ES1504301-013	ES1504301-014	ES1504301-015
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	<5.0	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	<5	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	<5	----	----
Acenaphthylene	208-96-8	4	µg/kg		----	----	<4	----	----
Acenaphthene	83-32-9	4	µg/kg		----	----	<4	----	----
Fluorene	86-73-7	4	µg/kg		----	----	<4	----	----
Phenanthrene	85-01-8	4	µg/kg		----	----	<4	----	----
Anthracene	120-12-7	4	µg/kg		----	----	<4	----	----
Fluoranthene	206-44-0	4	µg/kg		----	----	<4	----	----
Pyrene	129-00-0	4	µg/kg		----	----	<4	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	<4	----	----
Chrysene	218-01-9	4	µg/kg		----	----	<4	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	<4	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	<4	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	<4	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	<4	----	----
Perylene	198-55-0	4	µg/kg		----	----	<4	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	<4	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	<4	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	<4	----	----
Coronene	191-07-1	5	µg/kg		----	----	<5	----	----
^ **Sum of PAHs**	----	4	µg/kg		----	----	<4	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**95.1**	**93.3**	----	----	**92.9**
Toluene-D8	2037-26-5	0.1	%		**92.5**	**89.4**	----	----	**89.9**
4-Bromofluorobenzene	460-00-4	0.1	%		**89.0**	**86.5**	----	----	**85.4**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	**86.7**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB10 0.3V	EB10 0.7V	EB13 0.0-0.7A	EB13 0.0-0.7B	EB13 0.3V
			Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504301-011	ES1504301-012	ES1504301-013	ES1504301-014	ES1504301-015
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	77.4	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	68.1	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	75.0	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	86.0	----	----
Anthracene-d10	1719-06-8	0.1	%	----	----	109	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	111	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB18 0.0-0.5A	EB18 0.5-0.85A	EB18 0.0-0.5B	EB18 0.5-1.0B	EB18 0.3V
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-016	ES1504301-017	ES1504301-018	ES1504301-019	ES1504301-020
EA150: Particle Sizing									
+75µm	----	1	%		----	----	**42**	**23**	----
+150µm	----	1	%		----	----	**13**	**5**	----
+300µm	----	1	%		----	----	**8**	**2**	----
+425µm	----	1	%		----	----	**7**	**2**	----
+600µm	----	1	%		----	----	**6**	**2**	----
+1180µm	----	1	%		----	----	**5**	**1**	----
+2.36mm	----	1	%		----	----	**4**	<1	----
+4.75mm	----	1	%		----	----	**3**	<1	----
+9.5mm	----	1	%		----	----	<1	<1	----
+19.0mm	----	1	%		----	----	<1	<1	----
+37.5mm	----	1	%		----	----	<1	<1	----
+75.0mm	----	1	%		----	----	<1	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**22.0**	**22.8**	----	----	**21.1**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	**31**	**32**	----
Silt (2-60 µm)	----	1	%		----	----	**20**	**36**	----
Sand (0.06-2.00 mm)	----	1	%		----	----	**45**	**31**	----
Gravel (>2mm)	----	1	%		----	----	**4**	**1**	----
Cobbles (>6cm)	----	1	%		----	----	<1	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	**2.62**	**2.56**	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**6750**	**20100**	----	----	----
Iron	7439-89-6	50	mg/kg		**13500**	**26300**	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		**12.4**	**7.64**	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	----	----	----
Chromium	7440-47-3	1.0	mg/kg		**13.5**	**24.0**	----	----	----
Copper	7440-50-8	1.0	mg/kg		**4.1**	**30.2**	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		**6.3**	**22.8**	----	----	----
Lead	7439-92-1	1.0	mg/kg		**3.6**	**8.6**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB18 0.0-0.5A	EB18 0.5-0.85A	EB18 0.0-0.5B	EB18 0.5-1.0B	EB18 0.3V
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504301-016	ES1504301-017	ES1504301-018	ES1504301-019	ES1504301-020
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		429	1050	----	----	----
Nickel	7440-02-0	1.0	mg/kg		5.1	13.4	----	----	----
Selenium	7782-49-2	0.1	mg/kg		0.3	1.0	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.1	<0.1	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		31.1	58.7	----	----	----
Zinc	7440-66-6	1.0	mg/kg		18.8	44.6	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	0.02	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		120	190	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		120	190	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		261	210	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		0.8	1.5	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		0.13	0.18	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	<3	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		6	3	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	<5	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		6	3	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		4	<3	----	----	----
C15 - C28 Fraction	----	3	mg/kg		3	<3	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB18 0.0-0.5A	EB18 0.5-0.85A	EB18 0.0-0.5B	EB18 0.5-1.0B	EB18 0.3V
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-016	ES1504301-017	ES1504301-018	ES1504301-019	ES1504301-020
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	<5	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		7	<3	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	----	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	<1	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	<1	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	<0.5	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	<10	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	<10	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	<10.0	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	<10	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	<10	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	<10	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	<10	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	<10	----	----	----
Ethion	563-12-2	10	µg/kg		<10	<10	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	<10	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	<10	----	----	----
Malathion	121-75-5	10	µg/kg		<10	<10	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	<10	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	<10	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB18 0.0-0.5A	EB18 0.5-0.85A	EB18 0.0-0.5B	EB18 0.5-1.0B	EB18 0.3V
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-016	ES1504301-017	ES1504301-018	ES1504301-019	ES1504301-020
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	<10	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	<10	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	<10	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	<10	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	<0.50	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	<0.50	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	<0.50	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	<0.50	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	<0.50	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	<0.25	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	<0.50	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	<0.25	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	<0.25	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	<0.25	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	<0.50	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	<5.0	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB18 0.0-0.5A	EB18 0.5-0.85A	EB18 0.0-0.5B	EB18 0.5-1.0B	EB18 0.3V
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504301-016	ES1504301-017	ES1504301-018	ES1504301-019	ES1504301-020
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	<5.0	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	<5	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	<5	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	<4	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	<4	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	<4	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	<4	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	<4	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	<4	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	<4	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	<4	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	<4	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	<4	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	<4	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	<4	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	<4	----	----	----
Perylene	198-55-0	4	µg/kg		<4	<4	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	<4	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	<4	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	<4	----	----	----
Coronene	191-07-1	5	µg/kg		<5	<5	----	----	----
^ Sum of PAHs	----	4	µg/kg		<4	<4	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	----	99.8
Toluene-D8	2037-26-5	0.1	%		----	----	----	----	89.9
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	----	88.0
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		88.6	105	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB18 0.0-0.5A	EB18 0.5-0.85A	EB18 0.0-0.5B	EB18 0.5-1.0B	EB18 0.3V
			Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504301-016	ES1504301-017	ES1504301-018	ES1504301-019	ES1504301-020
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**76.4**	**76.0**	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**71.7**	**70.9**	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**87.5**	**87.5**	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**83.5**	**89.5**	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**104**	**108**	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	**121**	**121**	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB18 0.7V	EB19 0.0-0.5A	EB19 0.5-0.8A	EB19 0.0-0.5B	EB19 0.5-0.8B
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-021	ES1504301-022	ES1504301-023	ES1504301-024	ES1504301-025
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	**80**	**22**
+150µm	----	1	%		----	----	----	**13**	**6**
+300µm	----	1	%		----	----	----	**3**	**3**
+425µm	----	1	%		----	----	----	**2**	**3**
+600µm	----	1	%		----	----	----	**2**	**2**
+1180µm	----	1	%		----	----	----	<1	**1**
+2.36mm	----	1	%		----	----	----	<1	<1
+4.75mm	----	1	%		----	----	----	<1	<1
+9.5mm	----	1	%		----	----	----	<1	<1
+19.0mm	----	1	%		----	----	----	<1	<1
+37.5mm	----	1	%		----	----	----	<1	<1
+75.0mm	----	1	%		----	----	----	<1	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**22.7**	**33.0**	**23.4**	----	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	**7**	**46**
Silt (2-60 µm)	----	1	%		----	----	----	**5**	**25**
Sand (0.06-2.00 mm)	----	1	%		----	----	----	**87**	**28**
Gravel (>2mm)	----	1	%		----	----	----	**1**	**1**
Cobbles (>6cm)	----	1	%		----	----	----	<1	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	**2.67**	**2.60**
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	**9420**	**24200**	----	----
Iron	7439-89-6	50	mg/kg		----	**15100**	**36600**	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	<0.50	<0.50	----	----
Arsenic	7440-38-2	1.00	mg/kg		----	**9.58**	**8.48**	----	----
Cadmium	7440-43-9	0.1	mg/kg		----	<0.1	<0.1	----	----
Chromium	7440-47-3	1.0	mg/kg		----	**16.6**	**23.9**	----	----
Copper	7440-50-8	1.0	mg/kg		----	**6.8**	**32.2**	----	----
Cobalt	7440-48-4	0.5	mg/kg		----	**6.6**	**10.8**	----	----
Lead	7439-92-1	1.0	mg/kg		----	**4.8**	**12.9**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB18 0.7V	EB19 0.0-0.5A	EB19 0.5-0.8A	EB19 0.0-0.5B	EB19 0.5-0.8B
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-021	ES1504301-022	ES1504301-023	ES1504301-024	ES1504301-025
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	203	160	----	----
Nickel	7440-02-0	1.0	mg/kg		----	7.1	14.7	----	----
Selenium	7782-49-2	0.1	mg/kg		----	0.4	0.8	----	----
Silver	7440-22-4	0.1	mg/kg		----	<0.1	<0.1	----	----
Vanadium	7440-62-2	2.0	mg/kg		----	31.0	61.9	----	----
Zinc	7440-66-6	1.0	mg/kg		----	21.4	60.6	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	0.01	0.02	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	220	180	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	220	180	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	231	216	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	1.1	2.4	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	0.12	0.27	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	<3	<3	----	----
>C16 - C34 Fraction	----	3	mg/kg		----	6	5	----	----
>C34 - C40 Fraction	----	5	mg/kg		----	<5	<5	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	6	5	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	----	----	----	----
C10 - C14 Fraction	----	3	mg/kg		----	<3	<3	----	----
C15 - C28 Fraction	----	3	mg/kg		----	3	<3	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB18 0.7V	EB19 0.0-0.5A	EB19 0.5-0.8A	EB19 0.0-0.5B	EB19 0.5-0.8B
			Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504301-021	ES1504301-022	ES1504301-023	ES1504301-024	ES1504301-025
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued								
C29 - C36 Fraction	----	5	mg/kg	----	<5	<5	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg	----	3	<3	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons								
C6 - C10 Fraction	C6_C10	3	mg/kg	<3	----	----	----	----
EP080-SD: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	----	----	----	----
Toluene	108-88-3	0.2	mg/kg	<0.2	----	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	----	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	----	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg	<0.5	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg	<0.2	----	----	----	----
EP090: Organotin Compounds								
Monobutyltin	78763-54-9	1	µgSn/kg	----	<1	<1	----	----
Dibutyltin	1002-53-5	1	µgSn/kg	----	<1	<1	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg	----	<0.5	<0.5	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)								
Bromophos-ethyl	4824-78-6	10	µg/kg	----	<10	<10	----	----
Carbophenothion	786-19-6	10	µg/kg	----	<10	<10	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	----	<10.0	<10.0	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	----	<10	<10	----	----
Chlorpyrifos	2921-88-2	10	µg/kg	----	<10	<10	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg	----	<10	<10	----	----
Demeton-S-methyl	919-86-8	10	µg/kg	----	<10	<10	----	----
Diazinon	333-41-5	10	µg/kg	----	<10	<10	----	----
Dichlorvos	62-73-7	10	µg/kg	----	<10	<10	----	----
Dimethoate	60-51-5	10	µg/kg	----	<10	<10	----	----
Ethion	563-12-2	10	µg/kg	----	<10	<10	----	----
Fenamiphos	22224-92-6	10	µg/kg	----	<10	<10	----	----
Fenthion	55-38-9	10	µg/kg	----	<10	<10	----	----
Malathion	121-75-5	10	µg/kg	----	<10	<10	----	----
Azinphos Methyl	86-50-0	10	µg/kg	----	<10	<10	----	----
Monocrotophos	6923-22-4	10	µg/kg	----	<10	<10	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB18 0.7V	EB19 0.0-0.5A	EB19 0.5-0.8A	EB19 0.0-0.5B	EB19 0.5-0.8B
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-021	ES1504301-022	ES1504301-023	ES1504301-024	ES1504301-025
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	<10	<10	----	----
Parathion-methyl	298-00-0	10	µg/kg		----	<10	<10	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	<10	<10	----	----
Prothiofos	34643-46-4	10	µg/kg		----	<10	<10	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg		----	<0.50	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	<0.50	<0.50	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	<0.50	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	<0.50	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	<0.50	<0.50	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	<0.50	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	<0.50	<0.50	----	----
gamma-BHC	58-89-9	0.25	µg/kg		----	<0.25	<0.25	----	----
Methoxychlor	72-43-5	0.50	µg/kg		----	<0.50	<0.50	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	<0.25	<0.25	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	<0.25	<0.25	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		----	<0.25	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	<0.50	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	<5.0	<5.0	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB18 0.7V	EB19 0.0-0.5A	EB19 0.5-0.8A	EB19 0.0-0.5B	EB19 0.5-0.8B
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-021	ES1504301-022	ES1504301-023	ES1504301-024	ES1504301-025
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	<5.0	<5.0	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	<5	<5	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	<5	<5	----	----
Acenaphthylene	208-96-8	4	µg/kg		----	<4	<4	----	----
Acenaphthene	83-32-9	4	µg/kg		----	<4	<4	----	----
Fluorene	86-73-7	4	µg/kg		----	<4	<4	----	----
Phenanthrene	85-01-8	4	µg/kg		----	<4	<4	----	----
Anthracene	120-12-7	4	µg/kg		----	<4	<4	----	----
Fluoranthene	206-44-0	4	µg/kg		----	<4	<4	----	----
Pyrene	129-00-0	4	µg/kg		----	<4	<4	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	<4	<4	----	----
Chrysene	218-01-9	4	µg/kg		----	<4	<4	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	<4	<4	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	<4	<4	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	<4	<4	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	<4	<4	----	----
Perylene	198-55-0	4	µg/kg		----	<4	<4	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	<4	<4	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	<4	<4	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	<4	<4	----	----
Coronene	191-07-1	5	µg/kg		----	<5	<5	----	----
^ **Sum of PAHs**	----	4	µg/kg		----	<4	<4	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**74.9**	----	----	----	----
Toluene-D8	2037-26-5	0.1	%		**78.6**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**74.4**	----	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	**81.3**	**91.6**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB18 0.7V	EB19 0.0-0.5A	EB19 0.5-0.8A	EB19 0.0-0.5B	EB19 0.5-0.8B
			Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504301-021	ES1504301-022	ES1504301-023	ES1504301-024	ES1504301-025
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	73.1	69.7	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	69.7	56.7	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	75.0	62.5	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	88.0	88.0	----	----
Anthracene-d10	1719-06-8	0.1	%	----	112	116	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	120	117	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB19 0.3V	EB19 0.7V	EB20 0.0-0.6A	EB20 0.0-0.6B	EB20 0.3V
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-026	ES1504301-027	ES1504301-028	ES1504301-029	ES1504301-030
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	**11**	----
+150µm	----	1	%		----	----	----	**6**	----
+300µm	----	1	%		----	----	----	**4**	----
+425µm	----	1	%		----	----	----	**3**	----
+600µm	----	1	%		----	----	----	**2**	----
+1180µm	----	1	%		----	----	----	**1**	----
+2.36mm	----	1	%		----	----	----	<1	----
+4.75mm	----	1	%		----	----	----	<1	----
+9.5mm	----	1	%		----	----	----	<1	----
+19.0mm	----	1	%		----	----	----	<1	----
+37.5mm	----	1	%		----	----	----	<1	----
+75.0mm	----	1	%		----	----	----	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**20.3**	**22.4**	**20.3**	----	**21.9**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	**53**	----
Silt (2-60 µm)	----	1	%		----	----	----	**35**	----
Sand (0.06-2.00 mm)	----	1	%		----	----	----	**11**	----
Gravel (>2mm)	----	1	%		----	----	----	**1**	----
Cobbles (>6cm)	----	1	%		----	----	----	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	**2.63**	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	**25300**	----	----
Iron	7439-89-6	50	mg/kg		----	----	**37900**	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	<0.50	----	----
Arsenic	7440-38-2	1.00	mg/kg		----	----	**9.94**	----	----
Cadmium	7440-43-9	0.1	mg/kg		----	----	<0.1	----	----
Chromium	7440-47-3	1.0	mg/kg		----	----	**29.0**	----	----
Copper	7440-50-8	1.0	mg/kg		----	----	**34.0**	----	----
Cobalt	7440-48-4	0.5	mg/kg		----	----	**14.2**	----	----
Lead	7439-92-1	1.0	mg/kg		----	----	**13.2**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB19 0.3V	EB19 0.7V	EB20 0.0-0.6A	EB20 0.0-0.6B	EB20 0.3V
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-026	ES1504301-027	ES1504301-028	ES1504301-029	ES1504301-030
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	**198**	----	----
Nickel	7440-02-0	1.0	mg/kg		----	----	**19.1**	----	----
Selenium	7782-49-2	0.1	mg/kg		----	----	**0.7**	----	----
Silver	7440-22-4	0.1	mg/kg		----	----	<0.1	----	----
Vanadium	7440-62-2	2.0	mg/kg		----	----	**93.1**	----	----
Zinc	7440-66-6	1.0	mg/kg		----	----	**48.2**	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	**0.01**	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	**170**	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	**170**	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	**187**	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	**2.3**	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	**0.14**	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	<3	----	----
>C16 - C34 Fraction	----	3	mg/kg		----	----	**4**	----	----
>C34 - C40 Fraction	----	5	mg/kg		----	----	<5	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	**4**	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	<3	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		----	----	<3	----	----
C15 - C28 Fraction	----	3	mg/kg		----	----	<3	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB19 0.3V	EB19 0.7V	EB20 0.0-0.6A	EB20 0.0-0.6B	EB20 0.3V
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-026	ES1504301-027	ES1504301-028	ES1504301-029	ES1504301-030
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	<5	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	<3	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	<3	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	<0.5	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	<1	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	<1	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	<0.5	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	<10	----	----
Carbophenothion	786-19-6	10	µg/kg		----	----	<10	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	<10.0	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	<10	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	<10	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	<10	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	<10	----	----
Diazinon	333-41-5	10	µg/kg		----	----	<10	----	----
Dichlorvos	62-73-7	10	µg/kg		----	----	<10	----	----
Dimethoate	60-51-5	10	µg/kg		----	----	<10	----	----
Ethion	563-12-2	10	µg/kg		----	----	<10	----	----
Fenamiphos	22224-92-6	10	µg/kg		----	----	<10	----	----
Fenthion	55-38-9	10	µg/kg		----	----	<10	----	----
Malathion	121-75-5	10	µg/kg		----	----	<10	----	----
Azinphos Methyl	86-50-0	10	µg/kg		----	----	<10	----	----
Monocrotophos	6923-22-4	10	µg/kg		----	----	<10	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB19 0.3V	EB19 0.7V	EB20 0.0-0.6A	EB20 0.0-0.6B	EB20 0.3V
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-026	ES1504301-027	ES1504301-028	ES1504301-029	ES1504301-030
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	<10	----	----
Parathion-methyl	298-00-0	10	µg/kg		----	----	<10	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	<10	----	----
Prothiofos	34643-46-4	10	µg/kg		----	----	<10	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg		----	----	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg		----	----	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg		----	----	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	<0.50	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	<0.50	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	----	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		----	----	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	<0.50	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	----	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		----	----	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg		----	----	<0.50	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	<0.50	----	----
gamma-BHC	58-89-9	0.25	µg/kg		----	----	<0.25	----	----
Methoxychlor	72-43-5	0.50	µg/kg		----	----	<0.50	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	<0.25	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	<0.25	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		----	----	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	<5.0	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB19 0.3V	EB19 0.7V	EB20 0.0-0.6A	EB20 0.0-0.6B	EB20 0.3V
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-026	ES1504301-027	ES1504301-028	ES1504301-029	ES1504301-030
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	<5.0	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	<5	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	<5	----	----
Acenaphthylene	208-96-8	4	µg/kg		----	----	<4	----	----
Acenaphthene	83-32-9	4	µg/kg		----	----	<4	----	----
Fluorene	86-73-7	4	µg/kg		----	----	<4	----	----
Phenanthrene	85-01-8	4	µg/kg		----	----	<4	----	----
Anthracene	120-12-7	4	µg/kg		----	----	<4	----	----
Fluoranthene	206-44-0	4	µg/kg		----	----	<4	----	----
Pyrene	129-00-0	4	µg/kg		----	----	<4	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	<4	----	----
Chrysene	218-01-9	4	µg/kg		----	----	<4	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	<4	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	<4	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	<4	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	<4	----	----
Perylene	198-55-0	4	µg/kg		----	----	<4	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	<4	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	<4	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	<4	----	----
Coronene	191-07-1	5	µg/kg		----	----	<5	----	----
^ **Sum of PAHs**	----	4	µg/kg		----	----	<4	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**87.3**	**83.7**	----	----	**80.1**
Toluene-D8	2037-26-5	0.1	%		**83.2**	**82.6**	----	----	**75.2**
4-Bromofluorobenzene	460-00-4	0.1	%		**79.4**	**80.0**	----	----	**75.3**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	**98.5**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB19 0.3V	EB19 0.7V	EB20 0.0-0.6A	EB20 0.0-0.6B	EB20 0.3V
			Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504301-026	ES1504301-027	ES1504301-028	ES1504301-029	ES1504301-030
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	69.7	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	48.2	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	62.5	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	91.0	----	----
Anthracene-d10	1719-06-8	0.1	%	----	----	114	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	114	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB21 0.0-0.5A	EB21 0.5-1.0A	EB21 0.0-0.5B	EB21 0.5-1.0 B	EB21 0.3V
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504301-031	ES1504301-032	ES1504301-033	ES1504301-034	ES1504301-035
EA150: Particle Sizing									
+75µm	----	1	%		----	----	97	93	----
+150µm	----	1	%		----	----	90	71	----
+300µm	----	1	%		----	----	71	45	----
+425µm	----	1	%		----	----	56	38	----
+600µm	----	1	%		----	----	30	25	----
+1180µm	----	1	%		----	----	5	7	----
+2.36mm	----	1	%		----	----	1	2	----
+4.75mm	----	1	%		----	----	<1	<1	----
+9.5mm	----	1	%		----	----	<1	<1	----
+19.0mm	----	1	%		----	----	<1	<1	----
+37.5mm	----	1	%		----	----	<1	<1	----
+75.0mm	----	1	%		----	----	<1	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		19.5	18.0	----	----	15.0
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	2	3	----
Silt (2-60 µm)	----	1	%		----	----	<1	2	----
Sand (0.06-2.00 mm)	----	1	%		----	----	95	92	----
Gravel (>2mm)	----	1	%		----	----	3	3	----
Cobbles (>6cm)	----	1	%		----	----	<1	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	2.64	2.66	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		4480	4380	----	----	----
Iron	7439-89-6	50	mg/kg		14500	12700	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		33.0	26.4	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	----	----	----
Chromium	7440-47-3	1.0	mg/kg		8.8	9.2	----	----	----
Copper	7440-50-8	1.0	mg/kg		1.6	1.5	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		5.7	5.7	----	----	----
Lead	7439-92-1	1.0	mg/kg		2.6	2.5	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB21 0.0-0.5A	EB21 0.5-1.0A	EB21 0.0-0.5B	EB21 0.5-1.0 B	EB21 0.3V
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-031	ES1504301-032	ES1504301-033	ES1504301-034	ES1504301-035
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		**809**	**773**	----	----	----
Nickel	7440-02-0	1.0	mg/kg		**4.2**	**4.0**	----	----	----
Selenium	7782-49-2	0.1	mg/kg		**0.3**	**0.3**	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.1	<0.1	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		**28.8**	**24.4**	----	----	----
Zinc	7440-66-6	1.0	mg/kg		**9.0**	**9.3**	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	<0.01	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		**50**	**60**	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		**50**	**60**	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		**326**	**297**	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		**0.6**	**0.8**	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		**0.06**	**0.05**	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	<3	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		**3**	**5**	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	<5	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		**3**	**5**	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		<3	<3	----	----	----
C15 - C28 Fraction	----	3	mg/kg		<3	<3	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB21 0.0-0.5A	EB21 0.5-1.0A	EB21 0.0-0.5B	EB21 0.5-1.0 B	EB21 0.3V
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-031	ES1504301-032	ES1504301-033	ES1504301-034	ES1504301-035
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	<5	----	----	----
^ **C10 - C36 Fraction (sum)**	----	3	mg/kg		<3	<3	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	----	<0.2
^ **Total Xylenes**	1330-20-7	0.5	mg/kg		----	----	----	----	<0.5
^ **Sum of BTEX**	----	0.2	mg/kg		----	----	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	<1	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	<1	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	<0.5	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	<10	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	<10	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	<10.0	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	<10	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	<10	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	<10	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	<10	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	<10	----	----	----
Ethion	563-12-2	10	µg/kg		<10	<10	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	<10	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	<10	----	----	----
Malathion	121-75-5	10	µg/kg		<10	<10	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	<10	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	<10	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB21 0.0-0.5A	EB21 0.5-1.0A	EB21 0.0-0.5B	EB21 0.5-1.0 B	EB21 0.3V
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504301-031	ES1504301-032	ES1504301-033	ES1504301-034	ES1504301-035
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	<10	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	<10	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	<10	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	<10	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	<0.50	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	<0.50	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	<0.50	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	<0.50	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	<0.50	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	<0.25	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	<0.50	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	<0.25	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	<0.25	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	<0.25	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	<0.50	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	<5.0	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB21 0.0-0.5A	EB21 0.5-1.0A	EB21 0.0-0.5B	EB21 0.5-1.0 B	EB21 0.3V
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-031	ES1504301-032	ES1504301-033	ES1504301-034	ES1504301-035
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	<5.0	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	<5	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	<5	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	<4	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	<4	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	<4	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	<4	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	<4	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	<4	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	<4	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	<4	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	<4	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	<4	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	<4	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	<4	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	<4	----	----	----
Perylene	198-55-0	4	µg/kg		<4	<4	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	<4	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	<4	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	<4	----	----	----
Coronene	191-07-1	5	µg/kg		<5	<5	----	----	----
^ **Sum of PAHs**	----	4	µg/kg		<4	<4	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	----	**91.4**
Toluene-D8	2037-26-5	0.1	%		----	----	----	----	**85.1**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	----	**82.6**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**98.9**	**89.3**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB21 0.0-0.5A	EB21 0.5-1.0A	EB21 0.0-0.5B	EB21 0.5-1.0 B	EB21 0.3V
			Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504301-031	ES1504301-032	ES1504301-033	ES1504301-034	ES1504301-035
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	78.2	81.4	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	60.8	63.8	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	62.5	75.0	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	89.5	106	----	----	----
Anthracene-d10	1719-06-8	0.1	%	114	123	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	124	81.5	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB21 0.7V	EB23 0.0-0.5A	EB23 0.5-0.7A	EB23 0.0-0.5B	EB23 0.5-1.0 B
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-036	ES1504301-037	ES1504301-038	ES1504301-039	ES1504301-040
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	**88**	**10**
+150µm	----	1	%		----	----	----	**30**	**2**
+300µm	----	1	%		----	----	----	**15**	<1
+425µm	----	1	%		----	----	----	**12**	<1
+600µm	----	1	%		----	----	----	**10**	<1
+1180µm	----	1	%		----	----	----	**8**	<1
+2.36mm	----	1	%		----	----	----	**7**	<1
+4.75mm	----	1	%		----	----	----	**6**	<1
+9.5mm	----	1	%		----	----	----	**6**	<1
+19.0mm	----	1	%		----	----	----	**6**	<1
+37.5mm	----	1	%		----	----	----	<1	<1
+75.0mm	----	1	%		----	----	----	<1	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**20.7**	**21.2**	**23.3**	----	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	**6**	**53**
Silt (2-60 µm)	----	1	%		----	----	----	**4**	**37**
Sand (0.06-2.00 mm)	----	1	%		----	----	----	**83**	**10**
Gravel (>2mm)	----	1	%		----	----	----	**7**	<1
Cobbles (>6cm)	----	1	%		----	----	----	<1	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	**2.68**	**2.61**
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	**7120**	**24800**	----	----
Iron	7439-89-6	50	mg/kg		----	**12500**	**37800**	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	<0.50	<0.50	----	----
Arsenic	7440-38-2	1.00	mg/kg		----	**9.04**	**6.30**	----	----
Cadmium	7440-43-9	0.1	mg/kg		----	<0.1	<0.1	----	----
Chromium	7440-47-3	1.0	mg/kg		----	**13.7**	**28.2**	----	----
Copper	7440-50-8	1.0	mg/kg		----	**4.4**	**26.4**	----	----
Cobalt	7440-48-4	0.5	mg/kg		----	**5.6**	**14.6**	----	----
Lead	7439-92-1	1.0	mg/kg		----	**3.3**	**9.6**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB21 0.7V	EB23 0.0-0.5A	EB23 0.5-0.7A	EB23 0.0-0.5B	EB23 0.5-1.0 B
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-036	ES1504301-037	ES1504301-038	ES1504301-039	ES1504301-040
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	326	296	----	----
Nickel	7440-02-0	1.0	mg/kg		----	4.7	17.4	----	----
Selenium	7782-49-2	0.1	mg/kg		----	0.3	0.8	----	----
Silver	7440-22-4	0.1	mg/kg		----	<0.1	<0.1	----	----
Vanadium	7440-62-2	2.0	mg/kg		----	30.2	65.8	----	----
Zinc	7440-66-6	1.0	mg/kg		----	14.1	61.9	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	<0.01	0.02	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	0.4	<0.1	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	0.4	<0.1	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	100	210	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	100	210	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	261	235	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	0.5	1.3	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	0.10	0.24	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	<3	<3	----	----
>C16 - C34 Fraction	----	3	mg/kg		----	6	5	----	----
>C34 - C40 Fraction	----	5	mg/kg		----	<5	<5	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	6	5	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	----	----	----	----
C10 - C14 Fraction	----	3	mg/kg		----	<3	<3	----	----
C15 - C28 Fraction	----	3	mg/kg		----	<3	<3	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB21 0.7V	EB23 0.0-0.5A	EB23 0.5-0.7A	EB23 0.0-0.5B	EB23 0.5-1.0 B
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-036	ES1504301-037	ES1504301-038	ES1504301-039	ES1504301-040
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	<5	<5	----	----
^ **C10 - C36 Fraction (sum)**	----	3	mg/kg		----	<3	<3	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	----	----	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.2	mg/kg		<0.2	----	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	----	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	----	----	----	----
^ **Total Xylenes**	1330-20-7	0.5	mg/kg		<0.5	----	----	----	----
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	----	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	<1	<1	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	<1	<1	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	<0.5	<0.5	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	<10	<10	----	----
Carbophenothion	786-19-6	10	µg/kg		----	<10	<10	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	<10.0	<10.0	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	<10	<10	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	<10	<10	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	<10	<10	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	<10	<10	----	----
Diazinon	333-41-5	10	µg/kg		----	<10	<10	----	----
Dichlorvos	62-73-7	10	µg/kg		----	<10	<10	----	----
Dimethoate	60-51-5	10	µg/kg		----	<10	<10	----	----
Ethion	563-12-2	10	µg/kg		----	<10	<10	----	----
Fenamiphos	22224-92-6	10	µg/kg		----	<10	<10	----	----
Fenthion	55-38-9	10	µg/kg		----	<10	<10	----	----
Malathion	121-75-5	10	µg/kg		----	<10	<10	----	----
Azinphos Methyl	86-50-0	10	µg/kg		----	<10	<10	----	----
Monocrotophos	6923-22-4	10	µg/kg		----	<10	<10	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB21 0.7V	EB23 0.0-0.5A	EB23 0.5-0.7A	EB23 0.0-0.5B	EB23 0.5-1.0 B
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-036	ES1504301-037	ES1504301-038	ES1504301-039	ES1504301-040
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	<10	<10	----	----
Parathion-methyl	298-00-0	10	µg/kg		----	<10	<10	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	<10	<10	----	----
Prothiofos	34643-46-4	10	µg/kg		----	<10	<10	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg		----	<0.50	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	<0.50	<0.50	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	<0.50	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	<0.50	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	<0.50	<0.50	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	<0.50	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	<0.50	<0.50	----	----
gamma-BHC	58-89-9	0.25	µg/kg		----	<0.25	<0.25	----	----
Methoxychlor	72-43-5	0.50	µg/kg		----	<0.50	<0.50	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	<0.25	<0.25	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	<0.25	<0.25	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		----	<0.25	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	<0.50	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	<5.0	<5.0	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB21 0.7V	EB23 0.0-0.5A	EB23 0.5-0.7A	EB23 0.0-0.5B	EB23 0.5-1.0 B
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-036	ES1504301-037	ES1504301-038	ES1504301-039	ES1504301-040
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	<5.0	<5.0	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	<5	<5	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	<5	<5	----	----
Acenaphthylene	208-96-8	4	µg/kg		----	<4	<4	----	----
Acenaphthene	83-32-9	4	µg/kg		----	<4	<4	----	----
Fluorene	86-73-7	4	µg/kg		----	<4	<4	----	----
Phenanthrene	85-01-8	4	µg/kg		----	<4	<4	----	----
Anthracene	120-12-7	4	µg/kg		----	<4	<4	----	----
Fluoranthene	206-44-0	4	µg/kg		----	<4	<4	----	----
Pyrene	129-00-0	4	µg/kg		----	<4	<4	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	<4	<4	----	----
Chrysene	218-01-9	4	µg/kg		----	<4	<4	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	<4	<4	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	<4	<4	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	<4	<4	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	<4	<4	----	----
Perylene	198-55-0	4	µg/kg		----	<4	<4	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	<4	<4	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	<4	<4	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	<4	<4	----	----
Coronene	191-07-1	5	µg/kg		----	<5	<5	----	----
^ **Sum of PAHs**	----	4	µg/kg		----	<4	<4	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**90.8**	----	----	----	----
Toluene-D8	2037-26-5	0.1	%		**85.0**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**82.4**	----	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	**91.6**	**86.4**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB21 0.7V	EB23 0.0-0.5A	EB23 0.5-0.7A	EB23 0.0-0.5B	EB23 0.5-1.0 B
			Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504301-036	ES1504301-037	ES1504301-038	ES1504301-039	ES1504301-040
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	68.3	66.4	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	50.5	58.5	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	62.5	62.5	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	107	96.4	----	----
Anthracene-d10	1719-06-8	0.1	%	----	101	102	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	122	88.0	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB23 0.3V	EB23 0.7V	EB24 0.0-0.5A	EB24 0.5-1.0A	EB24 0.0-0.5B
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504301-041	ES1504301-042	ES1504301-043	ES1504301-044	ES1504301-045
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	----	90
+150µm	----	1	%		----	----	----	----	36
+300µm	----	1	%		----	----	----	----	16
+425µm	----	1	%		----	----	----	----	10
+600µm	----	1	%		----	----	----	----	5
+1180µm	----	1	%		----	----	----	----	2
+2.36mm	----	1	%		----	----	----	----	<1
+4.75mm	----	1	%		----	----	----	----	<1
+9.5mm	----	1	%		----	----	----	----	<1
+19.0mm	----	1	%		----	----	----	----	<1
+37.5mm	----	1	%		----	----	----	----	<1
+75.0mm	----	1	%		----	----	----	----	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		21.7	23.5	19.6	24.6	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	----	4
Silt (2-60 µm)	----	1	%		----	----	----	----	2
Sand (0.06-2.00 mm)	----	1	%		----	----	----	----	93
Gravel (>2mm)	----	1	%		----	----	----	----	1
Cobbles (>6cm)	----	1	%		----	----	----	----	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	----	2.67
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	4790	22400	----
Iron	7439-89-6	50	mg/kg		----	----	11000	37000	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	<0.50	<0.50	----
Arsenic	7440-38-2	1.00	mg/kg		----	----	15.5	6.66	----
Cadmium	7440-43-9	0.1	mg/kg		----	----	<0.1	<0.1	----
Chromium	7440-47-3	1.0	mg/kg		----	----	10.1	29.7	----
Copper	7440-50-8	1.0	mg/kg		----	----	2.7	61.4	----
Cobalt	7440-48-4	0.5	mg/kg		----	----	5.2	15.4	----
Lead	7439-92-1	1.0	mg/kg		----	----	2.7	13.0	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB23 0.3V	EB23 0.7V	EB24 0.0-0.5A	EB24 0.5-1.0A	EB24 0.0-0.5B
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-041	ES1504301-042	ES1504301-043	ES1504301-044	ES1504301-045
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	**465**	**190**	----
Nickel	7440-02-0	1.0	mg/kg		----	----	**4.2**	**16.1**	----
Selenium	7782-49-2	0.1	mg/kg		----	----	**0.2**	**0.8**	----
Silver	7440-22-4	0.1	mg/kg		----	----	<0.1	<0.1	----
Vanadium	7440-62-2	2.0	mg/kg		----	----	**26.0**	**84.4**	----
Zinc	7440-66-6	1.0	mg/kg		----	----	**12.0**	**46.2**	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	<0.01	**0.02**	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	<0.1	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	<0.1	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	<0.1	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	**70**	**210**	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	**70**	**210**	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	**216**	**207**	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	**1.1**	**1.7**	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	**0.07**	**0.16**	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	<3	<3	----
>C16 - C34 Fraction	----	3	mg/kg		----	----	**4**	**7**	----
>C34 - C40 Fraction	----	5	mg/kg		----	----	<5	<5	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	**4**	**7**	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	<3	----	----	----
C10 - C14 Fraction	----	3	mg/kg		----	----	<3	<3	----
C15 - C28 Fraction	----	3	mg/kg		----	----	<3	<3	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB23 0.3V	EB23 0.7V	EB24 0.0-0.5A	EB24 0.5-1.0A	EB24 0.0-0.5B
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-041	ES1504301-042	ES1504301-043	ES1504301-044	ES1504301-045
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	<5	**6**	----
^ **C10 - C36 Fraction (sum)**	----	3	mg/kg		----	----	<3	**6**	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	<3	----	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	----	----
Toluene	108-88-3	0.2	mg/kg		<0.2	<0.2	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	<0.2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	<0.2	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	<0.2	----	----	----
^ **Total Xylenes**	1330-20-7	0.5	mg/kg		<0.5	<0.5	----	----	----
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	<0.2	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	<1	<1	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	<1	<1	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	<0.5	<0.5	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	<10	<10	----
Carbophenothion	786-19-6	10	µg/kg		----	----	<10	<10	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	<10.0	<10.0	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	<10	<10	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	<10	<10	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	<10	<10	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	<10	<10	----
Diazinon	333-41-5	10	µg/kg		----	----	<10	<10	----
Dichlorvos	62-73-7	10	µg/kg		----	----	<10	<10	----
Dimethoate	60-51-5	10	µg/kg		----	----	<10	<10	----
Ethion	563-12-2	10	µg/kg		----	----	<10	<10	----
Fenamiphos	22224-92-6	10	µg/kg		----	----	<10	<10	----
Fenthion	55-38-9	10	µg/kg		----	----	<10	<10	----
Malathion	121-75-5	10	µg/kg		----	----	<10	<10	----
Azinphos Methyl	86-50-0	10	µg/kg		----	----	<10	<10	----
Monocrotophos	6923-22-4	10	µg/kg		----	----	<10	<10	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB23 0.3V	EB23 0.7V	EB24 0.0-0.5A	EB24 0.5-1.0A	EB24 0.0-0.5B
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-041	ES1504301-042	ES1504301-043	ES1504301-044	ES1504301-045
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	<10	<10	----
Parathion-methyl	298-00-0	10	µg/kg		----	----	<10	<10	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	<10	<10	----
Prothiofos	34643-46-4	10	µg/kg		----	----	<10	<10	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	<0.50	<0.50	----
alpha-BHC	319-84-6	0.50	µg/kg		----	----	<0.50	<0.50	----
beta-BHC	319-85-7	0.50	µg/kg		----	----	<0.50	<0.50	----
delta-BHC	319-86-8	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	<0.50	<0.50	----
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	----	<0.50	<0.50	----
Dieldrin	60-57-1	0.50	µg/kg		----	----	<0.50	<0.50	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	<0.50	<0.50	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	<0.50	<0.50	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	<0.50	<0.50	----
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin	72-20-8	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	<0.50	<0.50	----
Heptachlor	76-44-8	0.50	µg/kg		----	----	<0.50	<0.50	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	<0.50	<0.50	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	<0.50	<0.50	----
gamma-BHC	58-89-9	0.25	µg/kg		----	----	<0.25	<0.25	----
Methoxychlor	72-43-5	0.50	µg/kg		----	----	<0.50	<0.50	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	<0.25	<0.25	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	<0.25	<0.25	----
^ **Total Chlordane (sum)**	----	0.25	µg/kg		----	----	<0.25	<0.25	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	<0.50	<0.50	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	<5.0	<5.0	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB23 0.3V	EB23 0.7V	EB24 0.0-0.5A	EB24 0.5-1.0A	EB24 0.0-0.5B
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504301-041	ES1504301-042	ES1504301-043	ES1504301-044	ES1504301-045
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	<5.0	<5.0	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	<5	<5	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	<5	<5	----
Acenaphthylene	208-96-8	4	µg/kg		----	----	<4	<4	----
Acenaphthene	83-32-9	4	µg/kg		----	----	<4	<4	----
Fluorene	86-73-7	4	µg/kg		----	----	<4	<4	----
Phenanthrene	85-01-8	4	µg/kg		----	----	<4	<4	----
Anthracene	120-12-7	4	µg/kg		----	----	<4	<4	----
Fluoranthene	206-44-0	4	µg/kg		----	----	<4	<4	----
Pyrene	129-00-0	4	µg/kg		----	----	<4	<4	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	<4	<4	----
Chrysene	218-01-9	4	µg/kg		----	----	<4	<4	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	<4	<4	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	<4	<4	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	<4	<4	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	<4	<4	----
Perylene	198-55-0	4	µg/kg		----	----	<4	<4	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	<4	<4	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	<4	<4	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	<4	<4	----
Coronene	191-07-1	5	µg/kg		----	----	<5	<5	----
^ Sum of PAHs	----	4	µg/kg		----	----	<4	<4	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		82.7	75.6	----	----	----
Toluene-D8	2037-26-5	0.1	%		83.5	84.3	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		76.1	75.6	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	70.3	98.8	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB23 0.3V	EB23 0.7V	EB24 0.0-0.5A	EB24 0.5-1.0A	EB24 0.0-0.5B
			Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504301-041	ES1504301-042	ES1504301-043	ES1504301-044	ES1504301-045
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	77.8	74.3	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	70.6	55.0	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	75.0	62.5	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	110	105	----
Anthracene-d10	1719-06-8	0.1	%	----	----	106	107	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	86.2	84.6	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB24 0.5-1.0 B	EB24 0.3V	EB24 0.7V	EB25 0.0-0.6A	EB25 0.0-0.6B
			Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504301-046	ES1504301-047	ES1504301-048	ES1504301-049	ES1504301-050
EA150: Particle Sizing								
+75µm	----	1	%	**29**	----	----	----	**37**
+150µm	----	1	%	**8**	----	----	----	**22**
+300µm	----	1	%	**4**	----	----	----	**16**
+425µm	----	1	%	**2**	----	----	----	**14**
+600µm	----	1	%	**1**	----	----	----	**12**
+1180µm	----	1	%	<1	----	----	----	**9**
+2.36mm	----	1	%	<1	----	----	----	**8**
+4.75mm	----	1	%	<1	----	----	----	**7**
+9.5mm	----	1	%	<1	----	----	----	**3**
+19.0mm	----	1	%	<1	----	----	----	<1
+37.5mm	----	1	%	<1	----	----	----	<1
+75.0mm	----	1	%	<1	----	----	----	<1
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	----	**23.6**	**23.1**	**20.4**	----
EA150: Soil Classification based on Particle Size								
Clay (<2 µm)	----	1	%	**42**	----	----	----	**33**
Silt (2-60 µm)	----	1	%	**26**	----	----	----	**27**
Sand (0.06-2.00 mm)	----	1	%	**32**	----	----	----	**31**
Gravel (>2mm)	----	1	%	<1	----	----	----	**9**
Cobbles (>6cm)	----	1	%	<1	----	----	----	<1
EA152: Soil Particle Density								
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3	**2.60**	----	----	----	**2.59**
EG005-SD: Total Metals in Sediments by ICP-AES								
Aluminium	7429-90-5	50	mg/kg	----	----	----	**18700**	----
Iron	7439-89-6	50	mg/kg	----	----	----	**28400**	----
EG020-SD: Total Metals in Sediments by ICPMS								
Antimony	7440-36-0	0.50	mg/kg	----	----	----	<0.50	----
Arsenic	7440-38-2	1.00	mg/kg	----	----	----	**10.0**	----
Cadmium	7440-43-9	0.1	mg/kg	----	----	----	<0.1	----
Chromium	7440-47-3	1.0	mg/kg	----	----	----	**21.8**	----
Copper	7440-50-8	1.0	mg/kg	----	----	----	**25.6**	----
Cobalt	7440-48-4	0.5	mg/kg	----	----	----	**10.2**	----
Lead	7439-92-1	1.0	mg/kg	----	----	----	**9.5**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB24 0.5-1.0 B	EB24 0.3V	EB24 0.7V	EB25 0.0-0.6A	EB25 0.0-0.6B
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504301-046	ES1504301-047	ES1504301-048	ES1504301-049	ES1504301-050
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	----	**278**	----
Nickel	7440-02-0	1.0	mg/kg		----	----	----	**13.5**	----
Selenium	7782-49-2	0.1	mg/kg		----	----	----	**0.5**	----
Silver	7440-22-4	0.1	mg/kg		----	----	----	<0.1	----
Vanadium	7440-62-2	2.0	mg/kg		----	----	----	**61.4**	----
Zinc	7440-66-6	1.0	mg/kg		----	----	----	**37.1**	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	----	**0.02**	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	----	<0.1	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	<0.1	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	<0.1	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	----	**170**	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	----	**170**	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	----	**265**	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	----	**1.0**	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	----	**0.08**	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	----	<3	----
>C16 - C34 Fraction	----	3	mg/kg		----	----	----	**4**	----
>C34 - C40 Fraction	----	5	mg/kg		----	----	----	<5	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	----	**4**	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	<3	<3	----	----
C10 - C14 Fraction	----	3	mg/kg		----	----	----	<3	----
C15 - C28 Fraction	----	3	mg/kg		----	----	----	<3	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB24 0.5-1.0 B	EB24 0.3V	EB24 0.7V	EB25 0.0-0.6A	EB25 0.0-0.6B
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504301-046	ES1504301-047	ES1504301-048	ES1504301-049	ES1504301-050
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	----	<5	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	----	<3	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	<3	<3	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	<0.2	<0.2	----	----
Toluene	108-88-3	0.2	mg/kg		----	<0.2	<0.2	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	<0.2	<0.2	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	<0.2	<0.2	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	<0.2	<0.2	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	<0.5	<0.5	----	----
^ Sum of BTEX	----	0.2	mg/kg		----	<0.2	<0.2	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	----	<1	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	----	<1	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	----	<0.5	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	----	<10	----
Carbophenothion	786-19-6	10	µg/kg		----	----	----	<10	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	----	<10.0	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	----	<10	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	----	<10	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	----	<10	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	----	<10	----
Diazinon	333-41-5	10	µg/kg		----	----	----	<10	----
Dichlorvos	62-73-7	10	µg/kg		----	----	----	<10	----
Dimethoate	60-51-5	10	µg/kg		----	----	----	<10	----
Ethion	563-12-2	10	µg/kg		----	----	----	<10	----
Fenamiphos	22224-92-6	10	µg/kg		----	----	----	<10	----
Fenthion	55-38-9	10	µg/kg		----	----	----	<10	----
Malathion	121-75-5	10	µg/kg		----	----	----	<10	----
Azinphos Methyl	86-50-0	10	µg/kg		----	----	----	<10	----
Monocrotophos	6923-22-4	10	µg/kg		----	----	----	<10	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB24 0.5-1.0 B	EB24 0.3V	EB24 0.7V	EB25 0.0-0.6A	EB25 0.0-0.6B
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-046	ES1504301-047	ES1504301-048	ES1504301-049	ES1504301-050
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	----	<10	----
Parathion-methyl	298-00-0	10	µg/kg		----	----	----	<10	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	----	<10	----
Prothiofos	34643-46-4	10	µg/kg		----	----	----	<10	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	----	<0.50	----
alpha-BHC	319-84-6	0.50	µg/kg		----	----	----	<0.50	----
beta-BHC	319-85-7	0.50	µg/kg		----	----	----	<0.50	----
delta-BHC	319-86-8	0.50	µg/kg		----	----	----	<0.50	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	----	<0.50	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	----	<0.50	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	----	<0.50	----
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	----	----	<0.50	----
Dieldrin	60-57-1	0.50	µg/kg		----	----	----	<0.50	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	----	<0.50	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	----	<0.50	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	----	<0.50	----
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	----	----	<0.50	----
Endrin	72-20-8	0.50	µg/kg		----	----	----	<0.50	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	----	<0.50	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	----	<0.50	----
Heptachlor	76-44-8	0.50	µg/kg		----	----	----	<0.50	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	----	<0.50	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	----	<0.50	----
gamma-BHC	58-89-9	0.25	µg/kg		----	----	----	<0.25	----
Methoxychlor	72-43-5	0.50	µg/kg		----	----	----	<0.50	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	----	<0.25	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	----	<0.25	----
^ **Total Chlordane (sum)**	----	0.25	µg/kg		----	----	----	<0.25	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	----	<0.50	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		----	----	----	<5.0	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	----	<5.0	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	----	<5.0	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB24 0.5-1.0 B	EB24 0.3V	EB24 0.7V	EB25 0.0-0.6A	EB25 0.0-0.6B
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-046	ES1504301-047	ES1504301-048	ES1504301-049	ES1504301-050
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	----	<5.0	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	----	<5.0	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	----	<5.0	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	----	<5.0	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	----	<5.0	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	----	<5	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	----	<5	----
Acenaphthylene	208-96-8	4	µg/kg		----	----	----	<4	----
Acenaphthene	83-32-9	4	µg/kg		----	----	----	<4	----
Fluorene	86-73-7	4	µg/kg		----	----	----	<4	----
Phenanthrene	85-01-8	4	µg/kg		----	----	----	<4	----
Anthracene	120-12-7	4	µg/kg		----	----	----	<4	----
Fluoranthene	206-44-0	4	µg/kg		----	----	----	<4	----
Pyrene	129-00-0	4	µg/kg		----	----	----	<4	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	----	<4	----
Chrysene	218-01-9	4	µg/kg		----	----	----	<4	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	----	<4	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	----	<4	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	----	<4	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	----	<4	----
Perylene	198-55-0	4	µg/kg		----	----	----	<4	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	----	<4	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	----	<4	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	----	<4	----
Coronene	191-07-1	5	µg/kg		----	----	----	<5	----
^ **Sum of PAHs**	----	4	µg/kg		----	----	----	<4	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	**101**	**101**	----	----
Toluene-D8	2037-26-5	0.1	%		----	**92.4**	**95.1**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	**84.8**	**88.4**	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	----	**94.2**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB24 0.5-1.0 B	EB24 0.3V	EB24 0.7V	EB25 0.0-0.6A	EB25 0.0-0.6B
			Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504301-046	ES1504301-047	ES1504301-048	ES1504301-049	ES1504301-050
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	----	**74.4**	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	----	**46.8**	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	**62.5**	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	**108**	----
Anthracene-d10	1719-06-8	0.1	%	----	----	----	**91.5**	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	**85.8**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB25 0.3V	EB29 0.0-0.5A	EB29 0.0-0.5B	EB29 0.3V	EB30 0.0-0.5A
			Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504301-051	ES1504301-052	ES1504301-053	ES1504301-054	ES1504301-055
EA150: Particle Sizing								
+75µm	----	1	%	----	----	57	----	----
+150µm	----	1	%	----	----	9	----	----
+300µm	----	1	%	----	----	3	----	----
+425µm	----	1	%	----	----	2	----	----
+600µm	----	1	%	----	----	1	----	----
+1180µm	----	1	%	----	----	<1	----	----
+2.36mm	----	1	%	----	----	<1	----	----
+4.75mm	----	1	%	----	----	<1	----	----
+9.5mm	----	1	%	----	----	<1	----	----
+19.0mm	----	1	%	----	----	<1	----	----
+37.5mm	----	1	%	----	----	<1	----	----
+75.0mm	----	1	%	----	----	<1	----	----
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	26.3	27.6	----	20.5	21.9
EA150: Soil Classification based on Particle Size								
Clay (<2 µm)	----	1	%	----	----	22	----	----
Silt (2-60 µm)	----	1	%	----	----	14	----	----
Sand (0.06-2.00 mm)	----	1	%	----	----	63	----	----
Gravel (>2mm)	----	1	%	----	----	1	----	----
Cobbles (>6cm)	----	1	%	----	----	<1	----	----
EA152: Soil Particle Density								
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3	----	----	2.66	----	----
EG005-SD: Total Metals in Sediments by ICP-AES								
Aluminium	7429-90-5	50	mg/kg	----	12900	----	----	8760
Iron	7439-89-6	50	mg/kg	----	20600	----	----	14400
EG020-SD: Total Metals in Sediments by ICPMS								
Antimony	7440-36-0	0.50	mg/kg	----	<0.50	----	----	<0.50
Arsenic	7440-38-2	1.00	mg/kg	----	10.2	----	----	17.8
Cadmium	7440-43-9	0.1	mg/kg	----	<0.1	----	----	<0.1
Chromium	7440-47-3	1.0	mg/kg	----	19.5	----	----	14.1
Copper	7440-50-8	1.0	mg/kg	----	13.4	----	----	4.6
Cobalt	7440-48-4	0.5	mg/kg	----	9.1	----	----	5.8
Lead	7439-92-1	1.0	mg/kg	----	7.7	----	----	4.2

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB25 0.3V	EB29 0.0-0.5A	EB29 0.0-0.5B	EB29 0.3V	EB30 0.0-0.5A
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-051	ES1504301-052	ES1504301-053	ES1504301-054	ES1504301-055
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	**234**	----	----	**423**
Nickel	7440-02-0	1.0	mg/kg		----	**9.4**	----	----	**6.5**
Selenium	7782-49-2	0.1	mg/kg		----	**0.5**	----	----	**0.4**
Silver	7440-22-4	0.1	mg/kg		----	<0.1	----	----	<0.1
Vanadium	7440-62-2	2.0	mg/kg		----	**46.3**	----	----	**28.8**
Zinc	7440-66-6	1.0	mg/kg		----	**23.1**	----	----	**16.2**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	**0.01**	----	----	**0.01**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	<0.1	----	----	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	----	----	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	----	----	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	**240**	----	----	**280**
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	**240**	----	----	**280**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	**239**	----	----	**303**
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	**2.7**	----	----	**1.8**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	**0.21**	----	----	**0.25**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	<3	----	----	<3
>C16 - C34 Fraction	----	3	mg/kg		----	**5**	----	----	**5**
>C34 - C40 Fraction	----	5	mg/kg		----	<5	----	----	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	**5**	----	----	**5**
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	----	----	<3	----
C10 - C14 Fraction	----	3	mg/kg		----	<3	----	----	<3
C15 - C28 Fraction	----	3	mg/kg		----	<3	----	----	<3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB25 0.3V	EB29 0.0-0.5A	EB29 0.0-0.5B	EB29 0.3V	EB30 0.0-0.5A
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504301-051	ES1504301-052	ES1504301-053	ES1504301-054	ES1504301-055
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	<5	----	----	<5
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	<3	----	----	<3
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	----	----	<3	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	<0.2	----
Toluene	108-88-3	0.2	mg/kg		<0.2	----	----	<0.2	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	----	----	<0.2	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	----	----	<0.2	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	----	----	<0.2	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	----	----	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	<0.2	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	<1	----	----	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	<1	----	----	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	<0.5	----	----	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	<10	----	----	<10
Carbophenothion	786-19-6	10	µg/kg		----	<10	----	----	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	<10.0	----	----	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	<10	----	----	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	<10	----	----	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	<10	----	----	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	<10	----	----	<10
Diazinon	333-41-5	10	µg/kg		----	<10	----	----	<10
Dichlorvos	62-73-7	10	µg/kg		----	<10	----	----	<10
Dimethoate	60-51-5	10	µg/kg		----	<10	----	----	<10
Ethion	563-12-2	10	µg/kg		----	<10	----	----	<10
Fenamiphos	22224-92-6	10	µg/kg		----	<10	----	----	<10
Fenthion	55-38-9	10	µg/kg		----	<10	----	----	<10
Malathion	121-75-5	10	µg/kg		----	<10	----	----	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	<10	----	----	<10
Monocrotophos	6923-22-4	10	µg/kg		----	<10	----	----	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB25 0.3V	EB29 0.0-0.5A	EB29 0.0-0.5B	EB29 0.3V	EB30 0.0-0.5A
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-051	ES1504301-052	ES1504301-053	ES1504301-054	ES1504301-055
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	<10	----	----	<10
Parathion-methyl	298-00-0	10	µg/kg		----	<10	----	----	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	<10	----	----	<10
Prothiofos	34643-46-4	10	µg/kg		----	<10	----	----	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	<0.50	----	----	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	<0.50	----	----	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	<0.50	----	----	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	<0.50	----	----	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	<0.50	----	----	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	<0.50	----	----	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	<0.50	----	----	<0.50
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	<0.50	----	----	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	<0.50	----	----	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	<0.50	----	----	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	<0.50	----	----	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	<0.50	----	----	<0.50
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	<0.50	----	----	<0.50
Endrin	72-20-8	0.50	µg/kg		----	<0.50	----	----	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	<0.50	----	----	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	<0.50	----	----	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	<0.50	----	----	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	<0.50	----	----	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	<0.50	----	----	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	<0.25	----	----	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	<0.50	----	----	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	<0.25	----	----	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	<0.25	----	----	<0.25
^ **Total Chlordane (sum)**	----	0.25	µg/kg		----	<0.25	----	----	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	<0.50	----	----	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	<5.0	----	----	<5.0

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB25 0.3V	EB29 0.0-0.5A	EB29 0.0-0.5B	EB29 0.3V	EB30 0.0-0.5A
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-051	ES1504301-052	ES1504301-053	ES1504301-054	ES1504301-055
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	<5.0	----	----	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	<5	----	----	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	<5	----	----	<5
Acenaphthylene	208-96-8	4	µg/kg		----	<4	----	----	<4
Acenaphthene	83-32-9	4	µg/kg		----	<4	----	----	<4
Fluorene	86-73-7	4	µg/kg		----	<4	----	----	<4
Phenanthrene	85-01-8	4	µg/kg		----	<4	----	----	<4
Anthracene	120-12-7	4	µg/kg		----	<4	----	----	<4
Fluoranthene	206-44-0	4	µg/kg		----	<4	----	----	<4
Pyrene	129-00-0	4	µg/kg		----	<4	----	----	<4
Benz(a)anthracene	56-55-3	4	µg/kg		----	<4	----	----	<4
Chrysene	218-01-9	4	µg/kg		----	<4	----	----	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	<4	----	----	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	<4	----	----	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		----	<4	----	----	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		----	<4	----	----	<4
Perylene	198-55-0	4	µg/kg		----	<4	----	----	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	<4	----	----	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	<4	----	----	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	<4	----	----	<4
Coronene	191-07-1	5	µg/kg		----	<5	----	----	<5
^ **Sum of PAHs**	----	4	µg/kg		----	<4	----	----	<4
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**82.8**	----	----	**95.5**	----
Toluene-D8	2037-26-5	0.1	%		**87.7**	----	----	**91.1**	----
4-Bromofluorobenzene	460-00-4	0.1	%		**80.5**	----	----	**83.7**	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	**106**	----	----	**98.4**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB25 0.3V	EB29 0.0-0.5A	EB29 0.0-0.5B	EB29 0.3V	EB30 0.0-0.5A
			Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504301-051	ES1504301-052	ES1504301-053	ES1504301-054	ES1504301-055
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	79.4	----	----	70.5
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	62.7	----	----	50.5
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	62.5	----	----	62.5
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	112	----	----	120
Anthracene-d10	1719-06-8	0.1	%	----	122	----	----	119
4-Terphenyl-d14	1718-51-0	0.1	%	----	99.0	----	----	85.0

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB30 0.5-0.8A	EB30 0.0-0.5B	EB30 0.5-1.0 B	EB30 0.3V	EB30 0.7V
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-056	ES1504301-057	ES1504301-058	ES1504301-059	ES1504301-060
EA150: Particle Sizing									
+75µm	----	1	%		----	66	35	----	----
+150µm	----	1	%		----	16	29	----	----
+300µm	----	1	%		----	11	22	----	----
+425µm	----	1	%		----	9	15	----	----
+600µm	----	1	%		----	7	9	----	----
+1180µm	----	1	%		----	4	4	----	----
+2.36mm	----	1	%		----	1	3	----	----
+4.75mm	----	1	%		----	<1	3	----	----
+9.5mm	----	1	%		----	<1	3	----	----
+19.0mm	----	1	%		----	<1	<1	----	----
+37.5mm	----	1	%		----	<1	<1	----	----
+75.0mm	----	1	%		----	<1	<1	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		19.6	----	----	24.8	17.2
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	12	31	----	----
Silt (2-60 µm)	----	1	%		----	12	33	----	----
Sand (0.06-2.00 mm)	----	1	%		----	74	32	----	----
Gravel (>2mm)	----	1	%		----	2	4	----	----
Cobbles (>6cm)	----	1	%		----	<1	<1	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	2.65	2.61	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		9070	----	----	----	----
Iron	7439-89-6	50	mg/kg		17700	----	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	----	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		20.1	----	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	----	----	----	----
Chromium	7440-47-3	1.0	mg/kg		14.8	----	----	----	----
Copper	7440-50-8	1.0	mg/kg		8.2	----	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		8.4	----	----	----	----
Lead	7439-92-1	1.0	mg/kg		4.7	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB30 0.5-0.8A	EB30 0.0-0.5B	EB30 0.5-1.0 B	EB30 0.3V	EB30 0.7V
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-056	ES1504301-057	ES1504301-058	ES1504301-059	ES1504301-060
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		928	----	----	----	----
Nickel	7440-02-0	1.0	mg/kg		8.0	----	----	----	----
Selenium	7782-49-2	0.1	mg/kg		0.6	----	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.1	----	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		37.6	----	----	----	----
Zinc	7440-66-6	1.0	mg/kg		19.0	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		0.01	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		170	----	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		170	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		319	----	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		1.0	----	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		0.10	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	----	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		<3	----	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	----	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	<3	<3
C10 - C14 Fraction	----	3	mg/kg		<3	----	----	----	----
C15 - C28 Fraction	----	3	mg/kg		<3	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB30 0.5-0.8A	EB30 0.0-0.5B	EB30 0.5-1.0 B	EB30 0.3V	EB30 0.7V
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-056	ES1504301-057	ES1504301-058	ES1504301-059	ES1504301-060
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	----	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		<3	----	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	<3	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	<0.2	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	<0.2	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	<0.2	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	<0.2	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	----	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	<0.2	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	----	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	----	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	----	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	----	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	----	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	----	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	----	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	----	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	----	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	----	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	----	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	----	----	----	----
Ethion	563-12-2	10	µg/kg		<10	----	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	----	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	----	----	----	----
Malathion	121-75-5	10	µg/kg		<10	----	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	----	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB30 0.5-0.8A	EB30 0.0-0.5B	EB30 0.5-1.0 B	EB30 0.3V	EB30 0.7V
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-056	ES1504301-057	ES1504301-058	ES1504301-059	ES1504301-060
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	----	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	----	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	----	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	----	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	----	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	----	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	----	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	----	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	----	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	----	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	----	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	----	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	----	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	----	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	----	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	----	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	----	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	----	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	----	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	----	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	----	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	----	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	----	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	----	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	----	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB30 0.5-0.8A	EB30 0.0-0.5B	EB30 0.5-1.0 B	EB30 0.3V	EB30 0.7V
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-056	ES1504301-057	ES1504301-058	ES1504301-059	ES1504301-060
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	----	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	----	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	----	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	----	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	----	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	----	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	----	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	----	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	----	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	----	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	----	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	----	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	----	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	----	----	----	----
Perylene	198-55-0	4	µg/kg		<4	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	----	----	----	----
Coronene	191-07-1	5	µg/kg		<5	----	----	----	----
^ **Sum of PAHs**	----	4	µg/kg		<4	----	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	**74.9**	**91.0**
Toluene-D8	2037-26-5	0.1	%		----	----	----	**74.4**	**85.4**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	**76.8**	**79.1**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**96.6**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB30 0.5-0.8A	EB30 0.0-0.5B	EB30 0.5-1.0 B	EB30 0.3V	EB30 0.7V
			Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504301-056	ES1504301-057	ES1504301-058	ES1504301-059	ES1504301-060
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**65.7**	----	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**40.6**	----	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**62.5**	----	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**108**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**108**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	**89.2**	----	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB35 0.0-0.5A	EB35 0.5-1.0A	EB35 0.0-0.5B	EB35 0.5-1.0 B	EB35 0.3V
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-061	ES1504301-062	ES1504301-063	ES1504301-064	ES1504301-065
EA150: Particle Sizing									
+75µm	----	1	%		----	----	**85**	**78**	----
+150µm	----	1	%		----	----	**29**	**46**	----
+300µm	----	1	%		----	----	**18**	**37**	----
+425µm	----	1	%		----	----	**14**	**36**	----
+600µm	----	1	%		----	----	**12**	**34**	----
+1180µm	----	1	%		----	----	**8**	**30**	----
+2.36mm	----	1	%		----	----	**4**	**21**	----
+4.75mm	----	1	%		----	----	**1**	**13**	----
+9.5mm	----	1	%		----	----	<1	**6**	----
+19.0mm	----	1	%		----	----	<1	<1	----
+37.5mm	----	1	%		----	----	<1	<1	----
+75.0mm	----	1	%		----	----	<1	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**22.5**	**25.3**	----	----	**18.4**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	**9**	**10**	----
Silt (2-60 µm)	----	1	%		----	----	**4**	**9**	----
Sand (0.06-2.00 mm)	----	1	%		----	----	**82**	**57**	----
Gravel (>2mm)	----	1	%		----	----	**5**	**24**	----
Cobbles (>6cm)	----	1	%		----	----	<1	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	**2.67**	**2.65**	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**12300**	**8760**	----	----	----
Iron	7439-89-6	50	mg/kg		**20600**	**17100**	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		**9.40**	**12.3**	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	----	----	----
Chromium	7440-47-3	1.0	mg/kg		**19.7**	**14.4**	----	----	----
Copper	7440-50-8	1.0	mg/kg		**16.9**	**9.6**	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		**8.4**	**7.2**	----	----	----
Lead	7439-92-1	1.0	mg/kg		**7.2**	**5.0**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB35 0.0-0.5A	EB35 0.5-1.0A	EB35 0.0-0.5B	EB35 0.5-1.0 B	EB35 0.3V
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504301-061	ES1504301-062	ES1504301-063	ES1504301-064	ES1504301-065
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		**211**	**1240**	----	----	----
Nickel	7440-02-0	1.0	mg/kg		**10.3**	**7.1**	----	----	----
Selenium	7782-49-2	0.1	mg/kg		**0.5**	**0.5**	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.1	<0.1	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		**46.2**	**35.7**	----	----	----
Zinc	7440-66-6	1.0	mg/kg		**31.7**	**21.8**	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		**0.01**	<0.01	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		**130**	**110**	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		**130**	**110**	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		**195**	**223**	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		**2.3**	**2.3**	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		**0.09**	**0.06**	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	<3	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		<3	<3	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	<5	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	<3	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		<3	<3	----	----	----
C15 - C28 Fraction	----	3	mg/kg		<3	<3	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB35 0.0-0.5A	EB35 0.5-1.0A	EB35 0.0-0.5B	EB35 0.5-1.0 B	EB35 0.3V
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-061	ES1504301-062	ES1504301-063	ES1504301-064	ES1504301-065
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	<5	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		<3	<3	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	----	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	<1	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	<1	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	<0.5	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	<10	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	<10	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	<10.0	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	<10	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	<10	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	<10	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	<10	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	<10	----	----	----
Ethion	563-12-2	10	µg/kg		<10	<10	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	<10	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	<10	----	----	----
Malathion	121-75-5	10	µg/kg		<10	<10	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	<10	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	<10	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB35 0.0-0.5A	EB35 0.5-1.0A	EB35 0.0-0.5B	EB35 0.5-1.0 B	EB35 0.3V
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504301-061	ES1504301-062	ES1504301-063	ES1504301-064	ES1504301-065
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	<10	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	<10	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	<10	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	<10	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	<0.50	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	<0.50	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	<0.50	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	<0.50	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	<0.50	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	<0.25	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	<0.50	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	<0.25	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	<0.25	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	<0.25	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	<0.50	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	<5.0	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB35 0.0-0.5A	EB35 0.5-1.0A	EB35 0.0-0.5B	EB35 0.5-1.0 B	EB35 0.3V
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
					ES1504301-061	ES1504301-062	ES1504301-063	ES1504301-064	ES1504301-065
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	<5.0	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	<5	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	<5	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	<4	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	<4	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	<4	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	<4	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	<4	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	<4	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	<4	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	<4	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	<4	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	<4	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	<4	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	<4	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	<4	----	----	----
Perylene	198-55-0	4	µg/kg		<4	<4	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	<4	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	<4	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	<4	----	----	----
Coronene	191-07-1	5	µg/kg		<5	<5	----	----	----
^ **Sum of PAHs**	----	4	µg/kg		<4	<4	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	----	**82.9**
Toluene-D8	2037-26-5	0.1	%		----	----	----	----	**93.8**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	----	**87.6**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**79.4**	**58.7**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB35 0.0-0.5A	EB35 0.5-1.0A	EB35 0.0-0.5B	EB35 0.5-1.0 B	EB35 0.3V
			Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504301-061	ES1504301-062	ES1504301-063	ES1504301-064	ES1504301-065
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	97.1	66.8	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	89.3	52.5	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	80.0	50.0	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	106	99.8	----	----	----
Anthracene-d10	1719-06-8	0.1	%	106	114	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	121	85.8	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB35 0.7V	TRIPLICATE 12A	DUPLICATE 5A	----	----
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	----	----
Compound	CAS Number	LOR	Unit		ES1504301-066	ES1504301-067	ES1504301-068	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**27.9**	**27.5**	**24.4**	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	**9010**	**4930**	----	----
Iron	7439-89-6	50	mg/kg		----	**17200**	**13000**	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	<0.50	<0.50	----	----
Arsenic	7440-38-2	1.00	mg/kg		----	**20.2**	**19.0**	----	----
Cadmium	7440-43-9	0.1	mg/kg		----	<0.1	<0.1	----	----
Chromium	7440-47-3	1.0	mg/kg		----	**14.7**	**10.5**	----	----
Copper	7440-50-8	1.0	mg/kg		----	**4.6**	**2.4**	----	----
Cobalt	7440-48-4	0.5	mg/kg		----	**6.3**	**5.5**	----	----
Lead	7439-92-1	1.0	mg/kg		----	**4.5**	**3.0**	----	----
Manganese	7439-96-5	10	mg/kg		----	**342**	**826**	----	----
Nickel	7440-02-0	1.0	mg/kg		----	**6.4**	**4.3**	----	----
Selenium	7782-49-2	0.1	mg/kg		----	**0.5**	**0.3**	----	----
Silver	7440-22-4	0.1	mg/kg		----	<0.1	<0.1	----	----
Vanadium	7440-62-2	2.0	mg/kg		----	**30.5**	**26.2**	----	----
Zinc	7440-66-6	1.0	mg/kg		----	**16.3**	**11.1**	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	**0.01**	<0.01	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	**160**	**170**	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ **Total Nitrogen as N**	----	20	mg/kg		----	**160**	**170**	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	**357**	**303**	----	----
EK255A SD Ammonia in Sediment									

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB35 0.7V	TRIPLICATE 12A	DUPLICATE 5A	----	----
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	----	----
					ES1504301-066	ES1504301-067	ES1504301-068	----	----
EK255A SD Ammonia in Sediment - Continued									
Ammonia as N	7664-41-7	0.2	mg/kg		----	**1.0**	**1.0**	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	**0.18**	**0.15**	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	<3	<3	----	----
>C16 - C34 Fraction	----	3	mg/kg		----	<3	<3	----	----
>C34 - C40 Fraction	----	5	mg/kg		----	<5	<5	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	<3	<3	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	----	----	----	----
C10 - C14 Fraction	----	3	mg/kg		----	<3	<3	----	----
C15 - C28 Fraction	----	3	mg/kg		----	<3	<3	----	----
C29 - C36 Fraction	----	5	mg/kg		----	<5	<5	----	----
^ **C10 - C36 Fraction (sum)**	----	3	mg/kg		----	<3	<3	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	----	----	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.2	mg/kg		<0.2	----	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	----	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	----	----	----	----
^ **Total Xylenes**	1330-20-7	0.5	mg/kg		<0.5	----	----	----	----
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	----	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	<1	<1	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	<1	<1	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	<0.5	<0.5	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	<10	<10	----	----
Carbophenothion	786-19-6	10	µg/kg		----	<10	<10	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	<10.0	<10.0	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	<10	<10	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB35 0.7V	TRIPLICATE 12A	DUPLICATE 5A	----	----
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	----	----
					ES1504301-066	ES1504301-067	ES1504301-068	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Chlorpyrifos	2921-88-2	10	µg/kg		----	<10	<10	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	<10	<10	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	<10	<10	----	----
Diazinon	333-41-5	10	µg/kg		----	<10	<10	----	----
Dichlorvos	62-73-7	10	µg/kg		----	<10	<10	----	----
Dimethoate	60-51-5	10	µg/kg		----	<10	<10	----	----
Ethion	563-12-2	10	µg/kg		----	<10	<10	----	----
Fenamiphos	22224-92-6	10	µg/kg		----	<10	<10	----	----
Fenthion	55-38-9	10	µg/kg		----	<10	<10	----	----
Malathion	121-75-5	10	µg/kg		----	<10	<10	----	----
Azinphos Methyl	86-50-0	10	µg/kg		----	<10	<10	----	----
Monocrotophos	6923-22-4	10	µg/kg		----	<10	<10	----	----
Parathion	56-38-2	10	µg/kg		----	<10	<10	----	----
Parathion-methyl	298-00-0	10	µg/kg		----	<10	<10	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	<10	<10	----	----
Prothiofos	34643-46-4	10	µg/kg		----	<10	<10	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg		----	<0.50	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	<0.50	<0.50	----	----
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	<0.50	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	<0.50	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	<0.50	<0.50	----	----
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg		----	<0.50	<0.50	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB35 0.7V	TRIPLICATE 12A	DUPLICATE 5A	----	----
				Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	----	----
Compound	CAS Number	LOR	Unit		ES1504301-066	ES1504301-067	ES1504301-068	----	----
EP131A: Organochlorine Pesticides - Continued									
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	<0.50	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	<0.50	<0.50	----	----
gamma-BHC	58-89-9	0.25	µg/kg		----	<0.25	<0.25	----	----
Methoxychlor	72-43-5	0.50	µg/kg		----	<0.50	<0.50	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	<0.25	<0.25	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	<0.25	<0.25	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		----	<0.25	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	<0.50	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1232	11141-16-5	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	<5.0	<5.0	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	<5	<5	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	<5	<5	----	----
Acenaphthylene	208-96-8	4	µg/kg		----	<4	<4	----	----
Acenaphthene	83-32-9	4	µg/kg		----	<4	<4	----	----
Fluorene	86-73-7	4	µg/kg		----	<4	<4	----	----
Phenanthrene	85-01-8	4	µg/kg		----	<4	<4	----	----
Anthracene	120-12-7	4	µg/kg		----	<4	<4	----	----
Fluoranthene	206-44-0	4	µg/kg		----	<4	<4	----	----
Pyrene	129-00-0	4	µg/kg		----	<4	<4	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	<4	<4	----	----
Chrysene	218-01-9	4	µg/kg		----	<4	<4	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	<4	<4	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	<4	<4	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	<4	<4	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	<4	<4	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB35 0.7V	TRIPLICATE 12A	DUPLICATE 5A	----	----
			Client sampling date / time	22-FEB-2015 15:00	22-FEB-2015 15:00	22-FEB-2015 15:00	----	----
Compound	CAS Number	LOR	Unit	ES1504301-066	ES1504301-067	ES1504301-068	----	----
EP132B: Polynuclear Aromatic Hydrocarbons - Continued								
Perylene	198-55-0	4	µg/kg	----	<4	<4	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg	----	<4	<4	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg	----	<4	<4	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	----	<4	<4	----	----
Coronene	191-07-1	5	µg/kg	----	<5	<5	----	----
^ Sum of PAHs	----	4	µg/kg	----	<4	<4	----	----
EP080-SD: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**95.4**	----	----	----	----
Toluene-D8	2037-26-5	0.1	%	**92.7**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	**90.7**	----	----	----	----
EP090S: Organotin Surrogate								
Tripropyltin	----	0.1	%	----	**71.8**	**95.0**	----	----
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	**67.0**	**73.4**	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	**62.9**	**91.6**	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	**60.0**	**70.0**	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	**115**	**118**	----	----
Anthracene-d10	1719-06-8	0.1	%	----	**120**	**109**	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	**80.4**	**89.3**	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 12	----	----	----	----
				Client sampling date / time	22-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1504301-069	----	----	----	----
EG020T: Total Metals by ICP-MS									
Antimony	7440-36-0	0.001	mg/L		<0.001	----	----	----	----
Arsenic	7440-38-2	0.001	mg/L		<0.001	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	----	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	----	----	----	----
Manganese	7439-96-5	0.001	mg/L		<0.001	----	----	----	----
Nickel	7440-02-0	0.001	mg/L		<0.001	----	----	----	----
Silver	7440-22-4	0.001	mg/L		<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L		<0.005	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	----	----	----	----
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		<0.01	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	----	0.01	mg/L		<0.01	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		<0.01	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		<0.01	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L		<0.1	----	----	----	----
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser									
^ Total Nitrogen as N	----	0.1	mg/L		<0.1	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		<0.01	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	1	µg/L		<1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.5	µg/L		<0.5	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L		<0.5	----	----	----	----
beta-BHC	319-85-7	0.5	µg/L		<0.5	----	----	----	----
gamma-BHC	58-89-9	0.5	µg/L		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)

Compound	CAS Number	LOR	Unit	Client sample ID: RINSATE 12	----	----	----	----
				Client sampling date / time: 22-FEB-2015 15:00	----	----	----	----
				ES1504301-069	**----**	**----**	**----**	**----**
EP068A: Organochlorine Pesticides (OC) - Continued								
delta-BHC	319-86-8	0.5	µg/L	<0.5	----	----	----	----
Heptachlor	76-44-8	0.5	µg/L	<0.5	----	----	----	----
Aldrin	309-00-2	0.5	µg/L	<0.5	----	----	----	----
Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	----	----	----	----
trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	----	----	----	----
alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	----	----	----	----
cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	----	----	----	----
Dieldrin	60-57-1	0.5	µg/L	<0.5	----	----	----	----
4.4`-DDE	72-55-9	0.5	µg/L	<0.5	----	----	----	----
Endrin	72-20-8	0.5	µg/L	<0.5	----	----	----	----
beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	----	----	----	----
4.4`-DDD	72-54-8	0.5	µg/L	<0.5	----	----	----	----
Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	----	----	----	----
Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	----	----	----	----
4.4`-DDT	50-29-3	2.0	µg/L	<2.0	----	----	----	----
Endrin ketone	53494-70-5	0.5	µg/L	<0.5	----	----	----	----
Methoxychlor	72-43-5	2.0	µg/L	<2.0	----	----	----	----
^ **Total Chlordane (sum)**	----	0.5	µg/L	<0.5	----	----	----	----
^ **Sum of DDD + DDE + DDT**	----	0.5	µg/L	<0.5	----	----	----	----
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.5	µg/L	<0.5	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.5	µg/L	<0.5	----	----	----	----
Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	----	----	----	----
Monocrotophos	6923-22-4	2.0	µg/L	<2.0	----	----	----	----
Dimethoate	60-51-5	0.5	µg/L	<0.5	----	----	----	----
Diazinon	333-41-5	0.5	µg/L	<0.5	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	----	----	----	----
Parathion-methyl	298-00-0	2.0	µg/L	<2.0	----	----	----	----
Malathion	121-75-5	0.5	µg/L	<0.5	----	----	----	----
Fenthion	55-38-9	0.5	µg/L	<0.5	----	----	----	----
Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	----	----	----	----
Parathion	56-38-2	2.0	µg/L	<2.0	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	----	----	----	----
Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	RINSATE 12	----	----	----	----
			Client sampling date / time	22-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1504301-069	----	----	----	----
EP068B: Organophosphorus Pesticides (OP) - Continued								
Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	----	----	----	----
Fenamiphos	22224-92-6	0.5	µg/L	<0.5	----	----	----	----
Prothiofos	34643-46-4	0.5	µg/L	<0.5	----	----	----	----
Ethion	563-12-2	0.5	µg/L	<0.5	----	----	----	----
Carbophenothion	786-19-6	0.5	µg/L	<0.5	----	----	----	----
Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L	<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L	<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L	<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L	<1.0	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L	<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L	<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L	<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L	<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L	<50	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	RINSATE 12	----	----	----	----
			Client sampling date / time	22-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1504301-069	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L	<20	----	----	----	----
>C10 - C16 Fraction	>C10_C16	100	µg/L	<100	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L	<100	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L	<100	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L	<100	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L	<100	----	----	----	----
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	----	----	----	----
Toluene	108-88-3	2	µg/L	<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	----	----	----	----
^ **Total Xylenes**	1330-20-7	2	µg/L	<2	----	----	----	----
^ **Sum of BTEX**	----	1	µg/L	<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L	<5	----	----	----	----
EP090: Organotin Compounds								
Monobutyltin	78763-54-9	5	ngSn/L	<5	----	----	----	----
Dibutyltin	1002-53-5	5	ngSn/L	<5	----	----	----	----
Tributyltin	56573-85-4	2	ngSn/L	<2	----	----	----	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**101**	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**77.6**	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**70.0**	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	**23.3**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	**43.9**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	**50.0**	----	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**41.8**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**69.5**	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 12	----	----	----	----
				Client sampling date / time	22-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1504301-069	----	----	----	----
EP075(SIM)T: PAH Surrogates - Continued									
4-Terphenyl-d14	1718-51-0	0.1	%		73.3	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		91.7	----	----	----	----
Toluene-D8	2037-26-5	0.1	%		108	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		117	----	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		89.6	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
EP080-SD: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	67	137
Toluene-D8	2037-26-5	74	134
4-Bromofluorobenzene	460-00-4	73	137
EP090S: Organotin Surrogate			
Tripropyltin	----	35	130
EP130S: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	14.4	102
EP131S: OC Pesticide Surrogate			
Dibromo-DDE	21655-73-2	10	119
EP131T: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	10	106
EP132T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	55	135
Anthracene-d10	1719-06-8	70	136
4-Terphenyl-d14	1718-51-0	57	127

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	28.5	129
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	30	120
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	26.8	129
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10.0	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27.4	113
4-Terphenyl-d14	1718-51-0	32	112
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128
EP090S: Organotin Surrogate			
Tripropyltin	----	8.2	108

QUALITY CONTROL REPORT

Work Order	: **ES1504301**	Page	: 1 of 43
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 23-FEB-2015
Sampler	: Georgina Kerr	Issue Date	: 19-MAR-2015
Order number	: 245553		
		No. of samples received	: 69
Quote number	: SY/1021/14 V2	No. of samples analysed	: 69

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Dianne Blane	Laboratory Coordinator (2IC)	Newcastle - Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
		Sydney Organics
Ryan Story	2IC Organic Instrument Chemist	Brisbane Organics
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils
Shobhna Chandra	Metals Coordinator	Sydney Inorganics
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA055: Moisture Content (QC Lot: 3843670)									
ES1504301-005	EB8 0.3V	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	23.1	20.4	12.1	0% - 20%
ES1504301-021	EB18 0.7V	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	22.7	21.0	7.9	0% - 20%
EA055: Moisture Content (QC Lot: 3843671)									
ES1504301-035	EB21 0.3V	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	15.0	14.5	3.9	0% - 50%
ES1504301-051	EB25 0.3V	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	26.3	26.2	0.5	0% - 20%
EA055: Moisture Content (QC Lot: 3843672)									
ES1504301-065	EB35 0.3V	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	18.4	20.5	10.8	0% - 20%
ES1504517-001	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	1.5	2.5	51.5	No Limit
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3843427)									
ES1504301-001	EB8 0.0-0.5A	EG005-SD: Aluminium	7429-90-5	50	mg/kg	6840	6350	7.4	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	11800	11500	3.0	0% - 20%
ES1504301-031	EB21 0.0-0.5A	EG005-SD: Aluminium	7429-90-5	50	mg/kg	4480	4150	7.6	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	14500	14800	2.3	0% - 20%
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3843430)									
ES1504301-061	EB35 0.0-0.5A	EG005-SD: Aluminium	7429-90-5	50	mg/kg	12300	13600	10.2	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	20600	23200	12.2	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3843426)									
ES1504301-001	EB8 0.0-0.5A	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.2	0.3	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	4.0	4.5	10.7	No Limit
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	10.6	11.1	4.2	0% - 50%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	4.4	4.4	0.0	No Limit
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	3.1	3.2	4.3	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	4.5	4.8	5.9	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	13.8	14.3	3.8	0% - 50%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	5.54	7.03	23.8	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	108	180	# 50.4	0% - 50%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	24.6	24.2	1.7	0% - 50%
ES1504301-031	EB21 0.0-0.5A	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.3	0.3	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	5.7	6.1	6.8	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3843426) - continued									
ES1504301-031	EB21 0.0-0.5A	EG020-SD: Chromium	7440-47-3	1.0	mg/kg	8.8	8.2	6.6	No Limit
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	1.6	1.5	9.0	No Limit
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	2.6	2.6	0.0	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	4.2	4.2	0.0	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	9.0	9.1	0.0	No Limit
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	33.0	38.0	14.1	0% - 20%
		EG020-SD: Manganese	7439-96-5	10	mg/kg	809	856	5.6	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	28.8	29.8	3.4	0% - 50%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3843429)									
ES1504301-061	EB35 0.0-0.5A	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.5	0.5	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	8.4	9.5	11.6	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	19.7	21.1	7.2	0% - 20%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	16.9	19.4	13.5	0% - 50%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	7.2	7.6	5.4	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	10.3	11.8	14.3	0% - 50%
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	31.7	36.1	13.0	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	9.40	10.2	8.2	0% - 50%
		EG020-SD: Manganese	7439-96-5	10	mg/kg	211	214	1.7	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	46.2	50.5	8.9	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3843425)									
ES1504301-001	EB8 0.0-0.5A	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit
ES1504301-031	EB21 0.0-0.5A	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3843428)									
ES1504301-061	EB35 0.0-0.5A	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	0.01	0.01	0.0	No Limit
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3846844)									
ES1504301-001	EB8 0.0-0.5A	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1504301-028	EB20 0.0-0.6A	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3846846)									
ES1504301-061	EB35 0.0-0.5A	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3846845)									
ES1504301-001	EB8 0.0-0.5A	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1504301-028	EB20 0.0-0.6A	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	0.8	158	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3846847)									
ES1504301-061	EB35 0.0-0.5A	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3838227)									
ES1503806-001	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	130	130	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3838227) - continued									
ES1503916-001	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	120	140	9.9	No Limit
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3838230)									
ES1504301-013	EB13 0.0-0.7A	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	290	310	8.9	0% - 50%
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3840143)									
ES1504275-006	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	1680	1470	13.4	0% - 20%
ES1504301-055	EB30 0.0-0.5A	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	280	260	5.9	0% - 50%
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3838228)									
ES1503806-001	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	188	190	0.7	0% - 20%
ES1503916-001	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	253	257	1.6	0% - 20%
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3838229)									
ES1504301-013	EB13 0.0-0.7A	EK067G: Total Phosphorus as P	----	2	mg/kg	267	286	6.8	0% - 20%
ES1504301-038	EB23 0.5-0.7A	EK067G: Total Phosphorus as P	----	2	mg/kg	235	227	3.4	0% - 20%
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3840144)									
ES1504275-006	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	149	142	5.0	0% - 20%
ES1504301-055	EB30 0.0-0.5A	EK067G: Total Phosphorus as P	----	2	mg/kg	303	273	10.5	0% - 20%
EK255A SD: Ammonia in Sediment (QC Lot: 3838114)									
ES1504301-001	EB8 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	0.6	0.6	0.0	No Limit
ES1504301-031	EB21 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	0.6	0.6	0.0	No Limit
EK255A SD: Ammonia in Sediment (QC Lot: 3838115)									
ES1504301-061	EB35 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	2.3	2.3	0.0	0% - 50%
ES1504426-019	Anonymous	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	0.9	1.0	15.2	No Limit
EP003: Total Organic Carbon (TOC) in Soil (QC Lot: 3850798)									
EM1501582-001	Anonymous	EP003: Total Organic Carbon	----	0.02	%	0.09	0.14	43.5	No Limit
ES1504301-022	EB19 0.0-0.5A	EP003: Total Organic Carbon	----	0.02	%	0.12	0.13	0.0	No Limit
EP003: Total Organic Carbon (TOC) in Soil (QC Lot: 3850799)									
ES1504301-052	EB29 0.0-0.5A	EP003: Total Organic Carbon	----	0.02	%	0.21	0.21	0.0	0% - 50%
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3836943)									
ES1504301-001	EB8 0.0-0.5A	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
ES1504301-031	EB21 0.0-0.5A	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	3	3	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	3	3	0.0	No Limit
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3836948)									
ES1504301-061	EB35 0.0-0.5A	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3836948) - continued									
ES1504301-061	EB35 0.0-0.5A	EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3836934)									
ES1504301-005	EB8 0.3V	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
ES1504301-035	EB21 0.3V	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3836943)									
ES1504301-001	EB8 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
ES1504301-031	EB21 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3836948)									
ES1504301-061	EB35 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3841474)									
ES1504618-003	Anonymous	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
ES1504618-027	Anonymous	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
EP080-SD: BTEXN (QC Lot: 3836934)									
ES1504301-005	EB8 0.3V	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
ES1504301-035	EB21 0.3V	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP080-SD: BTEXN (QC Lot: 3841474)									
ES1504618-003	Anonymous	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP080-SD: BTEXN (QC Lot: 3841474) - continued									
ES1504618-003	Anonymous	EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
ES1504618-027	Anonymous	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP090: Organotin Compounds (QC Lot: 3838246)									
ES1504301-001	EB8 0.0-0.5A	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
ES1504301-031	EB21 0.0-0.5A	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
EP090: Organotin Compounds (QC Lot: 3838247)									
ES1504301-061	EB35 0.0-0.5A	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3836936)									
ES1504301-001	EB8 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3836936) - continued									
ES1504301-001	EB8 0.0-0.5A	EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
ES1504301-031	EB21 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3836939)									
ES1504301-061	EB35 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3836939) - continued									
ES1504301-061	EB35 0.0-0.5A	EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
EP131A: Organochlorine Pesticides (QC Lot: 3836937)									
ES1504301-001	EB8 0.0-0.5A	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
ES1504301-031	EB21 0.0-0.5A	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP131A: Organochlorine Pesticides (QC Lot: 3836937) - continued									
ES1504301-031	EB21 0.0-0.5A	EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
EP131A: Organochlorine Pesticides (QC Lot: 3836940)									
ES1504301-061	EB35 0.0-0.5A	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 3836938)									
ES1504301-001	EB8 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 3836938) - continued									
ES1504301-001	EB8 0.0-0.5A	EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
ES1504301-031	EB21 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 3836941)									
ES1504301-061	EB35 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3836942)									
ES1504301-001	EB8 0.0-0.5A	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3836942) - continued									
ES1504301-001	EB8 0.0-0.5A	EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit
ES1504301-031	EB21 0.0-0.5A	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3836947)									
ES1504301-061	EB35 0.0-0.5A	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3836947) - continued									
ES1504301-061	EB35 0.0-0.5A	EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020T: Total Metals by ICP-MS (QC Lot: 3844857)									
ES1504301-069	RINSATE 12	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Manganese	7439-96-5	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.0	No Limit
EG020T: Total Metals by ICP-MS (QC Lot: 3844858)									
ES1504301-069	RINSATE 12	EG020B-T: Silver	7440-22-4	0.001	mg/L	<0.001	<0.001	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3850290)									
ES1504301-069	RINSATE 12	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
ES1504937-001	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EK055G: Ammonia as N by Discrete Analyser (QC Lot: 3837769)									
ES1503937-001	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	0.08	0.08	0.0	No Limit
ES1504407-001	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	0.12	0.13	0.0	0% - 50%
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3836340)									
ES1504301-069	RINSATE 12	EK057G: Nitrite as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1504411-003	Anonymous	EK057G: Nitrite as N	----	0.01	mg/L	0.01	0.01	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3837768)									
ES1503937-001	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	0.03	0.03	0.0	No Limit
ES1504306-002	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3837764)									
ES1503937-001	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	1.0	1.0	0.0	0% - 50%
ES1504306-003	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	0.1	0.1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3837765)									
ES1503937-001	Anonymous	EK067G: Total Phosphorus as P	----	0.01	mg/L	0.10	0.10	0.0	0% - 50%
ES1504306-003	Anonymous	EK067G: Total Phosphorus as P	----	0.01	mg/L	0.02	<0.01	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3839671)									
ES1504288-009	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
ES1504288-015	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3839671)									
ES1504288-009	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
ES1504288-015	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 3839671)									
ES1504288-009	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
ES1504288-015	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3843427)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	135	86	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	101	70	130
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3843430)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	130	86	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	115	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3843426)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	----	----	----	----
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	104	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	101	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	110	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	93.9	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	97.9	84	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	102	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	98.7	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	105	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	116	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	----	----	----	----
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	107	87	131
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	110	83	137
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3843429)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	----	----	----	----
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	102	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	101	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	113	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	91.0	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	95.0	84	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3843429) - continued								
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	102	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	101	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	102	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	124	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	----	----	----	----
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	110	87	131
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	107	83	137
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3843425)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.090 mg/kg	86.7	72	116
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3843428)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.090 mg/kg	84.4	72	116
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3846844)								
EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	82.5	82	120
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3846846)								
EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	101	82	120
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3846845)								
EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	100	89	115
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3846847)								
EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	99.9	89	115
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3838227)								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	<20	1000 mg/kg	87.5	64	114
				----	500 mg/kg	100	70	122
				----	100 mg/kg	90.4	70	127
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3838230)								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	<20	1000 mg/kg	85.0	64	114
				----	100 mg/kg	92.8	70	127
				----	500 mg/kg	98.9	70	122
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3840143)								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	<20	1000 mg/kg	83.5	64	114
				----	100 mg/kg	109	70	127
				----	500 mg/kg	106	70	122

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3838228)								
EK067G: Total Phosphorus as P	----	2	mg/kg	----	100 mg/kg	98.9	69	123
				<2	442 mg/kg	90.4	68	116
				----	44.2 mg/kg	89.8	64	124
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3838229)								
EK067G: Total Phosphorus as P	----	2	mg/kg	<2	442 mg/kg	88.0	68	116
				----	100 mg/kg	99.5	69	123
				----	44.2 mg/kg	90.4	64	124
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3840144)								
EK067G: Total Phosphorus as P	----	2	mg/kg	----	100 mg/kg	103	69	123
				<2	442 mg/kg	82.6	68	116
				----	44.2 mg/kg	95.0	64	124
EK255A SD: Ammonia in Sediment (QCLot: 3838114)								
EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	<0.2	0.1 mg/kg	85.3	70	130
EK255A SD: Ammonia in Sediment (QCLot: 3838115)								
EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	<0.2	0.1 mg/kg	86.8	70	130
EP003: Total Organic Carbon (TOC) in Soil (QCLot: 3850798)								
EP003: Total Organic Carbon	----	0.02	%	<0.02	0.11 %	97.3	70	130
EP003: Total Organic Carbon (TOC) in Soil (QCLot: 3850799)								
EP003: Total Organic Carbon	----	0.02	%	<0.02	0.11 %	97.3	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3836943)								
EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	6.25 mg/kg	102	70	130
EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	8.75 mg/kg	97.4	74	138
EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	3.75 mg/kg	94.7	63	131
EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3836948)								
EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	6.25 mg/kg	104	70	130
EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	8.75 mg/kg	101	74	138
EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	3.75 mg/kg	94.7	63	131
EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3836934)								
EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	6.2 mg/kg	90.7	61	133

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3836943)								
EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	5 mg/kg	106	78	118
EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	7.5 mg/kg	100	84	118
EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	5 mg/kg	102	73	119
EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3836948)								
EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	5 mg/kg	97.0	78	118
EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	7.5 mg/kg	96.0	84	118
EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	5 mg/kg	89.0	73	119
EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3841474)								
EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	6.2 mg/kg	98.2	61	133
EP080-SD: BTEXN (QCLot: 3836934)								
EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	0.2 mg/kg	94.0	66	122
EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	0.2 mg/kg	91.6	69	122
EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.2 mg/kg	95.7	66	126
EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	0.4 mg/kg	97.3	59	129
EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.2 mg/kg	98.2	66	126
EP080-SD: BTEXN (QCLot: 3841474)								
EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	0.2 mg/kg	94.9	66	122
EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	0.2 mg/kg	99.8	69	122
EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.2 mg/kg	103	66	126
EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	0.4 mg/kg	102	59	129
EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.2 mg/kg	99.8	66	126
EP090: Organotin Compounds (QCLot: 3838246)								
EP090: Monobutyltin	78763-54-9	1.0	µgSn/kg	<1	1.25 µgSn/kg	97.7	36	128
EP090: Dibutyltin	1002-53-5	1.0	µgSn/kg	<1	1.25 µgSn/kg	103	42	132
EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	1.25 µgSn/kg	111	52	139
EP090: Organotin Compounds (QCLot: 3838247)								
EP090: Monobutyltin	78763-54-9	1.0	µgSn/kg	<1	1.25 µgSn/kg	54.8	36	128

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP090: Organotin Compounds (QCLot: 3838247) - continued								
EP090: Dibutyltin	1002-53-5	1.0	µgSn/kg	<1	1.25 µgSn/kg	61.2	42	132
EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	1.25 µgSn/kg	96.8	52	139
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3836936)								
EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	50 µg/kg	71.6	45	139
EP130: Carbophenothion	786-19-6	10	µg/kg	<10	50 µg/kg	72.6	47	117
EP130: Chlorfenvinphos (E)	18708-86-6	10	µg/kg	<10.0	5 µg/kg	77.0	48	156
EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	50 µg/kg	84.7	62	136
EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	50 µg/kg	77.1	57	137
EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	50 µg/kg	73.9	57	121
EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	50 µg/kg	85.6	20.4	142
EP130: Diazinon	333-41-5	10	µg/kg	<10	50 µg/kg	73.5	57	121
EP130: Dichlorvos	62-73-7	10	µg/kg	<10	50 µg/kg	86.4	47	115
EP130: Dimethoate	60-51-5	10	µg/kg	<10	50 µg/kg	84.3	55	133
EP130: Ethion	563-12-2	10	µg/kg	<10	50 µg/kg	79.4	54	130
EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	50 µg/kg	71.3	57	131
EP130: Fenthion	55-38-9	10	µg/kg	<10	50 µg/kg	74.1	38	130
EP130: Malathion	121-75-5	10	µg/kg	<10	50 µg/kg	76.9	62	138
EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	50 µg/kg	99.1	33	137
EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	50 µg/kg	91.8	50	148
EP130: Parathion	56-38-2	10	µg/kg	<10	50 µg/kg	75.2	64	140
EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	50 µg/kg	74.8	56	136
EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	50 µg/kg	71.3	50	132
EP130: Prothiofos	34643-46-4	10	µg/kg	<10	50 µg/kg	73.4	55	135
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3836939)								
EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	50 µg/kg	78.2	45	139
EP130: Carbophenothion	786-19-6	10	µg/kg	<10	50 µg/kg	76.7	47	117
EP130: Chlorfenvinphos (E)	18708-86-6	10	µg/kg	<10.0	5 µg/kg	83.6	48	156
EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	50 µg/kg	90.5	62	136
EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	50 µg/kg	81.6	57	137

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3836939) - continued								
EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	50 µg/kg	76.6	57	121
EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	50 µg/kg	83.8	20.4	142
EP130: Diazinon	333-41-5	10	µg/kg	<10	50 µg/kg	77.0	57	121
EP130: Dichlorvos	62-73-7	10	µg/kg	<10	50 µg/kg	90.2	47	115
EP130: Dimethoate	60-51-5	10	µg/kg	<10	50 µg/kg	89.5	55	133
EP130: Ethion	563-12-2	10	µg/kg	<10	50 µg/kg	84.5	54	130
EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	50 µg/kg	71.6	57	131
EP130: Fenthion	55-38-9	10	µg/kg	<10	50 µg/kg	73.9	38	130
EP130: Malathion	121-75-5	10	µg/kg	<10	50 µg/kg	80.5	62	138
EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	50 µg/kg	101	33	137
EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	50 µg/kg	100	50	148
EP130: Parathion	56-38-2	10	µg/kg	<10	50 µg/kg	77.2	64	140
EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	50 µg/kg	76.6	56	136
EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	50 µg/kg	75.5	50	132
EP130: Prothiofos	34643-46-4	10	µg/kg	<10	50 µg/kg	80.0	55	135
EP131A: Organochlorine Pesticides (QCLot: 3836937)								
EP131A: Aldrin	309-00-2	0.5	µg/kg	<0.50	5 µg/kg	45.0	38	150
EP131A: alpha-BHC	319-84-6	0.5	µg/kg	<0.50	5 µg/kg	51.6	17.6	156
EP131A: beta-BHC	319-85-7	0.5	µg/kg	<0.50	5 µg/kg	60.7	30.5	152
EP131A: delta-BHC	319-86-8	0.5	µg/kg	<0.50	5 µg/kg	75.0	37	151
EP131A: 4.4`-DDD	72-54-8	0.5	µg/kg	<0.50	5 µg/kg	95.9	25.9	150
EP131A: 4.4`-DDE	72-55-9	0.5	µg/kg	<0.50	5 µg/kg	58.7	35	129
EP131A: 4.4`-DDT	50-29-3	0.5	µg/kg	<0.50	5 µg/kg	83.4	23.4	163
EP131A: Sum of DDD + DDE + DDT	----	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Dieldrin	60-57-1	0.5	µg/kg	<0.50	5 µg/kg	69.5	30.2	140
EP131A: alpha-Endosulfan	959-98-8	0.5	µg/kg	<0.50	5 µg/kg	64.7	38	140
EP131A: beta-Endosulfan	33213-65-9	0.5	µg/kg	<0.50	5 µg/kg	66.7	32	152
EP131A: Endosulfan sulfate	1031-07-8	0.5	µg/kg	<0.50	5 µg/kg	67.9	36	162
EP131A: Endosulfan (sum)	115-29-7	0.5	µg/kg	<0.50	----	----	----	----

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP131A: Organochlorine Pesticides (QCLot: 3836937) - continued								
EP131A: Endrin	72-20-8	0.5	µg/kg	<0.50	5 µg/kg	59.1	25.8	166
EP131A: Endrin aldehyde	7421-93-4	0.5	µg/kg	<0.50	5 µg/kg	65.7	20.1	116
EP131A: Endrin ketone	53494-70-5	0.5	µg/kg	<0.50	5 µg/kg	54.6	13.4	151
EP131A: Heptachlor	76-44-8	0.5	µg/kg	<0.50	5 µg/kg	74.6	39	173
EP131A: Heptachlor epoxide	1024-57-3	0.5	µg/kg	<0.50	5 µg/kg	52.8	34	148
EP131A: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/kg	<0.50	5 µg/kg	39.6	26.1	152
EP131A: gamma-BHC	58-89-9	0.5	µg/kg	<0.50	5 µg/kg	48.2	31.2	159
EP131A: Methoxychlor	72-43-5	0.5	µg/kg	<0.50	5 µg/kg	85.4	36	160
EP131A: cis-Chlordane	5103-71-9	0.5	µg/kg	<0.50	5 µg/kg	53.4	36	142
EP131A: trans-Chlordane	5103-74-2	0.5	µg/kg	<0.50	5 µg/kg	70.5	29.5	138
EP131A: Total Chlordane (sum)	----	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Organochlorine Pesticides (QCLot: 3836940)								
EP131A: Aldrin	309-00-2	0.5	µg/kg	<0.50	5 µg/kg	44.9	38	150
EP131A: alpha-BHC	319-84-6	0.5	µg/kg	<0.50	5 µg/kg	47.5	17.6	156
EP131A: beta-BHC	319-85-7	0.5	µg/kg	<0.50	5 µg/kg	61.3	30.5	152
EP131A: delta-BHC	319-86-8	0.5	µg/kg	<0.50	5 µg/kg	74.2	37	151
EP131A: 4.4`-DDD	72-54-8	0.5	µg/kg	<0.50	5 µg/kg	48.2	25.9	150
EP131A: 4.4`-DDE	72-55-9	0.5	µg/kg	<0.50	5 µg/kg	50.3	35	129
EP131A: 4.4`-DDT	50-29-3	0.5	µg/kg	<0.50	5 µg/kg	84.6	23.4	163
EP131A: Sum of DDD + DDE + DDT	----	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Dieldrin	60-57-1	0.5	µg/kg	<0.50	5 µg/kg	102	30.2	140
EP131A: alpha-Endosulfan	959-98-8	0.5	µg/kg	<0.50	5 µg/kg	55.7	38	140
EP131A: beta-Endosulfan	33213-65-9	0.5	µg/kg	<0.50	5 µg/kg	63.8	32	152
EP131A: Endosulfan sulfate	1031-07-8	0.5	µg/kg	<0.50	5 µg/kg	63.9	36	162
EP131A: Endosulfan (sum)	115-29-7	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Endrin	72-20-8	0.5	µg/kg	<0.50	5 µg/kg	66.4	25.8	166
EP131A: Endrin aldehyde	7421-93-4	0.5	µg/kg	<0.50	5 µg/kg	58.2	20.1	116
EP131A: Endrin ketone	53494-70-5	0.5	µg/kg	<0.50	5 µg/kg	61.1	13.4	151
EP131A: Heptachlor	76-44-8	0.5	µg/kg	<0.50	5 µg/kg	71.7	39	173

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP131A: Organochlorine Pesticides (QCLot: 3836940) - continued								
EP131A: Heptachlor epoxide	1024-57-3	0.5	µg/kg	<0.50	5 µg/kg	53.1	34	148
EP131A: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/kg	<0.50	5 µg/kg	42.8	26.1	152
EP131A: gamma-BHC	58-89-9	0.5	µg/kg	<0.50	5 µg/kg	43.0	31.2	159
EP131A: Methoxychlor	72-43-5	0.5	µg/kg	<0.50	5 µg/kg	57.1	36	160
EP131A: cis-Chlordane	5103-71-9	0.5	µg/kg	<0.50	5 µg/kg	54.9	36	142
EP131A: trans-Chlordane	5103-74-2	0.5	µg/kg	<0.50	5 µg/kg	77.8	29.5	138
EP131A: Total Chlordane (sum)	----	0.5	µg/kg	<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3836938)								
EP131B: Total Polychlorinated biphenyls	----	5	µg/kg	<5.0	50 µg/kg	62.5	44	136
EP131B: Aroclor 1016	12674-11-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1221	11104-28-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1232	11141-16-5	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1242	53469-21-9	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1248	12672-29-6	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1254	11097-69-1	5	µg/kg	<5.0	50 µg/kg	62.5	44	136
EP131B: Aroclor 1260	11096-82-5	5	µg/kg	<5.0	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3836941)								
EP131B: Total Polychlorinated biphenyls	----	5	µg/kg	<5.0	50 µg/kg	88.0	44	136
EP131B: Aroclor 1016	12674-11-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1221	11104-28-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1232	11141-16-5	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1242	53469-21-9	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1248	12672-29-6	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1254	11097-69-1	5	µg/kg	<5.0	50 µg/kg	83.0	44	136
EP131B: Aroclor 1260	11096-82-5	5	µg/kg	<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3836942)								
EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	25 µg/kg	114	67	133
EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	25 µg/kg	114	63	135
EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	25 µg/kg	99.6	68	132
EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	25 µg/kg	111	67	133

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3836942) - continued								
EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	25 µg/kg	110	69	131
EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	25 µg/kg	116	66	138
EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	25 µg/kg	114	67	133
EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	25 µg/kg	113	64	130
EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	25 µg/kg	113	67	133
EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	25 µg/kg	119	65	133
EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	25 µg/kg	124	70	134
EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	25 µg/kg	113	63	133
EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	25 µg/kg	99.7	67	133
EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	25 µg/kg	100	64	130
EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	25 µg/kg	90.7	72	130
EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	25 µg/kg	98.5	70	132
EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	25 µg/kg	83.2	65	127
EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	25 µg/kg	83.2	67	135
EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	25 µg/kg	80.8	62	126
EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	25 µg/kg	84.9	66	134
EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3836947)								
EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	25 µg/kg	92.6	67	133
EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	25 µg/kg	104	63	135
EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	25 µg/kg	87.0	68	132
EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	25 µg/kg	86.4	67	133
EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	25 µg/kg	99.0	69	131
EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	25 µg/kg	81.9	66	138
EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	25 µg/kg	89.7	67	133
EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	25 µg/kg	121	64	130
EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	25 µg/kg	119	67	133
EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	25 µg/kg	88.8	65	133
EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	25 µg/kg	97.4	70	134

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3836947) - continued								
EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	25 µg/kg	100	63	133
EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	25 µg/kg	100	67	133
EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	25 µg/kg	98.2	64	130
EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	25 µg/kg	91.6	72	130
EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	25 µg/kg	91.5	70	132
EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	25 µg/kg	92.4	65	127
EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	25 µg/kg	82.3	67	135
EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	25 µg/kg	91.8	62	126
EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	25 µg/kg	95.8	66	134
EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 3844857)								
EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	----	----	----	----
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	96.1	79	121
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	103	83	113
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	105	84	116
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	105	83	117
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	102	84	116
EG020A-T: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	100	85	115
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	104	84	116
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	98.1	77	117
EG020T: Total Metals by ICP-MS (QCLot: 3844858)								
EG020B-T: Silver	7440-22-4	0.001	mg/L	<0.001	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3850290)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	95.9	77	115
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3837769)								
EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	1.0 mg/L	102	86	112
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3836340)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3836340) - continued								
EK057G: Nitrite as N	----	0.01	mg/L	<0.01	0.5 mg/L	91.2	83	119
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3837768)								
EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	0.5 mg/L	104	87	119
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3837764)								
EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	----	1.0 mg/L	102	66	126
				----	5 mg/L	108	66	119
				<0.1	10 mg/L	90.6	66	114
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3837765)								
EK067G: Total Phosphorus as P	----	0.01	mg/L	----	1.0 mg/L	103	66	124
				<0.01	4.42 mg/L	91.3	67	117
				----	0.442 mg/L	90.8	63	123
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3838700)								
EP066: Total Polychlorinated biphenyls	----	1	µg/L	<1	10 µg/L	106	61.6	107
EP068A: Organochlorine Pesticides (OC) (QCLot: 3838699)								
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	5 µg/L	107	65	107
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	5 µg/L	66.1	51	119
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	5 µg/L	94.6	63	113
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	5 µg/L	81.2	62	112
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	5 µg/L	102	60	106
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	5 µg/L	103	58	108
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	5 µg/L	103	58	114
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	5 µg/L	102	59	111
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	5 µg/L	107	62	114
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	5 µg/L	99.7	64	114
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	5 µg/L	105	62	114
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	5 µg/L	101	59	111
EP068: 4.4`-DDE	72-55-9	0.5	µg/L	<0.5	5 µg/L	90.5	63	111
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	5 µg/L	106	61	119
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	5 µg/L	108	71	119
EP068: 4.4`-DDD	72-54-8	0.5	µg/L	<0.5	5 µg/L	108	70	118

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 3838699) - continued								
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	5 µg/L	87.4	62	112
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	5 µg/L	96.3	53	113
EP068: 4.4`-DDT	50-29-3	2.0	µg/L	<2.0	5 µg/L	96.0	52	120
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	5 µg/L	91.1	51	117
EP068: Methoxychlor	72-43-5	2.0	µg/L	<2.0	5 µg/L	95.0	53	127
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3838699)								
EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	5 µg/L	95.7	52	122
EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	5 µg/L	88.1	51	123
EP068: Monocrotophos	6923-22-4	0.5	µg/L	<2.0	5 µg/L	28.7	10	89.1
EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	5 µg/L	100	61	119
EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	5 µg/L	92.4	67	113
EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	5 µg/L	107	60	116
EP068: Parathion-methyl	298-00-0	2.0	µg/L	<2.0	5 µg/L	91.6	64	120
EP068: Malathion	121-75-5	0.5	µg/L	<0.5	5 µg/L	108	67	115
EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	5 µg/L	98.5	64	110
EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	5 µg/L	85.6	63	109
EP068: Parathion	56-38-2	2.0	µg/L	<2.0	5 µg/L	100	63	121
EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	5 µg/L	105	60	110
EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	5 µg/L	101	68	114
EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	5 µg/L	107	61	109
EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	5 µg/L	94.0	63	117
EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	5 µg/L	95.8	63	111
EP068: Ethion	563-12-2	0.5	µg/L	<0.5	5 µg/L	87.4	65	115
EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	5 µg/L	93.3	55	115
EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	5 µg/L	88.5	44	124
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3838702)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	<1.0	5 µg/L	63.2	58.6	119
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	<1.0	5 µg/L	70.7	63.6	114
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	<1.0	5 µg/L	64.8	62.2	113

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3838702) - continued								
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	<1.0	5 µg/L	74.2	63.9	115
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	<1.0	5 µg/L	81.7	62.6	116
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	<1.0	5 µg/L	81.1	64.3	116
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	<1.0	5 µg/L	90.8	63.6	118
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	<1.0	5 µg/L	91.5	63.1	118
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	<1.0	5 µg/L	86.9	64.1	117
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	<1.0	5 µg/L	91.6	62.5	116
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.2	µg/L	<1.0	5 µg/L	91.4	61.7	119
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	<1.0	5 µg/L	96.0	61.7	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	<0.5	5 µg/L	87.2	63.3	117
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.2	µg/L	<1.0	5 µg/L	88.0	59.9	118
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.2	µg/L	<1.0	5 µg/L	88.6	61.2	117
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.2	µg/L	<1.0	5 µg/L	87.6	59.1	118
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3838701)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	2000 µg/L	89.0	59	129
EP071: C15 - C28 Fraction	----	100	µg/L	<100	3000 µg/L	96.7	71	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	2000 µg/L	99.5	62	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3839671)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	87.7	75	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3838701)								
EP071: >C10 - C16 Fraction	>C10_C16	100	µg/L	<100	2500 µg/L	101	58.9	131
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	3500 µg/L	92.4	73.9	138
EP071: >C34 - C40 Fraction	----	50	µg/L	<100	1500 µg/L	93.8	67	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3839671)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	91.2	75	127
EP080: BTEXN (QCLot: 3839671)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	93.0	70	124
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	84.4	65	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	102	70	120

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP080: BTEXN (QCLot: 3839671) - continued								
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	102	69	121
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	99.2	72	122
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	110	70	124
EP090: Organotin Compounds (QCLot: 3839472)								
EP090H: Monobutyltin	78763-54-9	2	ngSn/L	<5	50 ngSn/L	70.0	25	139
EP090H: Dibutyltin	1002-53-5	2	ngSn/L	<5	50 ngSn/L	# 36.3	50	114
EP090H: Tributyltin	56573-85-4	1	ngSn/L	<2	50 ngSn/L	# 35.1	39	120

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3843426)							
ES1504301-002	EB8 0.5-1.0A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	95.1	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	102	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	92.2	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	88.6	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	94.0	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	94.3	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	97.2	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3843429)							
ES1504301-062	EB35 0.5-1.0A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	87.0	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	99.5	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	96.3	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	86.9	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	92.0	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	93.8	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	96.3	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3843425)							
ES1504301-001	EB8 0.0-0.5A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	126	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3843428)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3843428) - continued							
ES1504301-061	EB35 0.0-0.5A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	114	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3846844)							
ES1504301-001	EB8 0.0-0.5A	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	105	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3846846)							
ES1504301-061	EB35 0.0-0.5A	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	107	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3846845)							
ES1504301-001	EB8 0.0-0.5A	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	118	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3846847)							
ES1504301-061	EB35 0.0-0.5A	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	125	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3838227)							
ES1503806-001	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	79.4	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3838230)							
ES1504301-013	EB13 0.0-0.7A	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	89.2	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3840143)							
ES1504275-006	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	87.0	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3838228)							
ES1503806-001	Anonymous	EK067G: Total Phosphorus as P	----	100 mg/kg	85.5	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3838229)							
ES1504301-013	EB13 0.0-0.7A	EK067G: Total Phosphorus as P	----	100 mg/kg	115	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3840144)							
ES1504275-006	Anonymous	EK067G: Total Phosphorus as P	----	100 mg/kg	87.1	70	130
EK255A SD: Ammonia in Sediment (QCLot: 3838114)							
ES1504301-001	EB8 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	93.8	70	130
EK255A SD: Ammonia in Sediment (QCLot: 3838115)							
ES1504301-061	EB35 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	1.0 mg/kg	74.8	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3836934)							
ES1504301-005	EB8 0.3V	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	105	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3836943)							
ES1504301-001	EB8 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	16 mg/kg	109	70	130
		EP071-SD: C15 - C28 Fraction	----	78.5 mg/kg	106	70	130
		EP071-SD: C29 - C36 Fraction	----	71.5 mg/kg	78.0	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3836948)							
ES1504301-061	EB35 0.0-0.5A						

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3836948) - continued							
ES1504301-061	EB35 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	16 mg/kg	110	70	130
		EP071-SD: C15 - C28 Fraction	----	78.5 mg/kg	98.2	70	130
		EP071-SD: C29 - C36 Fraction	----	71.5 mg/kg	82.0	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3841474)							
ES1504618-003	Anonymous	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	106	70	130
EP080-SD: BTEXN (QCLot: 3836934)							
ES1504301-005	EB8 0.3V	EP080-SD: Benzene	71-43-2	0.5 mg/kg	92.3	70	130
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	86.5	70	130
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	96.4	70	130
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	95.2	70	130
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	97.1	70	130
EP080-SD: BTEXN (QCLot: 3841474)							
ES1504618-003	Anonymous	EP080-SD: Benzene	71-43-2	0.5 mg/kg	96.3	70	130
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	96.8	70	130
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	101	70	130
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	97.0	70	130
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	97.4	70	130
EP090: Organotin Compounds (QCLot: 3838246)							
ES1504301-002	EB8 0.5-1.0A	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	# Not Determined	35	130
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	83.2	20	130
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	87.2	20	130
EP090: Organotin Compounds (QCLot: 3838247)							
ES1504301-062	EB35 0.5-1.0A	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	# 34.5	35	130
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	62.9	20	130
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	93.0	20	130
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3836936)							
ES1504301-001	EB8 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	80.1	36	144
		EP130: Carbophenothion	786-19-6	50 µg/kg	77.4	38	120
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	72.1	49	157
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	80.7	53	145
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	72.4	60	140
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	88.0	56	126
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	78.6	9.7	148

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3836936) - continued							
ES1504301-001	EB8 0.0-0.5A	EP130: Diazinon	333-41-5	50 µg/kg	96.7	60	122
		EP130: Dichlorvos	62-73-7	50 µg/kg	76.1	33	123
		EP130: Dimethoate	60-51-5	50 µg/kg	83.1	36	142
		EP130: Ethion	563-12-2	50 µg/kg	74.4	48	136
		EP130: Fenamiphos	22224-92-6	50 µg/kg	71.6	42	136
		EP130: Fenthion	55-38-9	50 µg/kg	74.2	35	131
		EP130: Malathion	121-75-5	50 µg/kg	89.1	55	141
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	69.8	23.5	132
		EP130: Monocrotophos	6923-22-4	50 µg/kg	92.7	35	153
		EP130: Parathion	56-38-2	50 µg/kg	74.9	57	147
		EP130: Parathion-methyl	298-00-0	50 µg/kg	71.6	48	140
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	73.3	45	137
		EP130: Prothiofos	34643-46-4	50 µg/kg	74.6	51	137
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3836939)							
ES1504301-061	EB35 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	86.3	36	144
		EP130: Carbophenothion	786-19-6	50 µg/kg	87.1	38	120
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	77.5	49	157
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	89.7	53	145
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	74.9	60	140
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	96.5	56	126
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	74.0	9.7	148
		EP130: Diazinon	333-41-5	50 µg/kg	103	60	122
		EP130: Dichlorvos	62-73-7	50 µg/kg	79.8	33	123
		EP130: Dimethoate	60-51-5	50 µg/kg	87.2	36	142
		EP130: Ethion	563-12-2	50 µg/kg	75.5	48	136
		EP130: Fenamiphos	22224-92-6	50 µg/kg	75.6	42	136
		EP130: Fenthion	55-38-9	50 µg/kg	76.9	35	131
		EP130: Malathion	121-75-5	50 µg/kg	97.7	55	141
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	78.8	23.5	132
		EP130: Monocrotophos	6923-22-4	50 µg/kg	91.8	35	153
		EP130: Parathion	56-38-2	50 µg/kg	72.2	57	147
		EP130: Parathion-methyl	298-00-0	50 µg/kg	73.0	48	140
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	73.7	45	137
		EP130: Prothiofos	34643-46-4	50 µg/kg	75.5	51	137
EP131A: Organochlorine Pesticides (QCLot: 3836937)							
ES1504301-001	EB8 0.0-0.5A	EP131A: Aldrin	309-00-2	5 µg/kg	46.3	23.4	153
		EP131A: alpha-BHC	319-84-6	5 µg/kg	35.2	17.6	156

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP131A: Organochlorine Pesticides (QCLot: 3836937) - continued							
ES1504301-001	EB8 0.0-0.5A	EP131A: beta-BHC	319-85-7	5 µg/kg	51.2	24.9	153
		EP131A: delta-BHC	319-86-8	5 µg/kg	90.5	25.2	147
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	70.2	25.9	150
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	58.6	31.2	125
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	68.1	23.4	163
		EP131A: Dieldrin	60-57-1	5 µg/kg	75.7	30.2	140
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	54.5	28.8	135
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	61.4	22.6	141
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	63.4	16.1	156
		EP131A: Endrin	72-20-8	5 µg/kg	84.7	17.7	162
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	41.9	20.1	116
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	53.2	13.4	151
		EP131A: Heptachlor	76-44-8	5 µg/kg	60.3	23.8	170
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	42.2	28.3	140
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	39.6	17.7	144
		EP131A: gamma-BHC	58-89-9	5 µg/kg	49.9	21.8	158
		EP131A: Methoxychlor	72-43-5	5 µg/kg	83.0	24.4	158
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	45.4	27.3	139
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	52.4	29.5	138
EP131A: Organochlorine Pesticides (QCLot: 3836940)							
ES1504301-061	EB35 0.0-0.5A	EP131A: Aldrin	309-00-2	5 µg/kg	45.6	23.4	153
		EP131A: alpha-BHC	319-84-6	5 µg/kg	49.2	17.6	156
		EP131A: beta-BHC	319-85-7	5 µg/kg	60.7	24.9	153
		EP131A: delta-BHC	319-86-8	5 µg/kg	78.9	25.2	147
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	93.9	25.9	150
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	57.1	31.2	125
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	59.3	23.4	163
		EP131A: Dieldrin	60-57-1	5 µg/kg	89.2	30.2	140
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	55.3	28.8	135
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	58.4	22.6	141
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	55.4	16.1	156
		EP131A: Endrin	72-20-8	5 µg/kg	65.8	17.7	162
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	51.4	20.1	116
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	60.2	13.4	151
		EP131A: Heptachlor	76-44-8	5 µg/kg	68.7	23.8	170
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	50.9	28.3	140
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	60.5	17.7	144

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP131A: Organochlorine Pesticides (QCLot: 3836940) - continued							
ES1504301-061	EB35 0.0-0.5A	EP131A: gamma-BHC	58-89-9	5 µg/kg	45.5	21.8	158
		EP131A: Methoxychlor	72-43-5	5 µg/kg	86.8	24.4	158
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	53.4	27.3	139
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	73.8	29.5	138
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3836938)							
ES1504301-001	EB8 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	62.5	44	136
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	62.5	44	136
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3836941)							
ES1504301-061	EB35 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	83.0	44	136
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	88.0	44	136
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3836942)							
ES1504301-001	EB8 0.0-0.5A	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	108	70	130
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	114	70	130
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	102	70	130
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	107	70	130
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	104	70	130
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	83.6	70	130
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	93.7	70	130
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	73.6	70	130
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	78.6	70	130
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	101	70	130
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	99.2	70	130
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	82.1	70	130
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	77.2	70	130
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	118	70	130
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	112	70	130
		EP132B-SD: Perylene	198-55-0	25 µg/kg	119	70	130
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	118	70	130
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	110	70	130
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	112	70	130
		EP132B-SD: Coronene	191-07-1	25 µg/kg	117	70	130
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3836947)							
ES1504301-061	EB35 0.0-0.5A	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	99.4	70	130
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	97.9	70	130
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	90.2	70	130

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Recovery Limits (%): Low	Recovery Limits (%): High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3836947) - continued							
ES1504301-061	EB35 0.0-0.5A	EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	98.3	70	130
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	94.2	70	130
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	89.6	70	130
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	83.3	70	130
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	113	70	130
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	93.6	70	130
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	94.8	70	130
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	87.5	70	130
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	114	70	130
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	81.8	70	130
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	96.8	70	130
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	92.2	70	130
		EP132B-SD: Perylene	198-55-0	25 µg/kg	109	70	130
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	91.5	70	130
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	80.1	70	130
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	83.0	70	130
		EP132B-SD: Coronene	191-07-1	25 µg/kg	120	70	130

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 3844857)							
ES1504426-061	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	104	70	130
		EG020A-T: Cadmium	7440-43-9	0.250 mg/L	104	70	130
		EG020A-T: Chromium	7440-47-3	1 mg/L	104	70	130
		EG020A-T: Copper	7440-50-8	1 mg/L	104	70	130
		EG020A-T: Lead	7439-92-1	1 mg/L	104	70	130
		EG020A-T: Manganese	7439-96-5	1 mg/L	110	70	130
		EG020A-T: Nickel	7440-02-0	1 mg/L	104	70	130
		EG020A-T: Zinc	7440-66-6	1 mg/L	107	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3850290)							
ES1504824-001	Anonymous	EG035T: Mercury	7439-97-6	0.010 mg/L	89.8	70	130
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3837769)							
ES1503937-001	Anonymous	EK055G: Ammonia as N	7664-41-7	1 mg/L	101	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3836340)							
ES1504301-069	RINSATE 12	EK057G: Nitrite as N	----	0.5 mg/L	102	70	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3837768)							
ES1503937-001	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.5 mg/L	97.4	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3837764)							
ES1503937-003	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	5 mg/L	112	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3837765)							
ES1503937-003	Anonymous	EK067G: Total Phosphorus as P	----	1.0 mg/L	103	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3839671)							
ES1504288-009	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	119	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3839671)							
ES1504288-009	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	119	70	130
EP080: BTEXN (QCLot: 3839671)							
ES1504288-009	Anonymous	EP080: Benzene	71-43-2	25 µg/L	96.0	70	130
		EP080: Toluene	108-88-3	25 µg/L	88.5	70	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	109	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	106	70	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	108	70	130
		EP080: Naphthalene	91-20-3	25 µg/L	109	70	130

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

The quality control term Matrix Spike (MS) and Matrix Spike Duplicate (MSD) refers to intralaboratory split samples spiked with a representative set of target analytes. The purpose of these QC parameters are to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3836934)										
ES1504301-005	EB8 0.3V	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	105	----	70	130	----	----
EP080-SD: BTEXN (QCLot: 3836934)										
ES1504301-005	EB8 0.3V	EP080-SD: Benzene	71-43-2	0.5 mg/kg	92.3	----	70	130	----	----
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	86.5	----	70	130	----	----
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	96.4	----	70	130	----	----
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	95.2	----	70	130	----	----
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	97.1	----	70	130	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3836936)										

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3836936) - continued										
ES1504301-001	EB8 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	80.1	----	36	144	----	----
		EP130: Carbophenothion	786-19-6	50 µg/kg	77.4	----	38	120	----	----
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	72.1	----	49	157	----	----
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	80.7	----	53	145	----	----
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	72.4	----	60	140	----	----
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	88.0	----	56	126	----	----
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	78.6	----	9.7	148	----	----
		EP130: Diazinon	333-41-5	50 µg/kg	96.7	----	60	122	----	----
		EP130: Dichlorvos	62-73-7	50 µg/kg	76.1	----	33	123	----	----
		EP130: Dimethoate	60-51-5	50 µg/kg	83.1	----	36	142	----	----
		EP130: Ethion	563-12-2	50 µg/kg	74.4	----	48	136	----	----
		EP130: Fenamiphos	22224-92-6	50 µg/kg	71.6	----	42	136	----	----
		EP130: Fenthion	55-38-9	50 µg/kg	74.2	----	35	131	----	----
		EP130: Malathion	121-75-5	50 µg/kg	89.1	----	55	141	----	----
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	69.8	----	23.5	132	----	----
		EP130: Monocrotophos	6923-22-4	50 µg/kg	92.7	----	35	153	----	----
		EP130: Parathion	56-38-2	50 µg/kg	74.9	----	57	147	----	----
		EP130: Parathion-methyl	298-00-0	50 µg/kg	71.6	----	48	140	----	----
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	73.3	----	45	137	----	----
		EP130: Prothiofos	34643-46-4	50 µg/kg	74.6	----	51	137	----	----
EP131A: Organochlorine Pesticides (QCLot: 3836937)										
ES1504301-001	EB8 0.0-0.5A	EP131A: Aldrin	309-00-2	5 µg/kg	46.3	----	23.4	153	----	----
		EP131A: alpha-BHC	319-84-6	5 µg/kg	35.2	----	17.6	156	----	----
		EP131A: beta-BHC	319-85-7	5 µg/kg	51.2	----	24.9	153	----	----
		EP131A: delta-BHC	319-86-8	5 µg/kg	90.5	----	25.2	147	----	----
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	70.2	----	25.9	150	----	----
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	58.6	----	31.2	125	----	----
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	68.1	----	23.4	163	----	----
		EP131A: Dieldrin	60-57-1	5 µg/kg	75.7	----	30.2	140	----	----
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	54.5	----	28.8	135	----	----
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	61.4	----	22.6	141	----	----
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	63.4	----	16.1	156	----	----
		EP131A: Endrin	72-20-8	5 µg/kg	84.7	----	17.7	162	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP131A: Organochlorine Pesticides (QCLot: 3836937) - continued										
ES1504301-001	EB8 0.0-0.5A	EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	41.9	----	20.1	116	----	----
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	53.2	----	13.4	151	----	----
		EP131A: Heptachlor	76-44-8	5 µg/kg	60.3	----	23.8	170	----	----
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	42.2	----	28.3	140	----	----
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	39.6	----	17.7	144	----	----
		EP131A: gamma-BHC	58-89-9	5 µg/kg	49.9	----	21.8	158	----	----
		EP131A: Methoxychlor	72-43-5	5 µg/kg	83.0	----	24.4	158	----	----
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	45.4	----	27.3	139	----	----
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	52.4	----	29.5	138	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3836938)										
ES1504301-001	EB8 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	62.5	----	44	136	----	----
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	62.5	----	44	136	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3836939)										
ES1504301-061	EB35 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	86.3	----	36	144	----	----
		EP130: Carbophenothion	786-19-6	50 µg/kg	87.1	----	38	120	----	----
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	77.5	----	49	157	----	----
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	89.7	----	53	145	----	----
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	74.9	----	60	140	----	----
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	96.5	----	56	126	----	----
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	74.0	----	9.7	148	----	----
		EP130: Diazinon	333-41-5	50 µg/kg	103	----	60	122	----	----
		EP130: Dichlorvos	62-73-7	50 µg/kg	79.8	----	33	123	----	----
		EP130: Dimethoate	60-51-5	50 µg/kg	87.2	----	36	142	----	----
		EP130: Ethion	563-12-2	50 µg/kg	75.5	----	48	136	----	----
		EP130: Fenamiphos	22224-92-6	50 µg/kg	75.6	----	42	136	----	----
		EP130: Fenthion	55-38-9	50 µg/kg	76.9	----	35	131	----	----
		EP130: Malathion	121-75-5	50 µg/kg	97.7	----	55	141	----	----
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	78.8	----	23.5	132	----	----
		EP130: Monocrotophos	6923-22-4	50 µg/kg	91.8	----	35	153	----	----
		EP130: Parathion	56-38-2	50 µg/kg	72.2	----	57	147	----	----
		EP130: Parathion-methyl	298-00-0	50 µg/kg	73.0	----	48	140	----	----
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	73.7	----	45	137	----	----
		EP130: Prothiofos	34643-46-4	50 µg/kg	75.5	----	51	137	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP131A: Organochlorine Pesticides (QCLot: 3836940)										
ES1504301-061	EB35 0.0-0.5A	EP131A: Aldrin	309-00-2	5 µg/kg	45.6	----	23.4	153	----	----
		EP131A: alpha-BHC	319-84-6	5 µg/kg	49.2	----	17.6	156	----	----
		EP131A: beta-BHC	319-85-7	5 µg/kg	60.7	----	24.9	153	----	----
		EP131A: delta-BHC	319-86-8	5 µg/kg	78.9	----	25.2	147	----	----
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	93.9	----	25.9	150	----	----
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	57.1	----	31.2	125	----	----
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	59.3	----	23.4	163	----	----
		EP131A: Dieldrin	60-57-1	5 µg/kg	89.2	----	30.2	140	----	----
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	55.3	----	28.8	135	----	----
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	58.4	----	22.6	141	----	----
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	55.4	----	16.1	156	----	----
		EP131A: Endrin	72-20-8	5 µg/kg	65.8	----	17.7	162	----	----
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	51.4	----	20.1	116	----	----
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	60.2	----	13.4	151	----	----
		EP131A: Heptachlor	76-44-8	5 µg/kg	68.7	----	23.8	170	----	----
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	50.9	----	28.3	140	----	----
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	60.5	----	17.7	144	----	----
		EP131A: gamma-BHC	58-89-9	5 µg/kg	45.5	----	21.8	158	----	----
		EP131A: Methoxychlor	72-43-5	5 µg/kg	86.8	----	24.4	158	----	----
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	53.4	----	27.3	139	----	----
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	73.8	----	29.5	138	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3836941)										
ES1504301-061	EB35 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	83.0	----	44	136	----	----
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	88.0	----	44	136	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3836942)										
ES1504301-001	EB8 0.0-0.5A	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	108	----	70	130	----	----
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	114	----	70	130	----	----
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	102	----	70	130	----	----
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	107	----	70	130	----	----
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	104	----	70	130	----	----
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	83.6	----	70	130	----	----
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	93.7	----	70	130	----	----
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	73.6	----	70	130	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3836942) - continued										
ES1504301-001	EB8 0.0-0.5A	EP132B-SD: Pyrene	129-00-0	25 µg/kg	78.6	----	70	130	----	----
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	101	----	70	130	----	----
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	99.2	----	70	130	----	----
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	82.1	----	70	130	----	----
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	77.2	----	70	130	----	----
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	118	----	70	130	----	----
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	112	----	70	130	----	----
		EP132B-SD: Perylene	198-55-0	25 µg/kg	119	----	70	130	----	----
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	118	----	70	130	----	----
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	110	----	70	130	----	----
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	112	----	70	130	----	----
		EP132B-SD: Coronene	191-07-1	25 µg/kg	117	----	70	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3836943)										
ES1504301-001	EB8 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	16 mg/kg	109	----	70	130	----	----
		EP071-SD: C15 - C28 Fraction	----	78.5 mg/kg	106	----	70	130	----	----
		EP071-SD: C29 - C36 Fraction	----	71.5 mg/kg	78.0	----	70	130	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3836947)										
ES1504301-061	EB35 0.0-0.5A	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	99.4	----	70	130	----	----
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	97.9	----	70	130	----	----
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	90.2	----	70	130	----	----
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	98.3	----	70	130	----	----
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	94.2	----	70	130	----	----
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	89.6	----	70	130	----	----
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	83.3	----	70	130	----	----
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	113	----	70	130	----	----
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	93.6	----	70	130	----	----
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	94.8	----	70	130	----	----
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	87.5	----	70	130	----	----
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	114	----	70	130	----	----
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	81.8	----	70	130	----	----
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	96.8	----	70	130	----	----
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	92.2	----	70	130	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3836947) - continued										
ES1504301-061	EB35 0.0-0.5A	EP132B-SD: Perylene	198-55-0	25 µg/kg	109	----	70	130	----	----
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	91.5	----	70	130	----	----
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	80.1	----	70	130	----	----
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	83.0	----	70	130	----	----
		EP132B-SD: Coronene	191-07-1	25 µg/kg	120	----	70	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3836948)										
ES1504301-061	EB35 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	16 mg/kg	110	----	70	130	----	----
		EP071-SD: C15 - C28 Fraction	----	78.5 mg/kg	98.2	----	70	130	----	----
		EP071-SD: C29 - C36 Fraction	----	71.5 mg/kg	82.0	----	70	130	----	----
EK255A SD: Ammonia in Sediment (QCLot: 3838114)										
ES1504301-001	EB8 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	93.8	----	70	130	----	----
EK255A SD: Ammonia in Sediment (QCLot: 3838115)										
ES1504301-061	EB35 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	1.0 mg/kg	74.8	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3838227)										
ES1503806-001	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	79.4	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3838228)										
ES1503806-001	Anonymous	EK067G: Total Phosphorus as P	----	100 mg/kg	85.5	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3838229)										
ES1504301-013	EB13 0.0-0.7A	EK067G: Total Phosphorus as P	----	100 mg/kg	115	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3838230)										
ES1504301-013	EB13 0.0-0.7A	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	89.2	----	70	130	----	----
EP090: Organotin Compounds (QCLot: 3838246)										
ES1504301-002	EB8 0.5-1.0A	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	# Not Determined	----	35	130	----	----
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	83.2	----	20	130	----	----
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	87.2	----	20	130	----	----
EP090: Organotin Compounds (QCLot: 3838247)										
ES1504301-062	EB35 0.5-1.0A	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	# 34.5	----	35	130	----	----
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	62.9	----	20	130	----	----
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	93.0	----	20	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3840143)										
ES1504275-006	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	87.0	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3840144)										

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3840144) - continued										
ES1504275-006	Anonymous	EK067G: Total Phosphorus as P	----	100 mg/kg	87.1	----	70	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3841474)										
ES1504618-003	Anonymous	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	106	----	70	130	----	----
EP080-SD: BTEXN (QCLot: 3841474)										
ES1504618-003	Anonymous	EP080-SD: Benzene	71-43-2	0.5 mg/kg	96.3	----	70	130	----	----
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	96.8	----	70	130	----	----
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	101	----	70	130	----	----
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	97.0	----	70	130	----	----
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	97.4	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3843425)										
ES1504301-001	EB8 0.0-0.5A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	126	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3843426)										
ES1504301-002	EB8 0.5-1.0A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	95.1	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	102	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	92.2	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	88.6	----	70	130	----	----
		EG020-SD: Lead	7439-92-1	250 mg/kg	94.0	----	70	130	----	----
		EG020-SD: Nickel	7440-02-0	50 mg/kg	94.3	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	97.2	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3843428)										
ES1504301-061	EB35 0.0-0.5A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	114	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3843429)										
ES1504301-062	EB35 0.5-1.0A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	87.0	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	99.5	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	96.3	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	86.9	----	70	130	----	----
		EG020-SD: Lead	7439-92-1	250 mg/kg	92.0	----	70	130	----	----
		EG020-SD: Nickel	7440-02-0	50 mg/kg	93.8	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	96.3	----	70	130	----	----
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3846844)										
ES1504301-001	EB8 0.0-0.5A	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	105	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3846845)										

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3846845) - continued										
ES1504301-001	EB8 0.0-0.5A	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	118	----	70	130	----	----
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3846846)										
ES1504301-061	EB35 0.0-0.5A	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	107	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3846847)										
ES1504301-061	EB35 0.0-0.5A	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	125	----	70	130	----	----

Sub-Matrix: **WATER**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3836340)										
ES1504301-069	RINSATE 12	EK057G: Nitrite as N	----	0.5 mg/L	102	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3837764)										
ES1503937-003	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	5 mg/L	112	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3837765)										
ES1503937-003	Anonymous	EK067G: Total Phosphorus as P	----	1.0 mg/L	103	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3837768)										
ES1503937-001	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.5 mg/L	97.4	----	70	130	----	----
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3837769)										
ES1503937-001	Anonymous	EK055G: Ammonia as N	7664-41-7	1 mg/L	101	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3839671)										
ES1504288-009	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	119	----	70	130	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3839671)										
ES1504288-009	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	119	----	70	130	----	----
EP080: BTEXN (QCLot: 3839671)										
ES1504288-009	Anonymous	EP080: Benzene	71-43-2	25 µg/L	96.0	----	70	130	----	----
		EP080: Toluene	108-88-3	25 µg/L	88.5	----	70	130	----	----
		EP080: Ethylbenzene	100-41-4	25 µg/L	109	----	70	130	----	----
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	106	----	70	130	----	----
		EP080: ortho-Xylene	95-47-6	25 µg/L	108	----	70	130	----	----
		EP080: Naphthalene	91-20-3	25 µg/L	109	----	70	130	----	----
EG020T: Total Metals by ICP-MS (QCLot: 3844857)										
ES1504426-061	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	104	----	70	130	----	----
		EG020A-T: Cadmium	7440-43-9	0.250 mg/L	104	----	70	130	----	----

Sub-Matrix: **WATER**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EG020T: Total Metals by ICP-MS (QCLot: 3844857) - continued										
ES1504426-061	Anonymous	EG020A-T: Chromium	7440-47-3	1 mg/L	104	----	70	130	----	----
		EG020A-T: Copper	7440-50-8	1 mg/L	104	----	70	130	----	----
		EG020A-T: Lead	7439-92-1	1 mg/L	104	----	70	130	----	----
		EG020A-T: Manganese	7439-96-5	1 mg/L	110	----	70	130	----	----
		EG020A-T: Nickel	7440-02-0	1 mg/L	104	----	70	130	----	----
		EG020A-T: Zinc	7440-66-6	1 mg/L	107	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3850290)										
ES1504824-001	Anonymous	EG035T: Mercury	7439-97-6	0.010 mg/L	89.8	----	70	130	----	----

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1504301**	Page	: 1 of 21
Client	: AURECON AUSTRALASIA PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 23-FEB-2015
Sampler	: Georgina Kerr	Issue Date	: 19-MAR-2015
Order number	: 245553		
		No. of samples received	: 69
Quote number	: SY/1021/14 V2	No. of samples analysed	: 69

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with recommended holding times (USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content								
Soil Glass Jar - Unpreserved (EA055-103)								
EB8 0.0-0.5A,	EB8 0.5-1.0A,	**22-FEB-2015**	**----**	----	----	**03-MAR-2015**	08-MAR-2015	✓
EB8 0.3V,	EB8 0.7V,							
EB10 0.0-0.5A,	EB10 0.5-1.0A,							
EB10 0.3V,	EB10 0.7V,							
EB13 0.0-0.7A,	EB13 0.3V,							
EB18 0.0-0.5A,	EB18 0.5-0.85A,							
EB18 0.3V,	EB18 0.7V,							
EB19 0.0-0.5A,	EB19 0.5-0.8A,							
EB19 0.3V,	EB19 0.7V,							
EB20 0.0-0.6A,	EB20 0.3V,							
EB21 0.0-0.5A,	EB21 0.5-1.0A,							
EB21 0.3V,	EB21 0.7V,							
EB23 0.0-0.5A,	EB23 0.5-0.7A,							
EB23 0.3V,	EB23 0.7V,							
EB24 0.0-0.5A,	EB24 0.5-1.0A,							
EB24 0.3V,	EB24 0.7V,							
EB25 0.0-0.6A,	EB25 0.3V,							
EB29 0.0-0.5A,	EB29 0.3V,							
EB30 0.0-0.5A,	EB30 0.5-0.8A,							
EB30 0.3V,	EB30 0.7V,							
EB35 0.0-0.5A,	EB35 0.5-1.0A,							
EB35 0.3V,	EB35 0.7V,							
TRIPLICATE 12A,	DUPLICATE 5A							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA150: Particle Sizing								
Snap Lock Bag (EA150H)								
EB8 0.0-0.5B,	EB8 0.5-1.0B,	**22-FEB-2015**	---	21-AUG-2015	----	**12-MAR-2015**	21-AUG-2015	✓
EB10 0.0-0.5B,	EB10 0.5-1.0B,							
EB13 0.0-0.7B,	EB18 0.0-0.5B,							
EB18 0.5-1.0B,	EB19 0.0-0.5B,							
EB19 0.5-0.8B,	EB20 0.0-0.6B,							
EB21 0.0-0.5B,	EB21 0.5-1.0 B,							
EB23 0.0-0.5B,	EB23 0.5-1.0 B,							
EB24 0.0-0.5B,	EB24 0.5-1.0 B,							
EB25 0.0-0.6B,	EB29 0.0-0.5B,							
EB30 0.0-0.5B,	EB30 0.5-1.0 B,							
EB35 0.0-0.5B,	EB35 0.5-1.0 B							
EA150: Soil Classification based on Particle Size								
Snap Lock Bag (EA150H)								
EB8 0.0-0.5B,	EB8 0.5-1.0B,	**22-FEB-2015**	---	21-AUG-2015	----	**12-MAR-2015**	21-AUG-2015	✓
EB10 0.0-0.5B,	EB10 0.5-1.0B,							
EB13 0.0-0.7B,	EB18 0.0-0.5B,							
EB18 0.5-1.0B,	EB19 0.0-0.5B,							
EB19 0.5-0.8B,	EB20 0.0-0.6B,							
EB21 0.0-0.5B,	EB21 0.5-1.0 B,							
EB23 0.0-0.5B,	EB23 0.5-1.0 B,							
EB24 0.0-0.5B,	EB24 0.5-1.0 B,							
EB25 0.0-0.6B,	EB29 0.0-0.5B,							
EB30 0.0-0.5B,	EB30 0.5-1.0 B,							
EB35 0.0-0.5B,	EB35 0.5-1.0 B							
EA152: Soil Particle Density								
Snap Lock Bag (EA152)								
EB8 0.0-0.5B,	EB8 0.5-1.0B,	**22-FEB-2015**	---	21-AUG-2015	----	**17-MAR-2015**	21-AUG-2015	✓
EB10 0.0-0.5B,	EB10 0.5-1.0B,							
EB13 0.0-0.7B,	EB18 0.0-0.5B,							
EB18 0.5-1.0B,	EB19 0.0-0.5B,							
EB19 0.5-0.8B,	EB20 0.0-0.6B,							
EB21 0.0-0.5B,	EB21 0.5-1.0 B,							
EB23 0.0-0.5B,	EB23 0.5-1.0 B,							
EB24 0.0-0.5B,	EB24 0.5-1.0 B,							
EB25 0.0-0.6B,	EB29 0.0-0.5B,							
EB30 0.0-0.5B,	EB30 0.5-1.0 B,							
EB35 0.0-0.5B,	EB35 0.5-1.0 B							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005-SD: Total Metals in Sediments by ICP-AES							
Soil Glass Jar - Unpreserved (EG005-SD)							
EB8 0.0-0.5A,	EB8 0.5-1.0A,	**22-FEB-2015**	**03-MAR-2015**	21-AUG-2015	✓	**04-MAR-2015**	21-AUG-2015	✓
EB10 0.0-0.5A,	EB10 0.5-1.0A,							
EB13 0.0-0.7A,	EB18 0.0-0.5A,							
EB18 0.5-0.85A,	EB19 0.0-0.5A,							
EB19 0.5-0.8A,	EB20 0.0-0.6A,							
EB21 0.0-0.5A,	EB21 0.5-1.0A,							
EB23 0.0-0.5A,	EB23 0.5-0.7A,							
EB24 0.0-0.5A,	EB24 0.5-1.0A,							
DUPLICATE 5A,							
EB25 0.0-0.6A,	EB29 0.0-0.5A,							
EB30 0.0-0.5A,	EB30 0.5-0.8A,							
EB35 0.0-0.5A,	EB35 0.5-1.0A,							
TRIPLICATE 12A							
EG020-SD: Total Metals in Sediments by ICPMS							
Soil Glass Jar - Unpreserved (EG020-SD)							
EB8 0.0-0.5A,	EB8 0.5-1.0A,	**22-FEB-2015**	**03-MAR-2015**	21-AUG-2015	✓	**04-MAR-2015**	21-AUG-2015	✓
EB10 0.0-0.5A,	EB10 0.5-1.0A,							
EB13 0.0-0.7A,	EB18 0.0-0.5A,							
EB18 0.5-0.85A,	EB19 0.0-0.5A,							
EB19 0.5-0.8A,	EB20 0.0-0.6A,							
EB21 0.0-0.5A,	EB21 0.5-1.0A,							
EB23 0.0-0.5A,	EB23 0.5-0.7A,							
EB24 0.0-0.5A,	EB24 0.5-1.0A,							
DUPLICATE 5A,							
EB25 0.0-0.6A,	EB29 0.0-0.5A,							
EB30 0.0-0.5A,	EB30 0.5-0.8A,							
EB35 0.0-0.5A,	EB35 0.5-1.0A,							
TRIPLICATE 12A							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T-LL)							
EB8 0.0-0.5A, EB8 0.5-1.0A, EB10 0.0-0.5A, EB10 0.5-1.0A, EB13 0.0-0.7A, EB18 0.0-0.5A, EB18 0.5-0.85A, EB19 0.0-0.5A, EB19 0.5-0.8A, EB20 0.0-0.6A, EB21 0.0-0.5A, EB21 0.5-1.0A, EB23 0.0-0.5A, EB23 0.5-0.7A, EB24 0.0-0.5A, EB24 0.5-1.0A, DUPLICATE 5A, EB25 0.0-0.6A, EB29 0.0-0.5A, EB30 0.0-0.5A, EB30 0.5-0.8A, EB35 0.0-0.5A, EB35 0.5-1.0A, TRIPLICATE 12A	**22-FEB-2015**	**03-MAR-2015**	22-MAR-2015	✓	**10-MAR-2015**	22-MAR-2015	✓
EK057G: Nitrite as N by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK057G)							
EB8 0.0-0.5A, EB8 0.5-1.0A, EB10 0.0-0.5A, EB10 0.5-1.0A, EB13 0.0-0.7A, EB18 0.0-0.5A, EB18 0.5-0.85A, EB19 0.0-0.5A, EB19 0.5-0.8A, EB20 0.0-0.6A, EB21 0.0-0.5A, EB21 0.5-1.0A, EB23 0.0-0.5A, EB23 0.5-0.7A, EB24 0.0-0.5A, EB24 0.5-1.0A, DUPLICATE 5A, EB25 0.0-0.6A, EB29 0.0-0.5A, EB30 0.0-0.5A, EB30 0.5-0.8A, EB35 0.0-0.5A, EB35 0.5-1.0A, TRIPLICATE 12A	**22-FEB-2015**	**05-MAR-2015**	21-AUG-2015	✓	**05-MAR-2015**	21-AUG-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK059G)							
EB8 0.0-0.5A, EB8 0.5-1.0A, EB10 0.0-0.5A, EB10 0.5-1.0A, EB13 0.0-0.7A, EB18 0.0-0.5A, EB18 0.5-0.85A, EB19 0.0-0.5A, EB19 0.5-0.8A, EB20 0.0-0.6A, EB21 0.0-0.5A, EB21 0.5-1.0A, EB23 0.0-0.5A, EB23 0.5-0.7A, EB24 0.0-0.5A, EB24 0.5-1.0A, DUPLICATE 5A, EB25 0.0-0.6A, EB29 0.0-0.5A, EB30 0.0-0.5A, EB30 0.5-0.8A, EB35 0.0-0.5A, EB35 0.5-1.0A, TRIPLICATE 12A	**22-FEB-2015**	**05-MAR-2015**	21-AUG-2015	✓	**05-MAR-2015**	21-AUG-2015	✓
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser							
Soil Glass Jar - Unpreserved (EK061G)							
EB8 0.0-0.5A, EB8 0.5-1.0A, EB10 0.0-0.5A, EB10 0.5-1.0A, EB13 0.0-0.7A, EB18 0.0-0.5A, EB18 0.5-0.85A, EB19 0.0-0.5A, EB19 0.5-0.8A, EB20 0.0-0.6A, EB21 0.0-0.5A, EB21 0.5-1.0A, EB23 0.0-0.5A, EB23 0.5-0.7A	**22-FEB-2015**	**26-FEB-2015**	21-AUG-2015	✓	**27-FEB-2015**	21-AUG-2015	✓
Soil Glass Jar - Unpreserved (EK061G)							
EB24 0.0-0.5A, EB24 0.5-1.0A, EB25 0.0-0.6A, EB29 0.0-0.5A, EB30 0.0-0.5A, EB30 0.5-0.8A, EB35 0.0-0.5A, EB35 0.5-1.0A, TRIPLICATE 12A, DUPLICATE 5A	**22-FEB-2015**	**27-FEB-2015**	21-AUG-2015	✓	**27-FEB-2015**	21-AUG-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK067G: Total Phosphorus as P by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK067G)							
EB8 0.0-0.5A, EB8 0.5-1.0A, EB10 0.0-0.5A, EB10 0.5-1.0A, EB13 0.0-0.7A, EB18 0.0-0.5A, EB18 0.5-0.85A, EB19 0.0-0.5A, EB19 0.5-0.8A, EB20 0.0-0.6A, EB21 0.0-0.5A, EB21 0.5-1.0A, EB23 0.0-0.5A, EB23 0.5-0.7A	**22-FEB-2015**	**26-FEB-2015**	21-AUG-2015	✓	**27-FEB-2015**	21-AUG-2015	✓
Soil Glass Jar - Unpreserved (EK067G)							
EB24 0.0-0.5A, EB24 0.5-1.0A, EB25 0.0-0.6A, EB29 0.0-0.5A, EB30 0.0-0.5A, EB30 0.5-0.8A, EB35 0.0-0.5A, EB35 0.5-1.0A, TRIPLICATE 12A, DUPLICATE 5A	**22-FEB-2015**	**27-FEB-2015**	21-AUG-2015	✓	**27-FEB-2015**	21-AUG-2015	✓
EK255A SD Ammonia in Sediment							
Soil Glass Jar - Unpreserved (EK255A SD)							
EB8 0.0-0.5A, EB8 0.5-1.0A, EB10 0.0-0.5A, EB10 0.5-1.0A, EB13 0.0-0.7A, EB18 0.0-0.5A, EB18 0.5-0.85A, EB19 0.0-0.5A, EB19 0.5-0.8A, EB20 0.0-0.6A, EB21 0.0-0.5A, EB21 0.5-1.0A, EB23 0.0-0.5A, EB23 0.5-0.7A, EB24 0.0-0.5A, EB24 0.5-1.0A, DUPLICATE 5A, EB25 0.0-0.6A, EB29 0.0-0.5A, EB30 0.0-0.5A, EB30 0.5-0.8A, EB35 0.0-0.5A, EB35 0.5-1.0A, TRIPLICATE 12A	**22-FEB-2015**	**----**	----	----	**26-FEB-2015**	21-AUG-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP003: Total Organic Carbon (TOC) in Soil							
Pulp Bag (EP003)							
EB8 0.0-0.5A, EB8 0.5-1.0A, EB10 0.0-0.5A, EB10 0.5-1.0A, EB13 0.0-0.7A, EB18 0.0-0.5A, EB18 0.5-0.85A, EB19 0.0-0.5A, EB19 0.5-0.8A, EB20 0.0-0.6A, EB21 0.0-0.5A, EB21 0.5-1.0A, EB23 0.0-0.5A, EB23 0.5-0.7A, EB24 0.0-0.5A, EB24 0.5-1.0A, DUPLICATE 5A, EB25 0.0-0.6A, EB29 0.0-0.5A, EB30 0.0-0.5A, EB30 0.5-0.8A, EB35 0.0-0.5A, EB35 0.5-1.0A, TRIPLICATE 12A	**22-FEB-2015**	**09-MAR-2015**	22-MAR-2015	✓	**09-MAR-2015**	22-MAR-2015	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013							
Soil Glass Jar - Unpreserved (EP071-SD)							
EB8 0.0-0.5A, EB8 0.5-1.0A, EB10 0.0-0.5A, EB10 0.5-1.0A, EB13 0.0-0.7A, EB18 0.0-0.5A, EB18 0.5-0.85A, EB19 0.0-0.5A, EB19 0.5-0.8A, EB20 0.0-0.6A, EB21 0.0-0.5A, EB21 0.5-1.0A, EB23 0.0-0.5A, EB23 0.5-0.7A, EB24 0.0-0.5A, EB24 0.5-1.0A, DUPLICATE 5A, EB25 0.0-0.6A, EB29 0.0-0.5A, EB30 0.0-0.5A, EB30 0.5-0.8A, EB35 0.0-0.5A, EB35 0.5-1.0A, TRIPLICATE 12A	**22-FEB-2015**	**27-FEB-2015**	08-MAR-2015	✓	**05-MAR-2015**	08-APR-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080-SD: BTEXN								
Soil Glass Jar - Unpreserved (EP080-SD)								
EB35 0.3V,	EB35 0.7V	**22-FEB-2015**	**03-MAR-2015**	08-MAR-2015	✓	**08-MAR-2015**	08-MAR-2015	✓
Soil Glass Jar - Unpreserved (EP080-SD)								
EB8 0.3V,	EB8 0.7V,	**22-FEB-2015**	**27-FEB-2015**	08-MAR-2015	✓	**08-MAR-2015**	08-MAR-2015	✓
EB10 0.3V,	EB10 0.7V,							
EB13 0.3V,	EB18 0.3V,							
EB18 0.7V,	EB19 0.3V,							
EB19 0.7V,	EB20 0.3V,							
EB21 0.3V,	EB21 0.7V,							
EB23 0.3V,	EB23 0.7V,							
EB24 0.3V,	EB24 0.7V,							
EB25 0.3V,	EB29 0.3V,							
EB30 0.3V,	EB30 0.7V							
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080-SD)								
EB35 0.3V,	EB35 0.7V	**22-FEB-2015**	**03-MAR-2015**	08-MAR-2015	✓	**08-MAR-2015**	08-MAR-2015	✓
Soil Glass Jar - Unpreserved (EP080-SD)								
EB8 0.3V,	EB8 0.7V,	**22-FEB-2015**	**27-FEB-2015**	08-MAR-2015	✓	**08-MAR-2015**	08-MAR-2015	✓
EB10 0.3V,	EB10 0.7V,							
EB13 0.3V,	EB18 0.3V,							
EB18 0.7V,	EB19 0.3V,							
EB19 0.7V,	EB20 0.3V,							
EB21 0.3V,	EB21 0.7V,							
EB23 0.3V,	EB23 0.7V,							
EB24 0.3V,	EB24 0.7V,							
EB25 0.3V,	EB29 0.3V,							
EB30 0.3V,	EB30 0.7V							
EP090: Organotin Compounds								
Soil Glass Jar - Unpreserved (EP090)								
EB8 0.0-0.5A,	EB8 0.5-1.0A,	**22-FEB-2015**	**03-MAR-2015**	08-MAR-2015	✓	**06-MAR-2015**	12-APR-2015	✓
EB10 0.0-0.5A,	EB10 0.5-1.0A,							
EB13 0.0-0.7A,	EB18 0.0-0.5A,							
EB18 0.5-0.85A,	EB19 0.0-0.5A,							
EB19 0.5-0.8A,	EB20 0.0-0.6A,							
EB21 0.0-0.5A,	EB21 0.5-1.0A,							
EB23 0.0-0.5A,	EB23 0.5-0.7A,							
EB24 0.0-0.5A,	EB24 0.5-1.0A,							
EB25 0.0-0.6A,	EB29 0.0-0.5A,							
EB30 0.0-0.5A,	EB30 0.5-0.8A							
Soil Glass Jar - Unpreserved (EP090)								
EB35 0.0-0.5A,	EB35 0.5-1.0A,	**22-FEB-2015**	**04-MAR-2015**	08-MAR-2015	✓	**06-MAR-2015**	13-APR-2015	✓
TRIPLICATE 12A,	DUPLICATE 5A							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP130A: Organophosphorus Pesticides (Ultra-trace)							
Soil Glass Jar - Unpreserved (EP130)							
EB35 0.0-0.5A, EB35 0.5-1.0A, TRIPLICATE 12A, DUPLICATE 5A	**22-FEB-2015**	**27-FEB-2015**	08-MAR-2015	✓	**05-MAR-2015**	08-APR-2015	✓
Soil Glass Jar - Unpreserved (EP130)							
EB8 0.0-0.5A, EB8 0.5-1.0A, EB10 0.0-0.5A, EB10 0.5-1.0A, EB13 0.0-0.7A, EB18 0.0-0.5A, EB18 0.5-0.85A, EB19 0.0-0.5A, EB19 0.5-0.8A, EB20 0.0-0.6A, EB21 0.0-0.5A, EB21 0.5-1.0A, EB23 0.0-0.5A, EB23 0.5-0.7A, EB24 0.0-0.5A, EB24 0.5-1.0A, EB25 0.0-0.6A, EB29 0.0-0.5A, EB30 0.0-0.5A, EB30 0.5-0.8A	**22-FEB-2015**	**27-FEB-2015**	08-MAR-2015	✓	**06-MAR-2015**	08-APR-2015	✓
EP131A: Organochlorine Pesticides							
Soil Glass Jar - Unpreserved (EP131A)							
EB35 0.0-0.5A, EB35 0.5-1.0A, TRIPLICATE 12A, DUPLICATE 5A	**22-FEB-2015**	**27-FEB-2015**	08-MAR-2015	✓	**05-MAR-2015**	08-APR-2015	✓
Soil Glass Jar - Unpreserved (EP131A)							
EB8 0.0-0.5A, EB8 0.5-1.0A, EB10 0.0-0.5A, EB10 0.5-1.0A, EB13 0.0-0.7A, EB18 0.0-0.5A, EB18 0.5-0.85A, EB19 0.0-0.5A, EB19 0.5-0.8A, EB20 0.0-0.6A, EB21 0.0-0.5A, EB21 0.5-1.0A, EB23 0.0-0.5A, EB23 0.5-0.7A, EB24 0.0-0.5A, EB24 0.5-1.0A, EB25 0.0-0.6A, EB29 0.0-0.5A, EB30 0.0-0.5A, EB30 0.5-0.8A	**22-FEB-2015**	**27-FEB-2015**	08-MAR-2015	✓	**06-MAR-2015**	08-APR-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP131B: Polychlorinated Biphenyls (as Aroclors)							
Soil Glass Jar - Unpreserved (EP131B)							
EB35 0.0-0.5A, EB35 0.5-1.0A, TRIPLICATE 12A, DUPLICATE 5A	**22-FEB-2015**	**27-FEB-2015**	08-MAR-2015	✓	**05-MAR-2015**	08-APR-2015	✓
Soil Glass Jar - Unpreserved (EP131B)							
EB8 0.0-0.5A, EB8 0.5-1.0A, EB10 0.0-0.5A, EB10 0.5-1.0A, EB13 0.0-0.7A, EB18 0.0-0.5A, EB18 0.5-0.85A, EB19 0.0-0.5A, EB19 0.5-0.8A, EB20 0.0-0.6A, EB21 0.0-0.5A, EB21 0.5-1.0A, EB23 0.0-0.5A, EB23 0.5-0.7A, EB24 0.0-0.5A, EB24 0.5-1.0A, EB25 0.0-0.6A, EB29 0.0-0.5A, EB30 0.0-0.5A, EB30 0.5-0.8A	**22-FEB-2015**	**27-FEB-2015**	08-MAR-2015	✓	**06-MAR-2015**	08-APR-2015	✓
EP132B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP132B-SD)							
EB8 0.0-0.5A, EB8 0.5-1.0A, EB10 0.0-0.5A, EB10 0.5-1.0A, EB13 0.0-0.7A, EB18 0.0-0.5A, EB18 0.5-0.85A, EB19 0.0-0.5A, EB19 0.5-0.8A, EB20 0.0-0.6A, EB21 0.0-0.5A, EB21 0.5-1.0A, EB23 0.0-0.5A, EB23 0.5-0.7A, EB24 0.0-0.5A, EB24 0.5-1.0A, DUPLICATE 5A, EB25 0.0-0.6A, EB29 0.0-0.5A, EB30 0.0-0.5A, EB30 0.5-0.8A, EB35 0.0-0.5A, EB35 0.5-1.0A, TRIPLICATE 12A	**22-FEB-2015**	**27-FEB-2015**	08-MAR-2015	✓	**05-MAR-2015**	08-APR-2015	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG020A-T)							
RINSATE 12	**22-FEB-2015**	**04-MAR-2015**	21-AUG-2015	✓	**05-MAR-2015**	21-AUG-2015	✓
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG020B-T)							
RINSATE 12	**22-FEB-2015**	**04-MAR-2015**	21-AUG-2015	✓	**05-MAR-2015**	21-AUG-2015	✓
EG035T: Total Recoverable Mercury by FIMS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG035T)							
RINSATE 12	**22-FEB-2015**	**----**	----	----	**09-MAR-2015**	22-MAR-2015	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK055G: Ammonia as N by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK055G)							
RINSATE 12	**22-FEB-2015**	---	22-MAR-2015	----	**26-FEB-2015**	22-MAR-2015	✓
EK057G: Nitrite as N by Discrete Analyser							
Clear Plastic Bottle - Natural (EK057G)							
RINSATE 12	**22-FEB-2015**	---	24-FEB-2015	----	**25-FEB-2015**	24-FEB-2015	×
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK059G)							
RINSATE 12	**22-FEB-2015**	---	22-MAR-2015	----	**26-FEB-2015**	22-MAR-2015	✓
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK061G)							
RINSATE 12	**22-FEB-2015**	**26-FEB-2015**	22-MAR-2015	✓	**26-FEB-2015**	22-MAR-2015	✓
EK067G: Total Phosphorus as P by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK067G)							
RINSATE 12	**22-FEB-2015**	**26-FEB-2015**	22-MAR-2015	✓	**26-FEB-2015**	22-MAR-2015	✓
EP066: Polychlorinated Biphenyls (PCB)							
Amber Glass Bottle - Unpreserved (EP066)							
RINSATE 12	**22-FEB-2015**	**27-FEB-2015**	01-MAR-2015	✓	**02-MAR-2015**	08-APR-2015	✓
EP068A: Organochlorine Pesticides (OC)							
Amber Glass Bottle - Unpreserved (EP068)							
RINSATE 12	**22-FEB-2015**	**27-FEB-2015**	01-MAR-2015	✓	**02-MAR-2015**	08-APR-2015	✓
EP068B: Organophosphorus Pesticides (OP)							
Amber Glass Bottle - Unpreserved (EP068)							
RINSATE 12	**22-FEB-2015**	**27-FEB-2015**	01-MAR-2015	✓	**02-MAR-2015**	08-APR-2015	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071)							
RINSATE 12	**22-FEB-2015**	**27-FEB-2015**	01-MAR-2015	✓	**02-MAR-2015**	08-APR-2015	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
RINSATE 12	**22-FEB-2015**	**27-FEB-2015**	01-MAR-2015	✓	**02-MAR-2015**	08-APR-2015	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
RINSATE 12	**22-FEB-2015**	**01-MAR-2015**	08-MAR-2015	✓	**01-MAR-2015**	08-MAR-2015	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber VOC Vial - Sulfuric Acid (EP080)							
RINSATE 12	**22-FEB-2015**	**01-MAR-2015**	08-MAR-2015	✓	**01-MAR-2015**	08-MAR-2015	✓
EP090: Organotin Compounds							
Amber Glass Bottle - Unpreserved (EP090H)							
RINSATE 12	**22-FEB-2015**	**27-FEB-2015**	01-MAR-2015	✓	**27-FEB-2015**	08-APR-2015	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Ammonia in Sediments	EK255A SD	4	40	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Moisture Content	EA055-103	6	60	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	3	24	**12.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	3	24	**12.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	3	24	**12.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	3	24	**12.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	3	24	**12.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	3	24	**12.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	3	24	**12.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	5	51	**9.8**	**9.5**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	3	24	**12.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	3	24	**12.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	3	24	**12.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	3	27	**11.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	6	50	**12.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	3	24	**12.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	4	35	**11.4**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Ammonia in Sediments	EK255A SD	2	40	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	2	24	**8.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	2	24	**8.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	2	24	**8.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	2	24	**8.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	2	24	**8.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	2	24	**8.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	2	24	**8.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	9	51	**17.6**	**14.3**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	24	**8.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	24	**8.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	24	**8.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	2	27	**7.4**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	9	50	**18.0**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	2	24	**8.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	2	35	**5.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Method Blanks (MB)							
Ammonia in Sediments	EK255A SD	2	40	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	2	24	8.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	2	24	8.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	2	24	8.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	2	24	8.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	2	24	8.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	2	24	8.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	2	24	8.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	3	51	5.9	4.8	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	24	8.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	24	8.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	24	8.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	2	27	7.4	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	3	50	6.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	2	24	8.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	2	35	5.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia in Sediments	EK255A SD	2	40	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	2	24	8.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	2	24	8.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	2	24	8.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	2	24	8.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	2	24	8.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	2	24	8.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	2	24	8.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	3	51	5.9	4.8	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	24	8.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	24	8.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	3	50	6.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	2	24	8.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	2	35	5.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Ammonia as N by Discrete analyser	EK055G	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	2	9	22.2	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP) - Continued							
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	8	**12.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	5	**20.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Ammonia as N by Discrete analyser	EK055G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Compounds (Soluble)	EP090H	1	3	**33.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	5	**20.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	4	**25.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	12	**8.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	3	20	**15.0**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	8	**12.5**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	5	**20.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	3	20	**15.0**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	12	**8.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Ammonia as N by Discrete analyser	EK055G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Compounds (Soluble)	EP090H	1	3	**33.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	5	**20.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	4	**25.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	12	**8.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	8	**12.5**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	5	**20.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	12	**8.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia as N by Discrete analyser	EK055G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Matrix Spikes (MS) - Continued							
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	8	**12.5**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055-103	SOIL	In-house. A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Particle Size Analysis by Hydrometer	EA150H	SOIL	Particle Size Analysis by Hydrometer according to AS1289.3.6.3 - 2003
Soil Particle Density	* EA152	SOIL	Soil Particle Density by AS 1289.3.5.1-2006 : Methods of testing soils for engineering purposes - Soil classification tests - Determination of the soil particle density of a soil - Standard method A modification of the AS 1289.3.5.1 method may apply when testing dispersed soils also tested by AS1289.3.6.3. This modification uses the dispersion solution from AS1289.3.6.3 in place of water for density determinations
Total Fe and Al in Sediments by ICPAES	EG005-SD	SOIL	In house: Referenced to APHA 21st ed., 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3). LORs per NODG
Total Metals in Sediments by ICPMS	EG020-SD	SOIL	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector. Analyte list and LORs per NODG.
Total Mercury by FIMS (Low Level)	EG035T-LL	SOIL	In house: Referenced to AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Nitrite as N - Soluble by Discrete Analyser	EK057G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3- B. Nitrite in a water extract is determined by direct colourimetry by Discrete Analyser.
Nitrate as N - Soluble by Discrete Analyser	EK058G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3--F. Nitrate in the 1:5 soil:water extract is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results.
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3- F. Combined oxidised Nitrogen (NO2+NO3) in a water extract is determined by Chemical Reduction, and direct colourimetry by Discrete Analyser.
TKN as N By Discrete Analyser	EK061G	SOIL	In house: Referenced to APHA 21st ed., 4500-Norg-D Soil samples are digested using Kjeldahl digestion followed by determination by Discrete Analyser.
Total Nitrogen as N (TKN + NOx) By Discrete Analyser	EK062G	SOIL	In house: Referenced to APHA 21st ed., 4500 Norg/NO3- Total Nitrogen is determined as the sum of TKN and Oxidised Nitrrogen, each determined seperately as N.
Total Phosporus By Discrete Analyser	EK067G	SOIL	In house: Referenced to APHA 21st ed., 4500 P-B&F This procedure involves sulfuric acid digestion and quantification using Discrete Analyser.
Ammonia in Sediments	EK255A SD	SOIL	Rayment and Higginson (1992) Method 7C1 and 7C2. This method measures exchangeable ammonium which is defined by the amount of ammonium released by shaking sediment with an un-buffered 2M potassium chloride solution.

Analytical Methods	Method	Matrix	Method Descriptions
Total Organic Carbon	EP003	SOIL	In-house C-IR17. Dried and pulverised sample is reacted with acid to remove inorganic Carbonates, then combusted in a LECO furnace in the presence of strong oxidants / catalysts. The evolved (Organic) Carbon (as CO2) is automaticaly measured by infra-red detector.
TPH - Semivolatile Fraction	EP071-SD	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 504)
TRH Volatiles/BTEX in Sediments	EP080-SD	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve.
Organotin Analysis	EP090	SOIL	(USEPA SW 846 - 8270D) Prepared sample extracts are analysed by GC/MS coupled with high volume injection, and quanitified against an established calibration curve.
Organophosphorus Pesticides (Ultra-trace)	EP130	SOIL	USEPA Method 3640 (GPC cleanup), 8141 (GC/FPD - Capillary Column) This technique is compliant with NEPM (2013) Schedule B(3) (Method 505)
Organochlorine Pesticides (Ultra-trace)	EP131A	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (2013) Schedule B(3) (Method 504)
PCB's (Ultra-trace)	EP131B	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (2013) Schedule B(3) (Method 504)
PAHs in Sediments by GCMS(SIM)	EP132B-SD	SOIL	USEPA 8270 GCMS Capillary column, SIM mode using large volume programmed temperature vaporisation injection.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Metals by ICP-MS - Suite B	EG020B-T	WATER	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Mercury by FIMS	EG035T	WATER	In house: Referenced to AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Ammonia as N by Discrete analyser	EK055G	WATER	In house: Referenced to APHA 21st ed., 4500-NH3 G Ammonia is determined by direct colorimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Nitrite as N by Discrete Analyser	EK057G	WATER	In house: Referenced to APHA 21st ed., 4500-NO2- B. Nitrite is determined by direct colourimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Nitrate as N by Discrete Analyser	EK058G	WATER	In house: Referenced to APHA 21st ed., 4500-NO3- F. Nitrate is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results. This method is compliant with NEPM (2013) Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	WATER	In house: Referenced to APHA 21st ed., 4500-NO3- F. Combined oxidised Nitrogen (NO2+NO3) is determined by Chemical Reduction and direct colourimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	WATER	In house: Referenced to APHA 21st ed., 4500-Norg D (In house). An aliquot of sample is digested using a high temperature Kjeldahl digestion to convert nitrogenous compounds to ammonia. Ammonia is determined colorimetrically by discrete analyser. This method is compliant with NEPM (2013) Schedule B(3)
Total Nitrogen as N (TKN + Nox) By Discrete Analyser	EK062G	WATER	In house: Referenced to APHA 21st ed., 4500-Norg / 4500-NO3-. This method is compliant with NEPM (2013) Schedule B(3)
Total Phosphorus as P By Discrete Analyser	EK067G	WATER	In house: Referenced to APHA 21st ed., 4500-P H, Jirka et al (1976), Zhang et al (2006). This procedure involves sulphuric acid digestion of a sample aliquot to break phosphorus down to orthophosphate. The orthophosphate reacts with ammonium molybdate and antimony potassium tartrate to form a complex which is then reduced and its concentration measured at 880nm using discrete analyser. This method is compliant with NEPM (2013) Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Pesticides by GCMS	EP068	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
Organotin Compounds (Soluble)	EP090H	WATER	(USEPA SW 846 - 8270D, ALS QWI-ORG/EP090) Sample extracts (ALS QWI-ORG/035) are analysed by GC/MS coupled with high volume injection (10-50µL). Quantitation is achieved using internal standard and average response factor quantitation techniques against an established five-point curve. Butyltin results are reported in either "as tin" units eg. ng Sn/L or "ng TBT+/L". The analytical standards are prepared in "as tin" units. Sample results are converted to TBT+ results as required.

Preparation Methods	Method	Matrix	Method Descriptions
TKN/TP Digestion	EK061/EK067	SOIL	APHA 21st ed., 4500 Norg- D; APHA 21st ed., 4500 P - H. Macro Kjeldahl digestion.
1:5 solid / water leach for soluble analytes	EN34	SOIL	10 g of soil is mixed with 50 mL of distilled water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids/ Sample Cleanup	ORG17A-UTP	SOIL	In-house, Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. Samples are extracted, concentrated (by KD) and exchanged into an appropriate solvent for GPC and florisil cleanup as required.

Preparation Methods	Method	Matrix	Method Descriptions
Tumbler Extraction of Solids for LVI (Non-concentrating)	ORG17D	SOIL	In house: 10g of sample, Na2SO4 and surrogate are extracted with 50mL 1:1 DCM/Acetone by end over end tumbling. An aliquot is concentrated by nitrogen blowdown to a reduced volume for analysis if required.
Organotin Sample Preparation	ORG35	SOIL	In house. 20g sample is spiked with surrogate and leached in a methanol:acetic acid:UHP water mix and vacuum filtered. Reagents and solvents are added to the sample and the mixture tumbled. The butyltin compounds are simultaneously derivatised and extracted. The extract is further extracted with petroleum ether. The resultant extracts are combined and concentrated for analysis.
TKN/TP Digestion	EK061/EK067	WATER	APHA 21st ed., 4500 Norg - D; APHA 21st ed., 4500 P - H. This method is compliant with NEPM (2013) Schedule B(3)
Digestion for Total Recoverable Metals	EN25	WATER	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (2013) Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (2013) Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Organotin Sample Preparation	ORG34H	WATER	(IN HOUSE, ALS QWI-ORG/35) A specified volume (determined by the detection limit requirement) of sample is spiked with surrogate, acidified and vacuum filtered. Reagents and solvent are added to the sample and the mixture tumbled for 20 minutes. The butyltin compounds is derivitisated, extracted and the subtitution reaction is completed. The extracts is transferred to a separatory funnel and further extracted two times using petroleum ether. The resultant extracts are combined and concentrated to the desired volume for analysis.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW 846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG020-SD: Total Metals in Sediments by ICPMS	ES1504301-001	EB8 0.0-0.5A	**Manganese**	7439-96-5	50.4 %	0-50%	**RPD exceeds LOR based limits**
Matrix Spike (MS) Recoveries							
EP090: Organotin Compounds	ES1504301-002	EB8 0.5-1.0A	**Monobutyltin**	78763-54-9	Not Determined	----	**Matrix spike recovery not determined due to sample matrix interference.**
EP090: Organotin Compounds	ES1504301-062	EB35 0.5-1.0A	**Monobutyltin**	78763-54-9	34.5 %	35-130%	**Recovery less than lower data quality objective**

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP090: Organotin Compounds	4626825-002	----	**Dibutyltin**	1002-53-5	36.3 %	50-114%	**Recovery less than lower control limit**
EP090: Organotin Compounds	4626825-002	----	**Tributyltin**	56573-85-4	35.1 %	39-120%	**Recovery less than lower control limit**

- **For all matrices, no Method Blank value outliers occur.**

Regular Sample Surrogates

- **For all regular sample matrices, no surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

Matrix: **WATER**

Method / **Container** / Client Sample ID(s)	*Extraction / Preparation*			*Analysis*		
	Date extracted	*Due for extraction*	***Days overdue***	*Date analysed*	*Due for analysis*	***Days overdue***
EK057G: Nitrite as N by Discrete Analyser						
Clear Plastic Bottle - Natural						
RINSATE 12	----	----	----	25-FEB-2015	24-FEB-2015	**1**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle): Custody Seal Intact? Yes No N/A; Free ice / frozen ice bricks present upon receipt? Yes No N/A; Random Sample Temperature on Receipt: °C; Other comment:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 (7)	
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr DATE/TIME: 23-Feb-15	RECEIVED BY: Kelly Schafer DATE/TIME: 23-Feb-15 1810
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:
KSchafer	
DATE/TIME: 24-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	EB1 0.0-0.5 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
2	EB1 0.5-1.0 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
3	EB1 0.0-0.5 B	23/02/2015	S	Bag (White label)	1		1								
4	EB1 0.5-1.0 B	23/02/2015	S	Bag (White label)	1		1								
5	EB1 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1							
6	EB1 0.7V	23/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	7	2	2	1							

150ml A Jars and 500ml Amber sent direct to Brisbane for TOC/TBT

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Work Order
ES1504426

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 (2) 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (13)	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 23-Feb-15	DATE/TIME: 23-Feb-15 1810
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: KS	RECEIVED BY:
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:		DATE/TIME: 24-2-15 1600	DATE/TIME:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
7	EB2 0.0-0.5 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
8	EB2 0.5-0.85 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
9	EB2 0.0-0.5 B	23/02/2015	S	Bag (White label)	1		1							
10	EB2 0.5-0.85 B	23/02/2015	S	Bag (White label)	1		1							
11	EB2 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1						
12	EB2 0.7V	23/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) **Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround		Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free Ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 2 (3) 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comment:

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*	KS
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810	24-2-15 1600

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
13	EB3 0.0-0.7A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
14	EB3 0.0-0.7B	23/02/2015	S	Bag (White label)	1		1							
15	EB3 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	2		1	1						

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OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 13	Other comment:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*	AS	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810	24-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
16	EB4 0.0-0.4 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
17	EB4 0.0-0.4 B	23/02/2015	S	Bag (White label)	1		1							
18	EB4 0.3 V	23/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

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PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)** COC: 1 2 3 4 (5) 6 7	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 (7)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006		Other comment:

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:
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COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
19	EB5 0.0-0.5 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
20	EB5 0.0-0.5 B	23/02/2015	S	Bag (White label)	1		1								
21	EB5 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	4	1	1	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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NOWRA 4-13 Geary Place Nowra NSW 2541
Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7444 E: samples.perth@alsglobal.com
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 13	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810

RELINQUISHED BY:	RECEIVED BY:
XS	
DATE/TIME:	DATE/TIME:
24-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
22	EB6 0.0-0.5 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
23	EB6 0.5-1.0 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
24	EB6 0.0-0.5 B	23/02/2015	S	Bag (White label)	1		1							
25	EB6 0.5-1.0 B	23/02/2015	S	Bag (White label)	1		1							
26	EB6 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1						
27	EB6 0.7V	23/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 13	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810

RELINQUISHED BY:	RECEIVED BY:
KS	
DATE/TIME:	DATE/TIME:
24-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
28	EB7 0.0-0.5 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
29	EB7 0.5-1.0 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
30	EB7 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1						
31	EB7 0.7V	23/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	6	2		2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (8)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (13)	Other comment:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*	RECEIVED BY:
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810	24-2-15 1600

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
32	EB9 0.0-0.7 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
33	EB9 0.0-0.7 B	23/02/2015	S	Bag (White label)	1		1							
34	EB9 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g.. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (9)	Random Sample Temperature on Receipt:	C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (3)	Other comment:	

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*	RECEIVED BY:
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810	24-2-15 1600

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
35	EB11 0.0-0.5 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
36	EB11 0.5-0.8 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
37	EB11 0.0-0.5 B	23/02/2015	S	Bag (White label)	1		1								
38	EB11 0.5-0.8 B	23/02/2015	S	Bag (White label)	1		1								
39	EB11 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1							
40	EB11 0.7V	23/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	7	2	2	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Freeze / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (12)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (13)	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
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RELINQUISHED BY:	RECEIVED BY:
XS	
DATE/TIME: 24-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION	ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
41	EB14 0.0-0.5 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
42	EB14 0.5-1.0 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
43	EB14 0.0-0.5 B	23/02/2015	S	Bag (White label)	1		1							
44	EB14 0.5-1.0 B	23/02/2015	S	Bag (White label)	1		1							
45	EB14 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1						
46	EB14 0.7V	23/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	7	2	2	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
☐NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 02 4423 2063 E: nowra@alsglobal.com
☐PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com

☐SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8781 8555 E: samples.sydney@alsglobal.com
☐TOWNSVILLE 14 Dalmine Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville@alsglobal.com
☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (11)	Random Sample Temperature on Receipt: C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (13)	Other comment:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*	KS	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810	24-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
47	EB15 0.0-0.6 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
48	EB15 0.0-0.6 B	23/02/2015	S	Bag (White label)	1		1							
49	EB15 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 07 7471 5800 E: gladstone@alsglobal.com
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Ph: 07 4944 0177 E: mackay@alsglobal.com
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Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle):**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Freezer/frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (12)	Random Sample Temperature on Receipt: 6
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (13)	Other comment:

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810	24-2-15 1600

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
50	EB26 0.0-0.5 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
51	EB26 0.5-1.0 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
52	EB26 0.0-0.5 B	23/02/2015	S	Bag (White label)	1		1							
53	EB26 0.5-1.0 B	23/02/2015	S	Bag (White label)	1		1							
54	EB26 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1						
55	EB26 0.7V	23/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	7	2	2	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle):**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) **Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround		Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (13)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (13)	Other comments:

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810	24-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	Rinsate Suite	Trip blank suite	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
~~Triplicate 12A~~		~~23/02/2015~~	~~S~~	~~Glass Jar (250 ml)~~										
56	Triplicate 12B	23/02/2015	S	Glass Jar (250 ml)	2	1								
57	Triplicate 13A	23/02/2015	S	Glass Jar (250 ml)	2	1								
58	Triplicate 13B	23/02/2015	S	Glass Jar (250 ml)	2	1								
59	Duplicate 6A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
	~~Duplicate 6B~~	~~23/02/2015~~	~~S~~	~~Glass Jar (250 ml and 150 ml)~~										~~Send to Eurofins~~
60	Trip Blank 14	23/02/2015	S	Pre-filled glass jar	1								1	
61	Rinsate 14	23/02/2015	W	Bottle	8							1		
				TOTAL	13	1						1	1	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Ice / Frozen Ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: (1) 2 3 4 5 6 7	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comments:	

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer	KSchafer	Dan
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810	24-2-15 1600	25/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	EB1 0.0-0.5 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
2	EB1 0.5-1.0 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
3	EB1 0.0-0.5 B	23/02/2015	S	Bag (White label)	1		1							
4	EB1 0.5-1.0 B	23/02/2015	S	Bag (White label)	1		1							
5	EB1 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1						
6	EB1 0.7V	23/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	7	2	2	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

150ml A Jars and 500ml Amber sent direct to Brisbane for TOC/TBT

Subcon / Forward Lab / Split WO
Lab / Analysis: Newcastle / PSD
Organised By / Date:
Relinquished By / Date:
Connote / Courier:
WO No:
Attach By PO / Internal Sheet:

Environmental Division
Sydney
Work Order
ES1504426

Telephone : +61-2-8784 8555

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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Free ice / frozen ice bricks present upon receipt? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 (13)	Other comments:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer	KS
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810	24-2-15 1600

RECEIVED BY:	
Dan	
DATE/TIME:	
25/2 0900	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH				Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
7	EB2 0.0-0.5 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
8	EB2 0.5-0.85 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
9	EB2 0.0-0.5 B	23/02/2015	S	Bag (White label)	1		1								
10	EB2 0.5-0.85 B	23/02/2015	S	Bag (White label)	1		1								
11	EB2 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1							
12	EB2 0.7V	23/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	8	2	2	2							

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

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ALS Laboratory: please tick →

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free Ice / Frozen Ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 (3) 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (13)	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	AKS	Dan J
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
23-Feb-15	23-Feb-15 1810	24-2-15 1600	25/2 0930

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
13	EB3 0.0-0.7A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
14	EB3 0.0-0.7B	23/02/2015	S	Bag (White label)	1		1							
15	EB3 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	2		1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 (4) 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (B)	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810

RELINQUISHED BY:	RECEIVED BY:
AS	Paul
DATE/TIME: 24-2-15 1600	DATE/TIME: 25/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
16	EB4 0.0-0.4 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
17	EB4 0.0-0.4 B	23/02/2015	S	Bag (White label)	1		1							
18	EB4 0.3 V	23/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 024423 2063 E: nowra@alsglobal.com
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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 (5) 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (13)	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810

RELINQUISHED BY:	RECEIVED BY:
KS	Dan
DATE/TIME: 24-2-15 1600	DATE/TIME: 25/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
19	EB5 0.0-0.5 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
20	EB5 0.0-0.5 B	23/02/2015	S	Bag (White label)	1		1								
21	EB5 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	4	1	1	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 4225 3125 E: perthenvlab@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 (6) 7	Random Sample Temperature on Receipt	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (13)	Other comment:	

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY: / RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer	KS / Daud
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 23-Feb-15	DATE/TIME: 23-Feb-15 1810	DATE/TIME: 24-2-15 1600 / 25/2 0900
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com				

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH				Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
22	EB6 0.0-0.5 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
23	EB6 0.5-1.0 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
24	EB6 0.0-0.5 B	23/02/2015	S	Bag (White label)	1		1								
25	EB6 0.5-1.0 B	23/02/2015	S	Bag (White label)	1		1								
26	EB6 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1							
27	EB6 0.7V	23/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL:	8	2	2	2							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810

RELINQUISHED BY:	RECEIVED BY:
KS	
DATE/TIME: 24-2-15 1600	DATE/TIME: 25/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
28	EB7 0.0-0.5 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
29	EB7 0.5-1.0 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
30	EB7 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1						
31	EB7 0.7V	23/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	6	2		2						

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (B)	Random Sample Temperature on Receipt	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (13)	Other comments:	

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810	20-2-15 1600	25/2 0902

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
32	EB9 0.0-0.7 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
33	EB9 0.0-0.7 B	23/02/2015	S	Bag (White label)	1		1								
34	EB9 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	4	1	1	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
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NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g.. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice blocks present upon receipt?	Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (19)	Random Sample Temperature on Receipt	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (37)	Other comments:	

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer	KS
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810	24-2-15 1600

RECEIVED BY:
Dan-1
DATE/TIME:
25/2 am

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
35	EB11 0.0-0.5 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
36	EB11 0.5-0.8 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
37	EB11 0.0-0.5 B	23/02/2015	S	Bag (White label)	1		1								
38	EB11 0.5-0.8 B	23/02/2015	S	Bag (White label)	1		1								
39	EB11 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1							
40	EB11 0.7V	23/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	7	2	2	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 07 7471 5600 E: gladstone@alsglobal.com

MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com

NEWCASTLE 6 Rose Gum Road Warabrook NSW 2304
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ORANGE 4/13 Geary Place North Nowra NSW 2541
Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com

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Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Cooler / Ice on Ice Brick present upon receipt?	Yes / No / N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (12)	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (13)	Other comment:	

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer	AS	Dan
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME: 1810	DATE/TIME: 26-2-15 1600	DATE/TIME: 25/2 0900
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15		

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
A1	EB14 0.0-0.5 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
A2	EB14 0.5-1.0 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
A3	EB14 0.0-0.5 B	23/02/2015	S	Bag (White label)	1		1							
A4	EB14 0.5-1.0 B	23/02/2015	S	Bag (White label)	1		1							
A5	EB14 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1						
A6	EB14 0.7V	23/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	7	2	2	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A; Freeze/frozen ice bricks present upon receipt? Yes No N/A; Random Sample Temperature on Receipt: °C; Other comment:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (11) OF: 1 2 3 4 5 6 (13)	
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr DATE/TIME: 23-Feb-15	RECEIVED BY: Kelly Schafer DATE/TIME: 23-Feb-15 1810
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		RELINQUISHED BY: DATE/TIME: 24-2-15 1600
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			RECEIVED BY: Dan. DATE/TIME: 25/2 0900
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
47	EB15 0.0-0.6 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
48	EB15 0.0-0.6 B	23/02/2015	S	Bag (White label)	1		1								
49	EB15 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	4	1	1	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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Ph: 02 4423 2063 E: nowra@alsglobal.com
□PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com

□SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
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□TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
□WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6	Random Sample Temperature on Receipt °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6	Other comments
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810

RELINQUISHED BY:	RECEIVED BY:
	Dan
DATE/TIME:	DATE/TIME:
24-2-15 1600	25/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
50	EB26 0.0-0.5 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
51	EB26 0.5-1.0 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
52	EB26 0.0-0.5 B	23/02/2015	S	Bag (White label)	1		1								
53	EB26 0.5-1.0 B	23/02/2015	S	Bag (White label)	1		1								
54	EB26 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1							
55	EB26 0.7V	23/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	7	2	2	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS: ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (13)	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (13)	Other comment:	

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 23-Feb-15	DATE/TIME: 23-Feb-15 1810
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY:	RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 24-2-15 1600	DATE/TIME: 25/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	Rinsate Suite	Trip blank suite	
	~~Triplicate 12A~~	~~23/02/2015~~	~~S~~	~~Glass Jar (250 ml)~~	~~2~~									
56	Triplicate 12B	23/02/2015	S	Glass Jar (250 ml)	2	1								
57	Triplicate 13A	23/02/2015	S	Glass Jar (250 ml)	2	1								
58	Triplicate 13B	23/02/2015	S	Glass Jar (250 ml)	2	1								
59	Duplicate 6A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
	~~Duplicate 6B~~	~~23/02/2015~~	~~S~~	~~Glass Jar (250 ml and 150 ml)~~	~~2~~									~~Send to Eurofins~~
60	Trip Blank 14	23/02/2015	S	Pre-filled glass jar	1								1	
61	Rinsate 14	23/02/2015	W	Bottle	8							1		
				TOTAL	13	1						1	1	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
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ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1504426**	Page	: 1 of 78
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553		
C-O-C number	: ----	Date Samples Received	: 25-FEB-2015
Sampler	: GK	Issue Date	: 17-MAR-2015
Site	: ----		
		No. of samples received	: 61
Quote number	: SY/1021/14 V2	No. of samples analysed	: 61

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.**
- **EG020-SD: Poor precision was obtained for Copper on sample ES1504596-021 due to matrix interference(s). Results have been confirmed by re-extraction and re-analysis.**
- **EP090: Particluar samples show poor surrogate and matrix spike recovery due to matrix interference. Confirmed by re-extraction and re-analysis.**
- **EP090H: LCS shows poor recovery due to laboratory error. Insufficient sample for re-extraction and re-analysis.**

NATA Accredited Laboratory 825

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Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Ashesh Patel	Inorganic Chemist	Sydney Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
		Sydney Organics
Peter Keyte	Newcastle Manager	Newcastle - Inorganics
Phalak Inthakesone	Laboratory Manager - Organics	Sydney Organics
Ryan Story	2IC Organic Instrument Chemist	Brisbane Organics
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils
Shobhna Chandra	Metals Coordinator	Sydney Inorganics
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB1 0.0-0.5A	EB1 0.5-1.0A	EB1 0.0-0.5B	EB1 0.5-1.0B	EB1 0.3V
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-001	ES1504426-002	ES1504426-003	ES1504426-004	ES1504426-005
EA150: Particle Sizing									
+75µm	----	1	%		----	----	**94**	**56**	----
+150µm	----	1	%		----	----	**84**	**31**	----
+300µm	----	1	%		----	----	**57**	**21**	----
+425µm	----	1	%		----	----	**41**	**19**	----
+600µm	----	1	%		----	----	**27**	**16**	----
+1180µm	----	1	%		----	----	**10**	**13**	----
+2.36mm	----	1	%		----	----	**3**	**10**	----
+4.75mm	----	1	%		----	----	**1**	**8**	----
+9.5mm	----	1	%		----	----	<1	**3**	----
+19.0mm	----	1	%		----	----	<1	<1	----
+37.5mm	----	1	%		----	----	<1	<1	----
+75.0mm	----	1	%		----	----	<1	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**24.4**	**22.3**	----	----	**19.3**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	**4**	**18**	----
Silt (2-60 µm)	----	1	%		----	----	**2**	**21**	----
Sand (0.06-2.00 mm)	----	1	%		----	----	**89**	**50**	----
Gravel (>2mm)	----	1	%		----	----	**5**	**11**	----
Cobbles (>6cm)	----	1	%		----	----	<1	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	**2.64**	**2.65**	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**5450**	**9550**	----	----	----
Iron	7439-89-6	50	mg/kg		**12000**	**21000**	----	----	----
Vanadium	7440-62-2	2	mg/kg		**26**	**41**	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		**18.4**	**15.9**	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	----	----	----
Chromium	7440-47-3	1.0	mg/kg		**11.1**	**17.1**	----	----	----
Copper	7440-50-8	1.0	mg/kg		**12.0**	**11.4**	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		**5.4**	**10.4**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB1 0.0-0.5A	EB1 0.5-1.0A	EB1 0.0-0.5B	EB1 0.5-1.0B	EB1 0.3V
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-001	ES1504426-002	ES1504426-003	ES1504426-004	ES1504426-005
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Lead	7439-92-1	1.0	mg/kg		3.2	5.4	----	----	----
Manganese	7439-96-5	10	mg/kg		448	3510	----	----	----
Nickel	7440-02-0	1.0	mg/kg		4.5	9.3	----	----	----
Selenium	7782-49-2	0.1	mg/kg		0.5	0.8	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.1	0.2	----	----	----
Zinc	7440-66-6	1.0	mg/kg		11.0	25.5	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	<0.01	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		100	140	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		100	140	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		299	363	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		0.5	0.5	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		0.11	0.26	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	<3	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		<3	6	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	<5	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	6	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		<3	<3	----	----	----
C15 - C28 Fraction	----	3	mg/kg		<3	<3	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB1 0.0-0.5A	EB1 0.5-1.0A	EB1 0.0-0.5B	EB1 0.5-1.0B	EB1 0.3V
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-001	ES1504426-002	ES1504426-003	ES1504426-004	ES1504426-005
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	<5	----	----	----
^ **C10 - C36 Fraction (sum)**	----	3	mg/kg		<3	<3	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	----	<0.2
^ **Total Xylenes**	1330-20-7	0.5	mg/kg		----	----	----	----	<0.5
^ **Sum of BTEX**	----	0.2	mg/kg		----	----	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	<1	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	<1	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	<0.5	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	<10	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	<10	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	<10.0	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	<10	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	<10	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	<10	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	<10	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	<10	----	----	----
Ethion	563-12-2	10	µg/kg		<10	<10	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	<10	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	<10	----	----	----
Malathion	121-75-5	10	µg/kg		<10	<10	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	<10	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	<10	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB1 0.0-0.5A	EB1 0.5-1.0A	EB1 0.0-0.5B	EB1 0.5-1.0B	EB1 0.3V
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-001	ES1504426-002	ES1504426-003	ES1504426-004	ES1504426-005
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	<10	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	<10	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	<10	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	<10	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	<0.50	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	<0.50	----	----	----
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		<0.50	<0.50	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	<0.50	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	<0.50	----	----	----
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	<0.50	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	<0.50	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	<0.25	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	<0.50	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	<0.25	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	<0.25	----	----	----
^ **Total Chlordane (sum)**	----	0.25	µg/kg		<0.25	<0.25	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	<0.50	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	<5.0	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB1 0.0-0.5A	EB1 0.5-1.0A	EB1 0.0-0.5B	EB1 0.5-1.0B	EB1 0.3V
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-001	ES1504426-002	ES1504426-003	ES1504426-004	ES1504426-005
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	<5.0	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	<5	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	<5	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	<4	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	<4	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	<4	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	<4	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	<4	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	<4	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	<4	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	<4	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	<4	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	<4	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	<4	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	<4	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	<4	----	----	----
Perylene	198-55-0	4	µg/kg		<4	<4	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	<4	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	<4	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	<4	----	----	----
Coronene	191-07-1	5	µg/kg		<5	<5	----	----	----
^ **Sum of PAHs**	----	4	µg/kg		<4	<4	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	----	**76.9**
Toluene-D8	2037-26-5	0.1	%		----	----	----	----	**113**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	----	**112**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**85.5**	**38.3**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB1 0.0-0.5A	EB1 0.5-1.0A	EB1 0.0-0.5B	EB1 0.5-1.0B	EB1 0.3V
			Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504426-001	ES1504426-002	ES1504426-003	ES1504426-004	ES1504426-005
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	80.0	72.8	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	63.7	47.7	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	62.5	75.0	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	103	113	----	----	----
Anthracene-d10	1719-06-8	0.1	%	102	102	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	118	118	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB1 0.7V	EB2 0.0-0.5A	EB2 0.5-0.85A	EB2 0.0-0.5B	EB2 0.5-0.85B
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-006	ES1504426-007	ES1504426-008	ES1504426-009	ES1504426-010
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	**73**	**5**
+150µm	----	1	%		----	----	----	**53**	**4**
+300µm	----	1	%		----	----	----	**38**	**3**
+425µm	----	1	%		----	----	----	**31**	**2**
+600µm	----	1	%		----	----	----	**25**	**2**
+1180µm	----	1	%		----	----	----	**16**	<1
+2.36mm	----	1	%		----	----	----	**6**	<1
+4.75mm	----	1	%		----	----	----	**3**	<1
+9.5mm	----	1	%		----	----	----	<1	<1
+19.0mm	----	1	%		----	----	----	<1	<1
+37.5mm	----	1	%		----	----	----	<1	<1
+75.0mm	----	1	%		----	----	----	<1	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**20.2**	**24.9**	**22.1**	----	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	**16**	**69**
Silt (2-60 µm)	----	1	%		----	----	----	**6**	**25**
Sand (0.06-2.00 mm)	----	1	%		----	----	----	**69**	**6**
Gravel (>2mm)	----	1	%		----	----	----	**9**	<1
Cobbles (>6cm)	----	1	%		----	----	----	<1	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	**2.60**	**2.68**
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	**9990**	**29200**	----	----
Iron	7439-89-6	50	mg/kg		----	**18100**	**43900**	----	----
Vanadium	7440-62-2	2	mg/kg		----	**35**	**113**	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	<0.50	<0.50	----	----
Arsenic	7440-38-2	1.00	mg/kg		----	**13.1**	**5.00**	----	----
Cadmium	7440-43-9	0.1	mg/kg		----	<0.1	<0.1	----	----
Chromium	7440-47-3	1.0	mg/kg		----	**16.5**	**34.0**	----	----
Copper	7440-50-8	1.0	mg/kg		----	**8.6**	**57.8**	----	----
Cobalt	7440-48-4	0.5	mg/kg		----	**6.9**	**15.2**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB1 0.7V	EB2 0.0-0.5A	EB2 0.5-0.85A	EB2 0.0-0.5B	EB2 0.5-0.85B
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-006	ES1504426-007	ES1504426-008	ES1504426-009	ES1504426-010
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Lead	7439-92-1	1.0	mg/kg		----	**4.8**	**12.8**	----	----
Manganese	7439-96-5	10	mg/kg		----	**327**	**398**	----	----
Nickel	7440-02-0	1.0	mg/kg		----	**7.5**	**25.8**	----	----
Selenium	7782-49-2	0.1	mg/kg		----	**0.6**	**0.8**	----	----
Silver	7440-22-4	0.1	mg/kg		----	<0.1	<0.1	----	----
Zinc	7440-66-6	1.0	mg/kg		----	**22.0**	**66.0**	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	<0.01	**0.02**	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	**0.2**	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	**0.2**	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	**240**	**230**	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	**240**	**230**	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	**310**	**313**	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	**0.6**	**0.2**	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	**0.12**	**0.27**	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	<3	<3	----	----
>C16 - C34 Fraction	----	3	mg/kg		----	<3	**14**	----	----
>C34 - C40 Fraction	----	5	mg/kg		----	<5	<5	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	<3	**14**	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	----	----	----	----
C10 - C14 Fraction	----	3	mg/kg		----	<3	<3	----	----
C15 - C28 Fraction	----	3	mg/kg		----	<3	**7**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB1 0.7V	EB2 0.0-0.5A	EB2 0.5-0.85A	EB2 0.0-0.5B	EB2 0.5-0.85B
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504426-006	ES1504426-007	ES1504426-008	ES1504426-009	ES1504426-010
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	<5	**9**	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	<3	**16**	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	----	----	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.2	mg/kg		<0.2	----	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	----	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	----	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	<1	<1	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	<1	<1	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	<0.5	<0.5	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	<10	<10	----	----
Carbophenothion	786-19-6	10	µg/kg		----	<10	<10	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	<10.0	<10.0	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	<10	<10	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	<10	<10	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	<10	<10	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	<10	<10	----	----
Diazinon	333-41-5	10	µg/kg		----	<10	<10	----	----
Dichlorvos	62-73-7	10	µg/kg		----	<10	<10	----	----
Dimethoate	60-51-5	10	µg/kg		----	<10	<10	----	----
Ethion	563-12-2	10	µg/kg		----	<10	<10	----	----
Fenamiphos	22224-92-6	10	µg/kg		----	<10	<10	----	----
Fenthion	55-38-9	10	µg/kg		----	<10	<10	----	----
Malathion	121-75-5	10	µg/kg		----	<10	<10	----	----
Azinphos Methyl	86-50-0	10	µg/kg		----	<10	<10	----	----
Monocrotophos	6923-22-4	10	µg/kg		----	<10	<10	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB1 0.7V	EB2 0.0-0.5A	EB2 0.5-0.85A	EB2 0.0-0.5B	EB2 0.5-0.85B
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-006	ES1504426-007	ES1504426-008	ES1504426-009	ES1504426-010
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	<10	<10	----	----
Parathion-methyl	298-00-0	10	µg/kg		----	<10	<10	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	<10	<10	----	----
Prothiofos	34643-46-4	10	µg/kg		----	<10	<10	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg		----	<0.50	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	<0.50	<0.50	----	----
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	<0.50	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	<0.50	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	<0.50	<0.50	----	----
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	<0.50	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	<0.50	<0.50	----	----
gamma-BHC	58-89-9	0.25	µg/kg		----	<0.25	<0.25	----	----
Methoxychlor	72-43-5	0.50	µg/kg		----	<0.50	<0.50	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	<0.25	<0.25	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	<0.25	<0.25	----	----
^ **Total Chlordane (sum)**	----	0.25	µg/kg		----	<0.25	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	<0.50	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	<5.0	<5.0	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB1 0.7V	EB2 0.0-0.5A	EB2 0.5-0.85A	EB2 0.0-0.5B	EB2 0.5-0.85B
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-006	ES1504426-007	ES1504426-008	ES1504426-009	ES1504426-010
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	<5.0	<5.0	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	<5	<5	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	<5	<5	----	----
Acenaphthylene	208-96-8	4	µg/kg		----	<4	<4	----	----
Acenaphthene	83-32-9	4	µg/kg		----	<4	<4	----	----
Fluorene	86-73-7	4	µg/kg		----	<4	<4	----	----
Phenanthrene	85-01-8	4	µg/kg		----	<4	<4	----	----
Anthracene	120-12-7	4	µg/kg		----	<4	<4	----	----
Fluoranthene	206-44-0	4	µg/kg		----	<4	<4	----	----
Pyrene	129-00-0	4	µg/kg		----	<4	<4	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	<4	<4	----	----
Chrysene	218-01-9	4	µg/kg		----	<4	<4	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	<4	<4	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	<4	<4	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	<4	<4	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	<4	<4	----	----
Perylene	198-55-0	4	µg/kg		----	<4	<4	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	<4	<4	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	<4	<4	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	<4	<4	----	----
Coronene	191-07-1	5	µg/kg		----	<5	<5	----	----
^ **Sum of PAHs**	----	4	µg/kg		----	<4	<4	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**85.1**	----	----	----	----
Toluene-D8	2037-26-5	0.1	%		**95.7**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**97.8**	----	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	**60.7**	**83.9**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB1 0.7V	EB2 0.0-0.5A	EB2 0.5-0.85A	EB2 0.0-0.5B	EB2 0.5-0.85B
			Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504426-006	ES1504426-007	ES1504426-008	ES1504426-009	ES1504426-010
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	72.8	76.4	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	52.3	64.8	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	75.0	62.5	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	88.0	84.2	----	----
Anthracene-d10	1719-06-8	0.1	%	----	86.0	81.0	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	115	104	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB2 0.3V	EB2 0.7V	EB3 0.0-0.7A	EB3 0.0-0.7B	EB3 0.3V
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-011	ES1504426-012	ES1504426-013	ES1504426-014	ES1504426-015
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	**38**	----
+150µm	----	1	%		----	----	----	**17**	----
+300µm	----	1	%		----	----	----	**6**	----
+425µm	----	1	%		----	----	----	**5**	----
+600µm	----	1	%		----	----	----	**3**	----
+1180µm	----	1	%		----	----	----	**1**	----
+2.36mm	----	1	%		----	----	----	<1	----
+4.75mm	----	1	%		----	----	----	<1	----
+9.5mm	----	1	%		----	----	----	<1	----
+19.0mm	----	1	%		----	----	----	<1	----
+37.5mm	----	1	%		----	----	----	<1	----
+75.0mm	----	1	%		----	----	----	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**24.8**	**23.5**	**19.4**	----	**19.4**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	**30**	----
Silt (2-60 µm)	----	1	%		----	----	----	**27**	----
Sand (0.06-2.00 mm)	----	1	%		----	----	----	**42**	----
Gravel (>2mm)	----	1	%		----	----	----	**1**	----
Cobbles (>6cm)	----	1	%		----	----	----	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	**2.62**	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	**15600**	----	----
Iron	7439-89-6	50	mg/kg		----	----	**27300**	----	----
Vanadium	7440-62-2	2	mg/kg		----	----	**66**	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	<0.50	----	----
Arsenic	7440-38-2	1.00	mg/kg		----	----	**5.01**	----	----
Cadmium	7440-43-9	0.1	mg/kg		----	----	<0.1	----	----
Chromium	7440-47-3	1.0	mg/kg		----	----	**23.5**	----	----
Copper	7440-50-8	1.0	mg/kg		----	----	**25.8**	----	----
Cobalt	7440-48-4	0.5	mg/kg		----	----	**14.2**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB2 0.3V	EB2 0.7V	EB3 0.0-0.7A	EB3 0.0-0.7B	EB3 0.3V
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-011	ES1504426-012	ES1504426-013	ES1504426-014	ES1504426-015
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Lead	7439-92-1	1.0	mg/kg		----	----	**8.1**	----	----
Manganese	7439-96-5	10	mg/kg		----	----	**236**	----	----
Nickel	7440-02-0	1.0	mg/kg		----	----	**18.2**	----	----
Selenium	7782-49-2	0.1	mg/kg		----	----	**0.7**	----	----
Silver	7440-22-4	0.1	mg/kg		----	----	<0.1	----	----
Zinc	7440-66-6	1.0	mg/kg		----	----	**46.2**	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	<0.01	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	**0.4**	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	**0.4**	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	**180**	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ **Total Nitrogen as N**	----	20	mg/kg		----	----	**180**	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	**323**	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	**1.0**	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	**0.18**	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	<3	----	----
>C16 - C34 Fraction	----	3	mg/kg		----	----	<3	----	----
>C34 - C40 Fraction	----	5	mg/kg		----	----	<5	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	<3	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	<3	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		----	----	<3	----	----
C15 - C28 Fraction	----	3	mg/kg		----	----	<3	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB2 0.3V	EB2 0.7V	EB3 0.0-0.7A	EB3 0.0-0.7B	EB3 0.3V
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-011	ES1504426-012	ES1504426-013	ES1504426-014	ES1504426-015
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	<5	----	----
^ **C10 - C36 Fraction (sum)**	----	3	mg/kg		----	----	<3	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	<3	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
^ **Total Xylenes**	1330-20-7	0.5	mg/kg		<0.5	<0.5	----	----	<0.5
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	<1	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	<1	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	<0.5	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	<10	----	----
Carbophenothion	786-19-6	10	µg/kg		----	----	<10	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	<10.0	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	<10	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	<10	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	<10	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	<10	----	----
Diazinon	333-41-5	10	µg/kg		----	----	<10	----	----
Dichlorvos	62-73-7	10	µg/kg		----	----	<10	----	----
Dimethoate	60-51-5	10	µg/kg		----	----	<10	----	----
Ethion	563-12-2	10	µg/kg		----	----	<10	----	----
Fenamiphos	22224-92-6	10	µg/kg		----	----	<10	----	----
Fenthion	55-38-9	10	µg/kg		----	----	<10	----	----
Malathion	121-75-5	10	µg/kg		----	----	<10	----	----
Azinphos Methyl	86-50-0	10	µg/kg		----	----	<10	----	----
Monocrotophos	6923-22-4	10	µg/kg		----	----	<10	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB2 0.3V	EB2 0.7V	EB3 0.0-0.7A	EB3 0.0-0.7B	EB3 0.3V
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-011	ES1504426-012	ES1504426-013	ES1504426-014	ES1504426-015
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	<10	----	----
Parathion-methyl	298-00-0	10	µg/kg		----	----	<10	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	<10	----	----
Prothiofos	34643-46-4	10	µg/kg		----	----	<10	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg		----	----	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg		----	----	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg		----	----	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	<0.50	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	<0.50	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	----	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		----	----	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	<0.50	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	----	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		----	----	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg		----	----	<0.50	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	<0.50	----	----
gamma-BHC	58-89-9	0.25	µg/kg		----	----	<0.25	----	----
Methoxychlor	72-43-5	0.50	µg/kg		----	----	<0.50	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	<0.25	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	<0.25	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		----	----	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	<5.0	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB2 0.3V	EB2 0.7V	EB3 0.0-0.7A	EB3 0.0-0.7B	EB3 0.3V
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-011	ES1504426-012	ES1504426-013	ES1504426-014	ES1504426-015
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	<5.0	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	<5	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	<5	----	----
Acenaphthylene	208-96-8	4	µg/kg		----	----	<4	----	----
Acenaphthene	83-32-9	4	µg/kg		----	----	<4	----	----
Fluorene	86-73-7	4	µg/kg		----	----	<4	----	----
Phenanthrene	85-01-8	4	µg/kg		----	----	<4	----	----
Anthracene	120-12-7	4	µg/kg		----	----	<4	----	----
Fluoranthene	206-44-0	4	µg/kg		----	----	<4	----	----
Pyrene	129-00-0	4	µg/kg		----	----	<4	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	<4	----	----
Chrysene	218-01-9	4	µg/kg		----	----	<4	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	<4	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	<4	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	<4	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	<4	----	----
Perylene	198-55-0	4	µg/kg		----	----	<4	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	<4	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	<4	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	<4	----	----
Coronene	191-07-1	5	µg/kg		----	----	<5	----	----
^ **Sum of PAHs**	----	4	µg/kg		----	----	<4	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**94.2**	**88.9**	----	----	**89.4**
Toluene-D8	2037-26-5	0.1	%		**89.8**	**93.4**	----	----	**81.0**
4-Bromofluorobenzene	460-00-4	0.1	%		**89.7**	**96.2**	----	----	**84.4**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	**74.7**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB2 0.3V	EB2 0.7V	EB3 0.0-0.7A	EB3 0.0-0.7B	EB3 0.3V
			Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504426-011	ES1504426-012	ES1504426-013	ES1504426-014	ES1504426-015
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	71.7	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	64.8	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	65.6	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	82.3	----	----
Anthracene-d10	1719-06-8	0.1	%	----	----	95.2	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	122	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB4 0.0-0.4A	EB4 0.0-0.4B	EB4 0.3V	EB5 0.0-0.5A	EB5 0.0-0.5B
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-016	ES1504426-017	ES1504426-018	ES1504426-019	ES1504426-020
EA150: Particle Sizing									
+75µm	----	1	%		----	**20**	----	----	**24**
+150µm	----	1	%		----	**10**	----	----	**15**
+300µm	----	1	%		----	**5**	----	----	**8**
+425µm	----	1	%		----	**3**	----	----	**6**
+600µm	----	1	%		----	**2**	----	----	**4**
+1180µm	----	1	%		----	<1	----	----	**2**
+2.36mm	----	1	%		----	<1	----	----	**1**
+4.75mm	----	1	%		----	<1	----	----	<1
+9.5mm	----	1	%		----	<1	----	----	<1
+19.0mm	----	1	%		----	<1	----	----	<1
+37.5mm	----	1	%		----	<1	----	----	<1
+75.0mm	----	1	%		----	<1	----	----	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**18.9**	----	**22.2**	**23.2**	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	**47**	----	----	**44**
Silt (2-60 µm)	----	1	%		----	**31**	----	----	**34**
Sand (0.06-2.00 mm)	----	1	%		----	**22**	----	----	**21**
Gravel (>2mm)	----	1	%		----	<1	----	----	**1**
Cobbles (>6cm)	----	1	%		----	<1	----	----	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	**2.60**	----	----	**2.62**
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**19300**	----	----	**22500**	----
Iron	7439-89-6	50	mg/kg		**28600**	----	----	**39200**	----
Vanadium	7440-62-2	2	mg/kg		**68**	----	----	**81**	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	----	----	<0.50	----
Arsenic	7440-38-2	1.00	mg/kg		**5.25**	----	----	**8.43**	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	----	----	<0.1	----
Chromium	7440-47-3	1.0	mg/kg		**26.3**	----	----	**32.4**	----
Copper	7440-50-8	1.0	mg/kg		**27.6**	----	----	**42.3**	----
Cobalt	7440-48-4	0.5	mg/kg		**13.0**	----	----	**15.7**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB4 0.0-0.4A	EB4 0.0-0.4B	EB4 0.3V	EB5 0.0-0.5A	EB5 0.0-0.5B
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-016	ES1504426-017	ES1504426-018	ES1504426-019	ES1504426-020
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Lead	7439-92-1	1.0	mg/kg		**10.0**	----	----	**10.7**	----
Manganese	7439-96-5	10	mg/kg		**364**	----	----	**733**	----
Nickel	7440-02-0	1.0	mg/kg		**16.3**	----	----	**22.8**	----
Selenium	7782-49-2	0.1	mg/kg		**0.6**	----	----	**0.8**	----
Silver	7440-22-4	0.1	mg/kg		<0.1	----	----	<0.1	----
Zinc	7440-66-6	1.0	mg/kg		**45.0**	----	----	**70.7**	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		**0.01**	----	----	**0.02**	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	<0.1	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	<0.1	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	<0.1	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		**240**	----	----	**250**	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		**240**	----	----	**250**	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		**252**	----	----	**392**	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		**1.4**	----	----	**0.9**	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		**0.13**	----	----	**0.14**	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	----	----	<3	----
>C16 - C34 Fraction	----	3	mg/kg		**11**	----	----	<3	----
>C34 - C40 Fraction	----	5	mg/kg		<5	----	----	<5	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		**11**	----	----	<3	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	<3	----	----
C10 - C14 Fraction	----	3	mg/kg		<3	----	----	<3	----
C15 - C28 Fraction	----	3	mg/kg		**5**	----	----	<3	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB4 0.0-0.4A	EB4 0.0-0.4B	EB4 0.3V	EB5 0.0-0.5A	EB5 0.0-0.5B
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504426-016	ES1504426-017	ES1504426-018	ES1504426-019	ES1504426-020
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		8	----	----	<5	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		13	----	----	<3	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	<3	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	<0.2	----	----
Toluene	108-88-3	0.2	mg/kg		----	----	<0.2	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	<0.2	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	<0.2	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	<0.2	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	<0.5	----	----
^ Sum of BTEX	----	0.2	mg/kg		----	----	<0.2	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	----	----	<1	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	----	----	<1	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	----	----	<0.5	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	----	----	<10	----
Carbophenothion	786-19-6	10	µg/kg		<10	----	----	<10	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	----	----	<10.0	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	----	----	<10	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	----	----	<10	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	----	----	<10	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	----	----	<10	----
Diazinon	333-41-5	10	µg/kg		<10	----	----	<10	----
Dichlorvos	62-73-7	10	µg/kg		<10	----	----	<10	----
Dimethoate	60-51-5	10	µg/kg		<10	----	----	<10	----
Ethion	563-12-2	10	µg/kg		<10	----	----	<10	----
Fenamiphos	22224-92-6	10	µg/kg		<10	----	----	<10	----
Fenthion	55-38-9	10	µg/kg		<10	----	----	<10	----
Malathion	121-75-5	10	µg/kg		<10	----	----	<10	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	----	----	<10	----
Monocrotophos	6923-22-4	10	µg/kg		<10	----	----	<10	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB4 0.0-0.4A	EB4 0.0-0.4B	EB4 0.3V	EB5 0.0-0.5A	EB5 0.0-0.5B
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-016	ES1504426-017	ES1504426-018	ES1504426-019	ES1504426-020
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	----	----	<10	----
Parathion-methyl	298-00-0	10	µg/kg		<10	----	----	<10	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	----	----	<10	----
Prothiofos	34643-46-4	10	µg/kg		<10	----	----	<10	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	----	----	<0.50	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	----	----	<0.50	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	----	----	<0.50	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	----	----	<0.50	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	----	----	<0.50	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	----	----	<0.50	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	----	----	<0.50	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	----	----	<0.50	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	----	----	<0.50	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	----	----	<0.50	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	----	----	<0.50	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	----	----	<0.50	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	----	----	<0.50	----
Endrin	72-20-8	0.50	µg/kg		<0.50	----	----	<0.50	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	----	----	<0.50	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	----	----	<0.50	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	----	----	<0.50	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	----	----	<0.50	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	----	----	<0.50	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	----	----	<0.25	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	----	----	<0.50	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	----	----	<0.25	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	----	----	<0.25	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	----	----	<0.25	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	----	----	<0.50	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	----	----	<5.0	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB4 0.0-0.4A	EB4 0.0-0.4B	EB4 0.3V	EB5 0.0-0.5A	EB5 0.0-0.5B
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-016	ES1504426-017	ES1504426-018	ES1504426-019	ES1504426-020
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	----	----	<5.0	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	----	----	<5	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	----	----	<5	----
Acenaphthylene	208-96-8	4	µg/kg		<4	----	----	<4	----
Acenaphthene	83-32-9	4	µg/kg		<4	----	----	<4	----
Fluorene	86-73-7	4	µg/kg		<4	----	----	<4	----
Phenanthrene	85-01-8	4	µg/kg		<4	----	----	<4	----
Anthracene	120-12-7	4	µg/kg		<4	----	----	<4	----
Fluoranthene	206-44-0	4	µg/kg		<4	----	----	<4	----
Pyrene	129-00-0	4	µg/kg		<4	----	----	<4	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	----	----	<4	----
Chrysene	218-01-9	4	µg/kg		<4	----	----	<4	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	----	----	<4	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	----	----	<4	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	----	----	<4	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	----	----	<4	----
Perylene	198-55-0	4	µg/kg		<4	----	----	<4	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	----	----	<4	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	----	----	<4	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	----	----	<4	----
Coronene	191-07-1	5	µg/kg		<5	----	----	<5	----
^ **Sum of PAHs**	----	4	µg/kg		<4	----	----	<4	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	**92.5**	----	----
Toluene-D8	2037-26-5	0.1	%		----	----	**92.9**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	**101**	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**83.2**	----	----	**67.7**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB4 0.0-0.4A	EB4 0.0-0.4B	EB4 0.3V	EB5 0.0-0.5A	EB5 0.0-0.5B
			Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504426-016	ES1504426-017	ES1504426-018	ES1504426-019	ES1504426-020
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**69.9**	----	----	**74.8**	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**65.7**	----	----	**51.6**	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**75.0**	----	----	**75.0**	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**93.4**	----	----	**108**	----
Anthracene-d10	1719-06-8	0.1	%	**96.7**	----	----	**89.8**	----
4-Terphenyl-d14	1718-51-0	0.1	%	**124**	----	----	**112**	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB5 0.3V	EB6 0.0-0.5A	EB6 0.5-1.0A	EB6 0.0-0.5B	EB6 0.5-1.0B
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-021	ES1504426-022	ES1504426-023	ES1504426-024	ES1504426-025
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	**8**	**8**
+150µm	----	1	%		----	----	----	**5**	**4**
+300µm	----	1	%		----	----	----	**4**	**1**
+425µm	----	1	%		----	----	----	**4**	<1
+600µm	----	1	%		----	----	----	**3**	<1
+1180µm	----	1	%		----	----	----	**3**	<1
+2.36mm	----	1	%		----	----	----	**2**	<1
+4.75mm	----	1	%		----	----	----	**2**	<1
+9.5mm	----	1	%		----	----	----	**2**	<1
+19.0mm	----	1	%		----	----	----	<1	<1
+37.5mm	----	1	%		----	----	----	<1	<1
+75.0mm	----	1	%		----	----	----	<1	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**20.4**	**25.6**	**23.1**	----	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	**61**	**56**
Silt (2-60 µm)	----	1	%		----	----	----	**32**	**35**
Sand (0.06-2.00 mm)	----	1	%		----	----	----	**4**	**9**
Gravel (>2mm)	----	1	%		----	----	----	**3**	<1
Cobbles (>6cm)	----	1	%		----	----	----	<1	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	**2.65**	**2.62**
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	**20600**	**17900**	----	----
Iron	7439-89-6	50	mg/kg		----	**29100**	**24900**	----	----
Vanadium	7440-62-2	2	mg/kg		----	**54**	**58**	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	<0.50	<0.50	----	----
Arsenic	7440-38-2	1.00	mg/kg		----	**4.82**	**4.20**	----	----
Cadmium	7440-43-9	0.1	mg/kg		----	<0.1	**0.3**	----	----
Chromium	7440-47-3	1.0	mg/kg		----	**20.9**	**19.8**	----	----
Copper	7440-50-8	1.0	mg/kg		----	**33.0**	**36.4**	----	----
Cobalt	7440-48-4	0.5	mg/kg		----	**7.3**	**11.1**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB5 0.3V	EB6 0.0-0.5A	EB6 0.5-1.0A	EB6 0.0-0.5B	EB6 0.5-1.0B
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-021	ES1504426-022	ES1504426-023	ES1504426-024	ES1504426-025
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Lead	7439-92-1	1.0	mg/kg		----	**11.1**	**10.2**	----	----
Manganese	7439-96-5	10	mg/kg		----	**95**	**123**	----	----
Nickel	7440-02-0	1.0	mg/kg		----	**11.0**	**11.7**	----	----
Selenium	7782-49-2	0.1	mg/kg		----	**0.7**	**1.0**	----	----
Silver	7440-22-4	0.1	mg/kg		----	<0.1	<0.1	----	----
Zinc	7440-66-6	1.0	mg/kg		----	**49.3**	**46.2**	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	<0.01	<0.01	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	**0.2**	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	**0.2**	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	**240**	**250**	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	**240**	**250**	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	**205**	**187**	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	**1.4**	**1.2**	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	**0.11**	**0.08**	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	<3	<3	----	----
>C16 - C34 Fraction	----	3	mg/kg		----	<3	<3	----	----
>C34 - C40 Fraction	----	5	mg/kg		----	<5	<5	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	<3	<3	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	----	----	----	----
C10 - C14 Fraction	----	3	mg/kg		----	<3	<3	----	----
C15 - C28 Fraction	----	3	mg/kg		----	<3	<3	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB5 0.3V	EB6 0.0-0.5A	EB6 0.5-1.0A	EB6 0.0-0.5B	EB6 0.5-1.0B
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504426-021	ES1504426-022	ES1504426-023	ES1504426-024	ES1504426-025
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	<5	<5	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	<3	<3	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	----	----	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.2	mg/kg		<0.2	----	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	----	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	----	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	<1	<1	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	<1	<1	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	<0.5	<0.5	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	<10	<10	----	----
Carbophenothion	786-19-6	10	µg/kg		----	<10	<10	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	<10.0	<10.0	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	<10	<10	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	<10	<10	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	<10	<10	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	<10	<10	----	----
Diazinon	333-41-5	10	µg/kg		----	<10	<10	----	----
Dichlorvos	62-73-7	10	µg/kg		----	<10	<10	----	----
Dimethoate	60-51-5	10	µg/kg		----	<10	<10	----	----
Ethion	563-12-2	10	µg/kg		----	<10	<10	----	----
Fenamiphos	22224-92-6	10	µg/kg		----	<10	<10	----	----
Fenthion	55-38-9	10	µg/kg		----	<10	<10	----	----
Malathion	121-75-5	10	µg/kg		----	<10	<10	----	----
Azinphos Methyl	86-50-0	10	µg/kg		----	<10	<10	----	----
Monocrotophos	6923-22-4	10	µg/kg		----	<10	<10	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB5 0.3V	EB6 0.0-0.5A	EB6 0.5-1.0A	EB6 0.0-0.5B	EB6 0.5-1.0B
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-021	ES1504426-022	ES1504426-023	ES1504426-024	ES1504426-025
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	<10	<10	----	----
Parathion-methyl	298-00-0	10	µg/kg		----	<10	<10	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	<10	<10	----	----
Prothiofos	34643-46-4	10	µg/kg		----	<10	<10	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg		----	<0.50	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	<0.50	<0.50	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	<0.50	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	<0.50	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	<0.50	<0.50	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	<0.50	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	<0.50	<0.50	----	----
gamma-BHC	58-89-9	0.25	µg/kg		----	<0.25	<0.25	----	----
Methoxychlor	72-43-5	0.50	µg/kg		----	<0.50	<0.50	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	<0.25	<0.25	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	<0.25	<0.25	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		----	<0.25	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	<0.50	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	<5.0	<5.0	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB5 0.3V	EB6 0.0-0.5A	EB6 0.5-1.0A	EB6 0.0-0.5B	EB6 0.5-1.0B
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-021	ES1504426-022	ES1504426-023	ES1504426-024	ES1504426-025
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	<5.0	<5.0	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	<5	<5	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	<5	<5	----	----
Acenaphthylene	208-96-8	4	µg/kg		----	<4	<4	----	----
Acenaphthene	83-32-9	4	µg/kg		----	<4	<4	----	----
Fluorene	86-73-7	4	µg/kg		----	<4	<4	----	----
Phenanthrene	85-01-8	4	µg/kg		----	<4	<4	----	----
Anthracene	120-12-7	4	µg/kg		----	<4	<4	----	----
Fluoranthene	206-44-0	4	µg/kg		----	<4	<4	----	----
Pyrene	129-00-0	4	µg/kg		----	<4	<4	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	<4	<4	----	----
Chrysene	218-01-9	4	µg/kg		----	<4	<4	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	<4	<4	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	<4	<4	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	<4	<4	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	<4	<4	----	----
Perylene	198-55-0	4	µg/kg		----	<4	<4	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	<4	<4	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	<4	<4	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	<4	<4	----	----
Coronene	191-07-1	5	µg/kg		----	<5	<5	----	----
^ **Sum of PAHs**	----	4	µg/kg		----	<4	<4	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**87.4**	----	----	----	----
Toluene-D8	2037-26-5	0.1	%		**83.9**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**82.7**	----	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	**36.1**	**76.6**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB5 0.3V	EB6 0.0-0.5A	EB6 0.5-1.0A	EB6 0.0-0.5B	EB6 0.5-1.0B
			Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504426-021	ES1504426-022	ES1504426-023	ES1504426-024	ES1504426-025
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	69.7	101	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	42.2	71.1	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	62.5	87.5	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	94.5	107	----	----
Anthracene-d10	1719-06-8	0.1	%	----	82.2	84.2	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	119	118	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB6 0.3V	EB6 0.7V	EB7 0.0-0.5A	EB7 0.5-1.0A	EB7 0.3V
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504426-026	ES1504426-027	ES1504426-028	ES1504426-029	ES1504426-030
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		23.8	21.6	23.4	22.6	24.1
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	15800	13400	----
Iron	7439-89-6	50	mg/kg		----	----	29300	25200	----
Vanadium	7440-62-2	2	mg/kg		----	----	73	62	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	<0.50	<0.50	----
Arsenic	7440-38-2	1.00	mg/kg		----	----	6.42	7.73	----
Cadmium	7440-43-9	0.1	mg/kg		----	----	<0.1	<0.1	----
Chromium	7440-47-3	1.0	mg/kg		----	----	28.0	23.8	----
Copper	7440-50-8	1.0	mg/kg		----	----	32.3	23.6	----
Cobalt	7440-48-4	0.5	mg/kg		----	----	13.2	10.2	----
Lead	7439-92-1	1.0	mg/kg		----	----	7.8	7.1	----
Manganese	7439-96-5	10	mg/kg		----	----	168	161	----
Nickel	7440-02-0	1.0	mg/kg		----	----	19.6	15.3	----
Selenium	7782-49-2	0.1	mg/kg		----	----	0.5	0.6	----
Silver	7440-22-4	0.1	mg/kg		----	----	<0.1	<0.1	----
Zinc	7440-66-6	1.0	mg/kg		----	----	54.5	47.5	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	0.01	0.01	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	<0.1	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	<0.1	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	<0.1	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	110	130	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	110	130	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	331	395	----
EK255A SD Ammonia in Sediment									

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB6 0.3V	EB6 0.7V	EB7 0.0-0.5A	EB7 0.5-1.0A	EB7 0.3V
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-026	ES1504426-027	ES1504426-028	ES1504426-029	ES1504426-030
EK255A SD Ammonia in Sediment - Continued									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	**0.7**	**0.7**	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	**0.10**	**0.09**	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	<3	<3	----
>C16 - C34 Fraction	----	3	mg/kg		----	----	<3	<3	----
>C34 - C40 Fraction	----	5	mg/kg		----	----	<5	<5	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	<3	<3	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	<3	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		----	----	<3	<3	----
C15 - C28 Fraction	----	3	mg/kg		----	----	<3	<3	----
C29 - C36 Fraction	----	5	mg/kg		----	----	<5	<5	----
^ **C10 - C36 Fraction (sum)**	----	3	mg/kg		----	----	<3	<3	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	<3	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
^ **Total Xylenes**	1330-20-7	0.5	mg/kg		<0.5	<0.5	----	----	<0.5
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	<1	<1	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	<1	<1	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	<0.5	<0.5	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	<10	<10	----
Carbophenothion	786-19-6	10	µg/kg		----	----	<10	<10	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	<10.0	<10.0	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	<10	<10	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB6 0.3V	EB6 0.7V	EB7 0.0-0.5A	EB7 0.5-1.0A	EB7 0.3V
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-026	ES1504426-027	ES1504426-028	ES1504426-029	ES1504426-030
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	<10	<10	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	<10	<10	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	<10	<10	----
Diazinon	333-41-5	10	µg/kg		----	----	<10	<10	----
Dichlorvos	62-73-7	10	µg/kg		----	----	<10	<10	----
Dimethoate	60-51-5	10	µg/kg		----	----	<10	<10	----
Ethion	563-12-2	10	µg/kg		----	----	<10	<10	----
Fenamiphos	22224-92-6	10	µg/kg		----	----	<10	<10	----
Fenthion	55-38-9	10	µg/kg		----	----	<10	<10	----
Malathion	121-75-5	10	µg/kg		----	----	<10	<10	----
Azinphos Methyl	86-50-0	10	µg/kg		----	----	<10	<10	----
Monocrotophos	6923-22-4	10	µg/kg		----	----	<10	<10	----
Parathion	56-38-2	10	µg/kg		----	----	<10	<10	----
Parathion-methyl	298-00-0	10	µg/kg		----	----	<10	<10	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	<10	<10	----
Prothiofos	34643-46-4	10	µg/kg		----	----	<10	<10	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	<0.50	<0.50	----
alpha-BHC	319-84-6	0.50	µg/kg		----	----	<0.50	<0.50	----
beta-BHC	319-85-7	0.50	µg/kg		----	----	<0.50	<0.50	----
delta-BHC	319-86-8	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	<0.50	<0.50	----
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	----	<0.50	<0.50	----
Dieldrin	60-57-1	0.50	µg/kg		----	----	<0.50	<0.50	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	<0.50	<0.50	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	<0.50	<0.50	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	<0.50	<0.50	----
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin	72-20-8	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	<0.50	<0.50	----
Heptachlor	76-44-8	0.50	µg/kg		----	----	<0.50	<0.50	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB6 0.3V	EB6 0.7V	EB7 0.0-0.5A	EB7 0.5-1.0A	EB7 0.3V
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-026	ES1504426-027	ES1504426-028	ES1504426-029	ES1504426-030
EP131A: Organochlorine Pesticides - Continued									
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	<0.50	<0.50	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	<0.50	<0.50	----
gamma-BHC	58-89-9	0.25	µg/kg		----	----	<0.25	<0.25	----
Methoxychlor	72-43-5	0.50	µg/kg		----	----	<0.50	<0.50	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	<0.25	<0.25	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	<0.25	<0.25	----
^ **Total Chlordane (sum)**	----	0.25	µg/kg		----	----	<0.25	<0.25	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	<0.50	<0.50	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	<5.0	<5.0	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	<5	<5	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	<5	<5	----
Acenaphthylene	208-96-8	4	µg/kg		----	----	<4	<4	----
Acenaphthene	83-32-9	4	µg/kg		----	----	<4	<4	----
Fluorene	86-73-7	4	µg/kg		----	----	<4	<4	----
Phenanthrene	85-01-8	4	µg/kg		----	----	<4	<4	----
Anthracene	120-12-7	4	µg/kg		----	----	<4	<4	----
Fluoranthene	206-44-0	4	µg/kg		----	----	<4	<4	----
Pyrene	129-00-0	4	µg/kg		----	----	<4	<4	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	<4	<4	----
Chrysene	218-01-9	4	µg/kg		----	----	<4	<4	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	<4	<4	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	<4	<4	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	<4	<4	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	<4	<4	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB6 0.3V	EB6 0.7V	EB7 0.0-0.5A	EB7 0.5-1.0A	EB7 0.3V
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504426-026	ES1504426-027	ES1504426-028	ES1504426-029	ES1504426-030
EP132B: Polynuclear Aromatic Hydrocarbons - Continued									
Perylene	198-55-0	4	µg/kg		----	----	<4	<4	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	<4	<4	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	<4	<4	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	<4	<4	----
Coronene	191-07-1	5	µg/kg		----	----	<5	<5	----
^ Sum of PAHs	----	4	µg/kg		----	----	<4	<4	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		80.5	86.8	----	----	84.2
Toluene-D8	2037-26-5	0.1	%		89.8	83.0	----	----	82.8
4-Bromofluorobenzene	460-00-4	0.1	%		88.2	83.9	----	----	85.6
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	72.3	54.2	----
EP130S: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%		----	----	85.7	80.2	----
EP131S: OC Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.1	%		----	----	62.8	65.1	----
EP131T: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	----	75.0	75.0	----
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		----	----	82.0	91.2	----
Anthracene-d10	1719-06-8	0.1	%		----	----	91.8	89.6	----
4-Terphenyl-d14	1718-51-0	0.1	%		----	----	104	115	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB7 0.7V	EB9 0.0-0.7A	EB9 0.0-0.7B	EB9 0.3V	EB11 0.0-0.5A
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-031	ES1504426-032	ES1504426-033	ES1504426-034	ES1504426-035
EA150: Particle Sizing									
+75µm	----	1	%		----	----	**11**	----	----
+150µm	----	1	%		----	----	**8**	----	----
+300µm	----	1	%		----	----	**5**	----	----
+425µm	----	1	%		----	----	**3**	----	----
+600µm	----	1	%		----	----	**2**	----	----
+1180µm	----	1	%		----	----	**1**	----	----
+2.36mm	----	1	%		----	----	<1	----	----
+4.75mm	----	1	%		----	----	<1	----	----
+9.5mm	----	1	%		----	----	<1	----	----
+19.0mm	----	1	%		----	----	<1	----	----
+37.5mm	----	1	%		----	----	<1	----	----
+75.0mm	----	1	%		----	----	<1	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**21.4**	**23.9**	----	**23.3**	**19.7**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	**58**	----	----
Silt (2-60 µm)	----	1	%		----	----	**25**	----	----
Sand (0.06-2.00 mm)	----	1	%		----	----	**16**	----	----
Gravel (>2mm)	----	1	%		----	----	**1**	----	----
Cobbles (>6cm)	----	1	%		----	----	<1	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	**2.64**	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	**23000**	----	----	**15000**
Iron	7439-89-6	50	mg/kg		----	**37500**	----	----	**25600**
Vanadium	7440-62-2	2	mg/kg		----	**87**	----	----	**67**
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	<0.50	----	----	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	**6.38**	----	----	**4.97**
Cadmium	7440-43-9	0.1	mg/kg		----	<0.1	----	----	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	**26.4**	----	----	**22.3**
Copper	7440-50-8	1.0	mg/kg		----	**38.8**	----	----	**33.0**
Cobalt	7440-48-4	0.5	mg/kg		----	**10.8**	----	----	**13.0**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB7 0.7V	EB9 0.0-0.7A	EB9 0.0-0.7B	EB9 0.3V	EB11 0.0-0.5A
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504426-031	ES1504426-032	ES1504426-033	ES1504426-034	ES1504426-035
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Lead	7439-92-1	1.0	mg/kg		----	**9.4**	----	----	**9.7**
Manganese	7439-96-5	10	mg/kg		----	**283**	----	----	**227**
Nickel	7440-02-0	1.0	mg/kg		----	**17.6**	----	----	**15.0**
Selenium	7782-49-2	0.1	mg/kg		----	**0.9**	----	----	**0.5**
Silver	7440-22-4	0.1	mg/kg		----	**0.1**	----	----	<0.1
Zinc	7440-66-6	1.0	mg/kg		----	**53.2**	----	----	**48.0**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	**0.01**	----	----	**0.01**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	<0.1	----	----	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	----	----	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	----	----	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	**220**	----	----	**180**
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	**220**	----	----	**180**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	**304**	----	----	**210**
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	**1.8**	----	----	**1.1**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	**0.33**	----	----	**0.08**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	<3	----	----	<3
>C16 - C34 Fraction	----	3	mg/kg		----	<3	----	----	**6**
>C34 - C40 Fraction	----	5	mg/kg		----	<5	----	----	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	<3	----	----	**6**
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	----	----	<3	----
C10 - C14 Fraction	----	3	mg/kg		----	<3	----	----	<3
C15 - C28 Fraction	----	3	mg/kg		----	<3	----	----	<3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB7 0.7V	EB9 0.0-0.7A	EB9 0.0-0.7B	EB9 0.3V	EB11 0.0-0.5A
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504426-031	ES1504426-032	ES1504426-033	ES1504426-034	ES1504426-035
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	<5	----	----	<5
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	<3	----	----	<3
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	----	----	<3	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	<0.2	----
Toluene	108-88-3	0.2	mg/kg		<0.2	----	----	<0.2	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	----	----	<0.2	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	----	----	<0.2	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	----	----	<0.2	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	----	----	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	<0.2	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	<1	----	----	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	<1	----	----	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	<0.5	----	----	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	<10	----	----	<10
Carbophenothion	786-19-6	10	µg/kg		----	<10	----	----	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	<10.0	----	----	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	<10	----	----	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	<10	----	----	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	<10	----	----	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	<10	----	----	<10
Diazinon	333-41-5	10	µg/kg		----	<10	----	----	<10
Dichlorvos	62-73-7	10	µg/kg		----	<10	----	----	<10
Dimethoate	60-51-5	10	µg/kg		----	<10	----	----	<10
Ethion	563-12-2	10	µg/kg		----	<10	----	----	<10
Fenamiphos	22224-92-6	10	µg/kg		----	<10	----	----	<10
Fenthion	55-38-9	10	µg/kg		----	<10	----	----	<10
Malathion	121-75-5	10	µg/kg		----	<10	----	----	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	<10	----	----	<10
Monocrotophos	6923-22-4	10	µg/kg		----	<10	----	----	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB7 0.7V	EB9 0.0-0.7A	EB9 0.0-0.7B	EB9 0.3V	EB11 0.0-0.5A
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504426-031	ES1504426-032	ES1504426-033	ES1504426-034	ES1504426-035
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	<10	----	----	<10
Parathion-methyl	298-00-0	10	µg/kg		----	<10	----	----	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	<10	----	----	<10
Prothiofos	34643-46-4	10	µg/kg		----	<10	----	----	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	<0.50	----	----	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	<0.50	----	----	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	<0.50	----	----	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	<0.50	----	----	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	<0.50	----	----	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	<0.50	----	----	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	<0.50	----	----	<0.50
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	<0.50	----	----	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	<0.50	----	----	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	<0.50	----	----	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	<0.50	----	----	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	<0.50	----	----	<0.50
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	<0.50	----	----	<0.50
Endrin	72-20-8	0.50	µg/kg		----	<0.50	----	----	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	<0.50	----	----	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	<0.50	----	----	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	<0.50	----	----	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	<0.50	----	----	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	<0.50	----	----	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	<0.25	----	----	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	<0.50	----	----	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	<0.25	----	----	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	<0.25	----	----	<0.25
^ Total Chlordane (sum)	----	0.25	µg/kg		----	<0.25	----	----	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	<0.50	----	----	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	<5.0	----	----	<5.0

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB7 0.7V	EB9 0.0-0.7A	EB9 0.0-0.7B	EB9 0.3V	EB11 0.0-0.5A
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-031	ES1504426-032	ES1504426-033	ES1504426-034	ES1504426-035
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	<5.0	----	----	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	<5	----	----	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	<5	----	----	<5
Acenaphthylene	208-96-8	4	µg/kg		----	<4	----	----	<4
Acenaphthene	83-32-9	4	µg/kg		----	<4	----	----	<4
Fluorene	86-73-7	4	µg/kg		----	<4	----	----	<4
Phenanthrene	85-01-8	4	µg/kg		----	<4	----	----	<4
Anthracene	120-12-7	4	µg/kg		----	<4	----	----	<4
Fluoranthene	206-44-0	4	µg/kg		----	<4	----	----	<4
Pyrene	129-00-0	4	µg/kg		----	<4	----	----	<4
Benz(a)anthracene	56-55-3	4	µg/kg		----	<4	----	----	<4
Chrysene	218-01-9	4	µg/kg		----	<4	----	----	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	<4	----	----	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	<4	----	----	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		----	<4	----	----	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		----	<4	----	----	<4
Perylene	198-55-0	4	µg/kg		----	<4	----	----	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	<4	----	----	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	<4	----	----	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	<4	----	----	<4
Coronene	191-07-1	5	µg/kg		----	<5	----	----	<5
^ **Sum of PAHs**	----	4	µg/kg		----	<4	----	----	<4
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**84.2**	----	----	**93.4**	----
Toluene-D8	2037-26-5	0.1	%		**89.5**	----	----	**93.8**	----
4-Bromofluorobenzene	460-00-4	0.1	%		**89.2**	----	----	**94.8**	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	**72.7**	----	----	**26.5**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB7 0.7V	EB9 0.0-0.7A	EB9 0.0-0.7B	EB9 0.3V	EB11 0.0-0.5A
			Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504426-031	ES1504426-032	ES1504426-033	ES1504426-034	ES1504426-035
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	79.7	----	----	67.8
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	59.5	----	----	36.6
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	62.5	----	----	62.5
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	75.3	----	----	102
Anthracene-d10	1719-06-8	0.1	%	----	89.0	----	----	101
4-Terphenyl-d14	1718-51-0	0.1	%	----	121	----	----	114

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB11 0.5-0.8A	EB11 0.0-0.5B	EB11 0.5-0.8B	EB11 0.3V	EB11 0.7V
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-036	ES1504426-037	ES1504426-038	ES1504426-039	ES1504426-040
EA150: Particle Sizing									
+75µm	----	1	%		----	**18**	**18**	----	----
+150µm	----	1	%		----	**6**	**3**	----	----
+300µm	----	1	%		----	**1**	<1	----	----
+425µm	----	1	%		----	<1	<1	----	----
+600µm	----	1	%		----	<1	<1	----	----
+1180µm	----	1	%		----	<1	<1	----	----
+2.36mm	----	1	%		----	<1	<1	----	----
+4.75mm	----	1	%		----	<1	<1	----	----
+9.5mm	----	1	%		----	<1	<1	----	----
+19.0mm	----	1	%		----	<1	<1	----	----
+37.5mm	----	1	%		----	<1	<1	----	----
+75.0mm	----	1	%		----	<1	<1	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**19.9**	----	----	**20.4**	**20.1**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	**40**	**34**	----	----
Silt (2-60 µm)	----	1	%		----	**38**	**40**	----	----
Sand (0.06-2.00 mm)	----	1	%		----	**22**	**26**	----	----
Gravel (>2mm)	----	1	%		----	<1	<1	----	----
Cobbles (>6cm)	----	1	%		----	<1	<1	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	**2.60**	**2.61**	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**15900**	----	----	----	----
Iron	7439-89-6	50	mg/kg		**27800**	----	----	----	----
Vanadium	7440-62-2	2	mg/kg		**65**	----	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	----	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		**6.89**	----	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		**0.1**	----	----	----	----
Chromium	7440-47-3	1.0	mg/kg		**24.5**	----	----	----	----
Copper	7440-50-8	1.0	mg/kg		**27.0**	----	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		**12.4**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB11 0.5-0.8A	EB11 0.0-0.5B	EB11 0.5-0.8B	EB11 0.3V	EB11 0.7V
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-036	ES1504426-037	ES1504426-038	ES1504426-039	ES1504426-040
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Lead	7439-92-1	1.0	mg/kg		**9.3**	----	----	----	----
Manganese	7439-96-5	10	mg/kg		**298**	----	----	----	----
Nickel	7440-02-0	1.0	mg/kg		**14.6**	----	----	----	----
Selenium	7782-49-2	0.1	mg/kg		**0.6**	----	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.1	----	----	----	----
Zinc	7440-66-6	1.0	mg/kg		**51.1**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		**170**	----	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		**170**	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		**237**	----	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		**1.0**	----	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		**0.08**	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	----	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		<3	----	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	----	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	<3	<3
C10 - C14 Fraction	----	3	mg/kg		<3	----	----	----	----
C15 - C28 Fraction	----	3	mg/kg		<3	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB11 0.5-0.8A	EB11 0.0-0.5B	EB11 0.5-0.8B	EB11 0.3V	EB11 0.7V
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504426-036	ES1504426-037	ES1504426-038	ES1504426-039	ES1504426-040
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	----	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		<3	----	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	<3	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	<0.2	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	<0.2	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	<0.2	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	<0.2	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	----	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	<0.2	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	----	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	----	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	----	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	----	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	----	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	----	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	----	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	----	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	----	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	----	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	----	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	----	----	----	----
Ethion	563-12-2	10	µg/kg		<10	----	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	----	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	----	----	----	----
Malathion	121-75-5	10	µg/kg		<10	----	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	----	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB11 0.5-0.8A	EB11 0.0-0.5B	EB11 0.5-0.8B	EB11 0.3V	EB11 0.7V
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-036	ES1504426-037	ES1504426-038	ES1504426-039	ES1504426-040
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	----	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	----	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	----	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	----	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	----	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	----	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	----	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	----	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	----	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	----	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	----	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	----	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	----	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	----	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	----	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	----	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	----	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	----	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	----	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	----	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	----	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	----	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	----	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	----	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	----	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB11 0.5-0.8A	EB11 0.0-0.5B	EB11 0.5-0.8B	EB11 0.3V	EB11 0.7V
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-036	ES1504426-037	ES1504426-038	ES1504426-039	ES1504426-040
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	----	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	----	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	----	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	----	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	----	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	----	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	----	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	----	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	----	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	----	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	----	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	----	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	----	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	----	----	----	----
Perylene	198-55-0	4	µg/kg		<4	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	----	----	----	----
Coronene	191-07-1	5	µg/kg		<5	----	----	----	----
^ **Sum of PAHs**	----	4	µg/kg		<4	----	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	**87.5**	**85.1**
Toluene-D8	2037-26-5	0.1	%		----	----	----	**86.2**	**79.5**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	**86.9**	**82.7**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**76.5**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB11 0.5-0.8A	EB11 0.0-0.5B	EB11 0.5-0.8B	EB11 0.3V	EB11 0.7V
			Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504426-036	ES1504426-037	ES1504426-038	ES1504426-039	ES1504426-040
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**95.9**	----	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**73.4**	----	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**87.5**	----	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**110**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**89.5**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	**113**	----	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB14 0.0-0.5A	EB14 0.5-1.0A	EB14 0.0-0.5B	EB14 0.5-1.0B	EB14 0.3V
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-041	ES1504426-042	ES1504426-043	ES1504426-044	ES1504426-045
EA150: Particle Sizing									
+75µm	----	1	%		----	----	**38**	**4**	----
+150µm	----	1	%		----	----	**23**	**1**	----
+300µm	----	1	%		----	----	**12**	<1	----
+425µm	----	1	%		----	----	**9**	<1	----
+600µm	----	1	%		----	----	**7**	<1	----
+1180µm	----	1	%		----	----	**5**	<1	----
+2.36mm	----	1	%		----	----	**4**	<1	----
+4.75mm	----	1	%		----	----	**3**	<1	----
+9.5mm	----	1	%		----	----	**3**	<1	----
+19.0mm	----	1	%		----	----	<1	<1	----
+37.5mm	----	1	%		----	----	<1	<1	----
+75.0mm	----	1	%		----	----	<1	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**23.0**	**24.9**	----	----	**21.6**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	**30**	**45**	----
Silt (2-60 µm)	----	1	%		----	----	**29**	**52**	----
Sand (0.06-2.00 mm)	----	1	%		----	----	**37**	**3**	----
Gravel (>2mm)	----	1	%		----	----	**4**	<1	----
Cobbles (>6cm)	----	1	%		----	----	<1	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	**2.64**	**2.47**	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**21200**	**25500**	----	----	----
Iron	7439-89-6	50	mg/kg		**34100**	**35300**	----	----	----
Vanadium	7440-62-2	2	mg/kg		**73**	**83**	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		**3.28**	**6.83**	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	----	----	----
Chromium	7440-47-3	1.0	mg/kg		**27.7**	**26.7**	----	----	----
Copper	7440-50-8	1.0	mg/kg		**35.8**	**44.3**	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		**13.1**	**47.4**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB14 0.0-0.5A	EB14 0.5-1.0A	EB14 0.0-0.5B	EB14 0.5-1.0B	EB14 0.3V
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-041	ES1504426-042	ES1504426-043	ES1504426-044	ES1504426-045
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Lead	7439-92-1	1.0	mg/kg		9.0	14.9	----	----	----
Manganese	7439-96-5	10	mg/kg		168	2090	----	----	----
Nickel	7440-02-0	1.0	mg/kg		21.3	23.9	----	----	----
Selenium	7782-49-2	0.1	mg/kg		0.9	0.8	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.1	0.2	----	----	----
Zinc	7440-66-6	1.0	mg/kg		67.1	76.3	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	0.03	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		180	290	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		180	290	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		335	396	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		2.2	1.5	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		0.17	0.25	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	<3	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		<3	3	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	<5	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	3	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		<3	<3	----	----	----
C15 - C28 Fraction	----	3	mg/kg		<3	<3	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB14 0.0-0.5A	EB14 0.5-1.0A	EB14 0.0-0.5B	EB14 0.5-1.0B	EB14 0.3V
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504426-041	ES1504426-042	ES1504426-043	ES1504426-044	ES1504426-045
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	<5	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		<3	<3	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	----	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	<1	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	<1	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	<0.5	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	<10	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	<10	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	<10.0	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	<10	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	<10	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	<10	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	<10	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	<10	----	----	----
Ethion	563-12-2	10	µg/kg		<10	<10	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	<10	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	<10	----	----	----
Malathion	121-75-5	10	µg/kg		<10	<10	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	<10	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	<10	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB14 0.0-0.5A	EB14 0.5-1.0A	EB14 0.0-0.5B	EB14 0.5-1.0B	EB14 0.3V
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504426-041	ES1504426-042	ES1504426-043	ES1504426-044	ES1504426-045
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	<10	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	<10	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	<10	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	<10	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	<0.50	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	<0.50	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	<0.50	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	<0.50	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	<0.50	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	<0.25	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	<0.50	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	<0.25	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	<0.25	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	<0.25	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	<0.50	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	<5.0	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB14 0.0-0.5A	EB14 0.5-1.0A	EB14 0.0-0.5B	EB14 0.5-1.0B	EB14 0.3V
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-041	ES1504426-042	ES1504426-043	ES1504426-044	ES1504426-045
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	<5.0	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	<5	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	<5	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	<4	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	<4	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	<4	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	<4	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	<4	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	<4	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	<4	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	<4	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	<4	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	<4	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	<4	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	<4	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	<4	----	----	----
Perylene	198-55-0	4	µg/kg		<4	<4	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	<4	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	<4	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	<4	----	----	----
Coronene	191-07-1	5	µg/kg		<5	<5	----	----	----
^ **Sum of PAHs**	----	4	µg/kg		<4	<4	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	----	**90.1**
Toluene-D8	2037-26-5	0.1	%		----	----	----	----	**88.4**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	----	**88.0**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**54.6**	**61.2**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB14 0.0-0.5A	EB14 0.5-1.0A	EB14 0.0-0.5B	EB14 0.5-1.0B	EB14 0.3V
			Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504426-041	ES1504426-042	ES1504426-043	ES1504426-044	ES1504426-045
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**96.4**	**79.6**	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**65.7**	**47.8**	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**62.5**	**62.5**	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**114**	**84.8**	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**87.3**	**84.6**	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	**114**	**106**	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB14 0.7V	EB15 0.0-0.6A	EB15 0.0-0.6B	EB15 0.3V	EB26 0.0-0.5A
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-046	ES1504426-047	ES1504426-048	ES1504426-049	ES1504426-050
EA150: Particle Sizing									
+75µm	----	1	%		----	----	**16**	----	----
+150µm	----	1	%		----	----	**9**	----	----
+300µm	----	1	%		----	----	**4**	----	----
+425µm	----	1	%		----	----	**4**	----	----
+600µm	----	1	%		----	----	**3**	----	----
+1180µm	----	1	%		----	----	**2**	----	----
+2.36mm	----	1	%		----	----	<1	----	----
+4.75mm	----	1	%		----	----	<1	----	----
+9.5mm	----	1	%		----	----	<1	----	----
+19.0mm	----	1	%		----	----	<1	----	----
+37.5mm	----	1	%		----	----	<1	----	----
+75.0mm	----	1	%		----	----	<1	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**23.4**	**22.5**	----	**20.5**	**17.8**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	**51**	----	----
Silt (2-60 µm)	----	1	%		----	----	**30**	----	----
Sand (0.06-2.00 mm)	----	1	%		----	----	**18**	----	----
Gravel (>2mm)	----	1	%		----	----	**1**	----	----
Cobbles (>6cm)	----	1	%		----	----	<1	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	**2.59**	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	**11000**	----	----	**5600**
Iron	7439-89-6	50	mg/kg		----	**17900**	----	----	**11000**
Vanadium	7440-62-2	2	mg/kg		----	**39**	----	----	**29**
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	<0.50	----	----	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	**8.36**	----	----	**6.88**
Cadmium	7440-43-9	0.1	mg/kg		----	<0.1	----	----	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	**19.0**	----	----	**9.6**
Copper	7440-50-8	1.0	mg/kg		----	**16.5**	----	----	**7.5**
Cobalt	7440-48-4	0.5	mg/kg		----	**9.6**	----	----	**5.0**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB14 0.7V	EB15 0.0-0.6A	EB15 0.0-0.6B	EB15 0.3V	EB26 0.0-0.5A
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504426-046	ES1504426-047	ES1504426-048	ES1504426-049	ES1504426-050
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Lead	7439-92-1	1.0	mg/kg		----	**6.0**	----	----	**2.8**
Manganese	7439-96-5	10	mg/kg		----	**436**	----	----	**234**
Nickel	7440-02-0	1.0	mg/kg		----	**10.1**	----	----	**5.7**
Selenium	7782-49-2	0.1	mg/kg		----	**0.5**	----	----	**0.2**
Silver	7440-22-4	0.1	mg/kg		----	<0.1	----	----	<0.1
Zinc	7440-66-6	1.0	mg/kg		----	**29.3**	----	----	**14.8**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	<0.01	----	----	<0.01
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	<0.1	----	----	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	----	----	**0.1**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	----	----	**0.1**
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	**210**	----	----	**60**
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	**210**	----	----	**60**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	**407**	----	----	**188**
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	**1.5**	----	----	**0.7**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	**0.09**	----	----	**0.04**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	<3	----	----	<3
>C16 - C34 Fraction	----	3	mg/kg		----	**14**	----	----	**4**
>C34 - C40 Fraction	----	5	mg/kg		----	**6**	----	----	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	**20**	----	----	**4**
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	----	----	<3	----
C10 - C14 Fraction	----	3	mg/kg		----	<3	----	----	<3
C15 - C28 Fraction	----	3	mg/kg		----	**7**	----	----	<3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB14 0.7V	EB15 0.0-0.6A	EB15 0.0-0.6B	EB15 0.3V	EB26 0.0-0.5A
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-046	ES1504426-047	ES1504426-048	ES1504426-049	ES1504426-050
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	10	----	----	<5
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	17	----	----	<3
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	----	----	<3	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	<0.2	----
Toluene	108-88-3	0.2	mg/kg		<0.2	----	----	<0.2	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	----	----	<0.2	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	----	----	<0.2	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	----	----	<0.2	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	----	----	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	<0.2	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	<1	----	----	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	<1	----	----	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	<0.5	----	----	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	<10	----	----	<10
Carbophenothion	786-19-6	10	µg/kg		----	<10	----	----	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	<10.0	----	----	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	<10	----	----	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	<10	----	----	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	<10	----	----	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	<10	----	----	<10
Diazinon	333-41-5	10	µg/kg		----	<10	----	----	<10
Dichlorvos	62-73-7	10	µg/kg		----	<10	----	----	<10
Dimethoate	60-51-5	10	µg/kg		----	<10	----	----	<10
Ethion	563-12-2	10	µg/kg		----	<10	----	----	<10
Fenamiphos	22224-92-6	10	µg/kg		----	<10	----	----	<10
Fenthion	55-38-9	10	µg/kg		----	<10	----	----	<10
Malathion	121-75-5	10	µg/kg		----	<10	----	----	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	<10	----	----	<10
Monocrotophos	6923-22-4	10	µg/kg		----	<10	----	----	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB14 0.7V	EB15 0.0-0.6A	EB15 0.0-0.6B	EB15 0.3V	EB26 0.0-0.5A
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504426-046	ES1504426-047	ES1504426-048	ES1504426-049	ES1504426-050
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	<10	----	----	<10
Parathion-methyl	298-00-0	10	µg/kg		----	<10	----	----	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	<10	----	----	<10
Prothiofos	34643-46-4	10	µg/kg		----	<10	----	----	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	<0.50	----	----	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	<0.50	----	----	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	<0.50	----	----	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	<0.50	----	----	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	<0.50	----	----	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	<0.50	----	----	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	<0.50	----	----	<0.50
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	<0.50	----	----	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	<0.50	----	----	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	<0.50	----	----	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	<0.50	----	----	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	<0.50	----	----	<0.50
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	<0.50	----	----	<0.50
Endrin	72-20-8	0.50	µg/kg		----	<0.50	----	----	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	<0.50	----	----	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	<0.50	----	----	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	<0.50	----	----	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	<0.50	----	----	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	<0.50	----	----	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	<0.25	----	----	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	<0.50	----	----	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	<0.25	----	----	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	<0.25	----	----	<0.25
^ Total Chlordane (sum)	----	0.25	µg/kg		----	<0.25	----	----	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	<0.50	----	----	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	<5.0	----	----	<5.0

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB14 0.7V	EB15 0.0-0.6A	EB15 0.0-0.6B	EB15 0.3V	EB26 0.0-0.5A
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-046	ES1504426-047	ES1504426-048	ES1504426-049	ES1504426-050
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	<5.0	----	----	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	<5	----	----	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	<5	----	----	<5
Acenaphthylene	208-96-8	4	µg/kg		----	<4	----	----	<4
Acenaphthene	83-32-9	4	µg/kg		----	<4	----	----	<4
Fluorene	86-73-7	4	µg/kg		----	<4	----	----	<4
Phenanthrene	85-01-8	4	µg/kg		----	<4	----	----	<4
Anthracene	120-12-7	4	µg/kg		----	<4	----	----	<4
Fluoranthene	206-44-0	4	µg/kg		----	<4	----	----	<4
Pyrene	129-00-0	4	µg/kg		----	<4	----	----	<4
Benz(a)anthracene	56-55-3	4	µg/kg		----	<4	----	----	<4
Chrysene	218-01-9	4	µg/kg		----	<4	----	----	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	<4	----	----	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	<4	----	----	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		----	<4	----	----	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		----	<4	----	----	<4
Perylene	198-55-0	4	µg/kg		----	<4	----	----	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	<4	----	----	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	<4	----	----	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	<4	----	----	<4
Coronene	191-07-1	5	µg/kg		----	<5	----	----	<5
^ **Sum of PAHs**	----	4	µg/kg		----	<4	----	----	<4
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**83.5**	----	----	**92.7**	----
Toluene-D8	2037-26-5	0.1	%		**84.9**	----	----	**88.7**	----
4-Bromofluorobenzene	460-00-4	0.1	%		**85.0**	----	----	**88.1**	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	**40.6**	----	----	**69.1**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB14 0.7V	EB15 0.0-0.6A	EB15 0.0-0.6B	EB15 0.3V	EB26 0.0-0.5A
			Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504426-046	ES1504426-047	ES1504426-048	ES1504426-049	ES1504426-050
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	74.9	----	----	68.5
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	45.9	----	----	35.8
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	62.5	----	----	62.5
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	95.0	----	----	85.2
Anthracene-d10	1719-06-8	0.1	%	----	85.4	----	----	82.5
4-Terphenyl-d14	1718-51-0	0.1	%	----	116	----	----	112

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB26 0.5-1.0A	EB26 0.0-0.5B	EB26 0.5-1.0B	EB26 0.3V	EB26 0.7V
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-051	ES1504426-052	ES1504426-053	ES1504426-054	ES1504426-055
EA150: Particle Sizing									
+75µm	----	1	%		----	**91**	**64**	----	----
+150µm	----	1	%		----	**84**	**54**	----	----
+300µm	----	1	%		----	**61**	**40**	----	----
+425µm	----	1	%		----	**44**	**32**	----	----
+600µm	----	1	%		----	**30**	**25**	----	----
+1180µm	----	1	%		----	**15**	**16**	----	----
+2.36mm	----	1	%		----	**8**	**9**	----	----
+4.75mm	----	1	%		----	**5**	**6**	----	----
+9.5mm	----	1	%		----	**2**	**6**	----	----
+19.0mm	----	1	%		----	<1	<1	----	----
+37.5mm	----	1	%		----	<1	<1	----	----
+75.0mm	----	1	%		----	<1	<1	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**18.3**	----	----	**15.4**	**20.8**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	**6**	**19**	----	----
Silt (2-60 µm)	----	1	%		----	**3**	**15**	----	----
Sand (0.06-2.00 mm)	----	1	%		----	**81**	**55**	----	----
Gravel (>2mm)	----	1	%		----	**10**	**11**	----	----
Cobbles (>6cm)	----	1	%		----	<1	<1	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	**2.68**	**2.65**	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**16500**	----	----	----	----
Iron	7439-89-6	50	mg/kg		**27900**	----	----	----	----
Vanadium	7440-62-2	2	mg/kg		**58**	----	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	----	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		**4.41**	----	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	----	----	----	----
Chromium	7440-47-3	1.0	mg/kg		**22.1**	----	----	----	----
Copper	7440-50-8	1.0	mg/kg		**24.4**	----	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		**10.4**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB26 0.5-1.0A	EB26 0.0-0.5B	EB26 0.5-1.0B	EB26 0.3V	EB26 0.7V
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-051	ES1504426-052	ES1504426-053	ES1504426-054	ES1504426-055
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Lead	7439-92-1	1.0	mg/kg		**8.0**	----	----	----	----
Manganese	7439-96-5	10	mg/kg		**232**	----	----	----	----
Nickel	7440-02-0	1.0	mg/kg		**14.1**	----	----	----	----
Selenium	7782-49-2	0.1	mg/kg		**0.7**	----	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.1	----	----	----	----
Zinc	7440-66-6	1.0	mg/kg		**51.2**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		**170**	----	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		**170**	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		**233**	----	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		**4.3**	----	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		**0.10**	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	----	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		**7**	----	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	----	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		**7**	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	<3	<3
C10 - C14 Fraction	----	3	mg/kg		<3	----	----	----	----
C15 - C28 Fraction	----	3	mg/kg		**4**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB26 0.5-1.0A	EB26 0.0-0.5B	EB26 0.5-1.0B	EB26 0.3V	EB26 0.7V
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-051	ES1504426-052	ES1504426-053	ES1504426-054	ES1504426-055
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	----	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		4	----	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	<3	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	<0.2	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	<0.2	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	<0.2	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	<0.2	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	----	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	<0.2	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	----	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	----	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	----	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	----	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	----	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	----	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	----	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	----	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	----	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	----	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	----	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	----	----	----	----
Ethion	563-12-2	10	µg/kg		<10	----	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	----	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	----	----	----	----
Malathion	121-75-5	10	µg/kg		<10	----	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	----	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB26 0.5-1.0A	EB26 0.0-0.5B	EB26 0.5-1.0B	EB26 0.3V	EB26 0.7V
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-051	ES1504426-052	ES1504426-053	ES1504426-054	ES1504426-055
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	----	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	----	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	----	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	----	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	----	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	----	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	----	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	----	----	----	----
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		<0.50	----	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	----	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	----	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	----	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	----	----	----	----
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		<0.50	----	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	----	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	----	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	----	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	----	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	----	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	----	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	----	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	----	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	----	----	----	----
^ **Total Chlordane (sum)**	----	0.25	µg/kg		<0.25	----	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB26 0.5-1.0A	EB26 0.0-0.5B	EB26 0.5-1.0B	EB26 0.3V	EB26 0.7V
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504426-051	ES1504426-052	ES1504426-053	ES1504426-054	ES1504426-055
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	----	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	----	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	----	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	----	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	----	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	----	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	----	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	----	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	----	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	----	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	----	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	----	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	----	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	----	----	----	----
Perylene	198-55-0	4	µg/kg		<4	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	----	----	----	----
Coronene	191-07-1	5	µg/kg		<5	----	----	----	----
^ Sum of PAHs	----	4	µg/kg		<4	----	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	**92.3**	**89.1**
Toluene-D8	2037-26-5	0.1	%		----	----	----	**89.1**	**87.2**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	**87.9**	**86.2**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**69.6**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB26 0.5-1.0A	EB26 0.0-0.5B	EB26 0.5-1.0B	EB26 0.3V	EB26 0.7V
			Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504426-051	ES1504426-052	ES1504426-053	ES1504426-054	ES1504426-055
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**76.4**	----	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**49.1**	----	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**75.0**	----	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**102**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**98.6**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	**121**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TRIPLICATE 12B	TRIPLICATE 13A	TRIPLICATE 13B	DUPLICATE 6A	TRIP BLANK 14
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504426-056	ES1504426-057	ES1504426-058	ES1504426-059	ES1504426-060
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		24.8	16.9	18.6	22.3	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		6310	5130	4210	7800	----
Iron	7439-89-6	50	mg/kg		13100	8860	8810	14500	----
Vanadium	7440-62-2	2	mg/kg		24	32	23	35	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	<0.50	<0.50	----
Arsenic	7440-38-2	1.00	mg/kg		13.0	8.16	4.38	9.64	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	----
Chromium	7440-47-3	1.0	mg/kg		13.4	8.1	6.5	15.8	----
Copper	7440-50-8	1.0	mg/kg		3.0	9.8	7.6	8.1	----
Cobalt	7440-48-4	0.5	mg/kg		5.6	6.3	4.2	5.8	----
Lead	7439-92-1	1.0	mg/kg		3.0	2.5	1.8	4.8	----
Manganese	7439-96-5	10	mg/kg		421	176	132	237	----
Nickel	7440-02-0	1.0	mg/kg		5.1	6.9	4.3	6.9	----
Selenium	7782-49-2	0.1	mg/kg		0.4	0.2	0.2	0.4	----
Silver	7440-22-4	0.1	mg/kg		<0.1	<0.1	0.2	<0.1	----
Zinc	7440-66-6	1.0	mg/kg		12.4	16.2	12.1	19.5	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	<0.01	<0.01	<0.01	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	0.1	0.1	<0.1	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	0.1	0.1	<0.1	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		110	40	30	220	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		110	40	30	220	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		176	144	115	247	----
EK255A SD Ammonia in Sediment									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	TRIPLICATE 12B	TRIPLICATE 13A	TRIPLICATE 13B	DUPLICATE 6A	TRIP BLANK 14
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-056	ES1504426-057	ES1504426-058	ES1504426-059	ES1504426-060
EK255A SD Ammonia in Sediment - Continued									
Ammonia as N	7664-41-7	0.2	mg/kg		**0.8**	**0.9**	**0.5**	**0.2**	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		**0.12**	**0.09**	**0.03**	**0.09**	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	<3	<3	<3	<3
>C16 - C34 Fraction	----	3	mg/kg		**4**	<3	<3	<3	<3
>C34 - C40 Fraction	----	5	mg/kg		<5	<5	<5	<5	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		**4**	<3	<3	<3	<3
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		<3	<3	<3	<3	<3
C15 - C28 Fraction	----	3	mg/kg		<3	<3	<3	<3	<3
C29 - C36 Fraction	----	5	mg/kg		<5	<5	<5	<5	<5
^ **C10 - C36 Fraction (sum)**	----	3	mg/kg		<3	<3	<3	<3	<3
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	----	<0.2
^ **Total Xylenes**	1330-20-7	0.5	mg/kg		----	----	----	----	<0.5
^ **Sum of BTEX**	----	0.2	mg/kg		----	----	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	<1	<1	<1	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	<1	<1	<1	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	<0.5	<0.5	<0.5	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	<10	<10	<10	----
Carbophenothion	786-19-6	10	µg/kg		<10	<10	<10	<10	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	<10.0	<10.0	<10.0	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	<10	<10	<10	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	TRIPLICATE 12B	TRIPLICATE 13A	TRIPLICATE 13B	DUPLICATE 6A	TRIP BLANK 14
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-056	ES1504426-057	ES1504426-058	ES1504426-059	ES1504426-060
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Chlorpyrifos	2921-88-2	10	µg/kg		<10	<10	<10	<10	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	<10	<10	<10	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	<10	<10	<10	----
Diazinon	333-41-5	10	µg/kg		<10	<10	<10	<10	----
Dichlorvos	62-73-7	10	µg/kg		<10	<10	<10	<10	----
Dimethoate	60-51-5	10	µg/kg		<10	<10	<10	<10	----
Ethion	563-12-2	10	µg/kg		<10	<10	<10	<10	----
Fenamiphos	22224-92-6	10	µg/kg		<10	<10	<10	<10	----
Fenthion	55-38-9	10	µg/kg		<10	<10	<10	<10	----
Malathion	121-75-5	10	µg/kg		<10	<10	<10	<10	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	<10	<10	<10	----
Monocrotophos	6923-22-4	10	µg/kg		<10	<10	<10	<10	----
Parathion	56-38-2	10	µg/kg		<10	<10	<10	<10	----
Parathion-methyl	298-00-0	10	µg/kg		<10	<10	<10	<10	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	<10	<10	<10	----
Prothiofos	34643-46-4	10	µg/kg		<10	<10	<10	<10	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	----
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	----
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	----
Endrin	72-20-8	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	TRIPLICATE 12B	TRIPLICATE 13A	TRIPLICATE 13B	DUPLICATE 6A	TRIP BLANK 14
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-056	ES1504426-057	ES1504426-058	ES1504426-059	ES1504426-060
EP131A: Organochlorine Pesticides - Continued									
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	<0.25	<0.25	**0.47**	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	<0.25	<0.25	<0.25	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	<0.25	<0.25	<0.25	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	<0.25	<0.25	<0.25	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	<0.50	<0.50	<0.50	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	<5.0	<5.0	<5.0	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	<5.0	<5.0	<5.0	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	<5.0	<5.0	<5.0	----
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	<5.0	<5.0	<5.0	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	<5.0	<5.0	<5.0	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	<5.0	<5.0	<5.0	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	<5.0	<5.0	<5.0	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	<5.0	<5.0	<5.0	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	<5	<5	<5	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	<5	<5	<5	----
Acenaphthylene	208-96-8	4	µg/kg		<4	<4	<4	<4	----
Acenaphthene	83-32-9	4	µg/kg		<4	<4	<4	<4	----
Fluorene	86-73-7	4	µg/kg		<4	<4	<4	<4	----
Phenanthrene	85-01-8	4	µg/kg		<4	<4	<4	<4	----
Anthracene	120-12-7	4	µg/kg		<4	<4	<4	<4	----
Fluoranthene	206-44-0	4	µg/kg		<4	<4	<4	<4	----
Pyrene	129-00-0	4	µg/kg		<4	<4	<4	<4	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	<4	<4	<4	----
Chrysene	218-01-9	4	µg/kg		<4	<4	<4	<4	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	<4	<4	<4	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	<4	<4	<4	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	<4	<4	<4	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	<4	<4	<4	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	TRIPLICATE 12B	TRIPLICATE 13A	TRIPLICATE 13B	DUPLICATE 6A	TRIP BLANK 14
				Client sampling date / time	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00	23-FEB-2015 15:00
					ES1504426-056	ES1504426-057	ES1504426-058	ES1504426-059	ES1504426-060
EP132B: Polynuclear Aromatic Hydrocarbons - Continued									
Perylene	198-55-0	4	µg/kg		<4	<4	<4	<4	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	<4	<4	<4	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	<4	<4	<4	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	<4	<4	<4	----
Coronene	191-07-1	5	µg/kg		<5	<5	<5	<5	----
^ **Sum of PAHs**	----	4	µg/kg		<4	<4	<4	<4	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	----	**92.4**
Toluene-D8	2037-26-5	0.1	%		----	----	----	----	**93.5**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	----	**91.5**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**73.1**	**98.4**	**109**	**99.6**	----
EP130S: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%		**79.3**	**68.2**	**81.2**	**67.2**	----
EP131S: OC Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.1	%		**30.6**	**56.8**	**55.7**	**85.1**	----
EP131T: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**75.0**	**75.0**	**62.5**	**62.5**	----
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**114**	**114**	**112**	**117**	----
Anthracene-d10	1719-06-8	0.1	%		**103**	**119**	**91.4**	**92.2**	----
4-Terphenyl-d14	1718-51-0	0.1	%		**113**	**85.8**	**116**	**124**	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 14	----	----	----	----
				Client sampling date / time	23-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1504426-061	----	----	----	----
EG020T: Total Metals by ICP-MS									
Antimony	7440-36-0	0.001	mg/L		<0.001	----	----	----	----
Arsenic	7440-38-2	0.001	mg/L		<0.001	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	----	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	----	----	----	----
Manganese	7439-96-5	0.001	mg/L		<0.001	----	----	----	----
Nickel	7440-02-0	0.001	mg/L		<0.001	----	----	----	----
Silver	7440-22-4	0.001	mg/L		<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L		<0.005	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	----	----	----	----
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		<0.01	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	----	0.01	mg/L		<0.01	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		<0.01	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		<0.01	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L		<0.1	----	----	----	----
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser									
^ Total Nitrogen as N	----	0.1	mg/L		<0.1	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		<0.01	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	1	µg/L		<1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.5	µg/L		<0.5	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L		<0.5	----	----	----	----
beta-BHC	319-85-7	0.5	µg/L		<0.5	----	----	----	----
gamma-BHC	58-89-9	0.5	µg/L		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 14	----	----	----	----
				Client sampling date / time	23-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1504426-061	----	----	----	----
EP068A: Organochlorine Pesticides (OC) - Continued									
delta-BHC	319-86-8	0.5	µg/L		<0.5	----	----	----	----
Heptachlor	76-44-8	0.5	µg/L		<0.5	----	----	----	----
Aldrin	309-00-2	0.5	µg/L		<0.5	----	----	----	----
Heptachlor epoxide	1024-57-3	0.5	µg/L		<0.5	----	----	----	----
trans-Chlordane	5103-74-2	0.5	µg/L		<0.5	----	----	----	----
alpha-Endosulfan	959-98-8	0.5	µg/L		<0.5	----	----	----	----
cis-Chlordane	5103-71-9	0.5	µg/L		<0.5	----	----	----	----
Dieldrin	60-57-1	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDE	72-55-9	0.5	µg/L		<0.5	----	----	----	----
Endrin	72-20-8	0.5	µg/L		<0.5	----	----	----	----
beta-Endosulfan	33213-65-9	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDD	72-54-8	0.5	µg/L		<0.5	----	----	----	----
Endrin aldehyde	7421-93-4	0.5	µg/L		<0.5	----	----	----	----
Endosulfan sulfate	1031-07-8	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDT	50-29-3	2.0	µg/L		<2.0	----	----	----	----
Endrin ketone	53494-70-5	0.5	µg/L		<0.5	----	----	----	----
Methoxychlor	72-43-5	2.0	µg/L		<2.0	----	----	----	----
^ Total Chlordane (sum)	----	0.5	µg/L		<0.5	----	----	----	----
^ Sum of DDD + DDE + DDT	----	0.5	µg/L		<0.5	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L		<0.5	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.5	µg/L		<0.5	----	----	----	----
Demeton-S-methyl	919-86-8	0.5	µg/L		<0.5	----	----	----	----
Monocrotophos	6923-22-4	2.0	µg/L		<2.0	----	----	----	----
Dimethoate	60-51-5	0.5	µg/L		<0.5	----	----	----	----
Diazinon	333-41-5	0.5	µg/L		<0.5	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L		<0.5	----	----	----	----
Parathion-methyl	298-00-0	2.0	µg/L		<2.0	----	----	----	----
Malathion	121-75-5	0.5	µg/L		<0.5	----	----	----	----
Fenthion	55-38-9	0.5	µg/L		<0.5	----	----	----	----
Chlorpyrifos	2921-88-2	0.5	µg/L		<0.5	----	----	----	----
Parathion	56-38-2	2.0	µg/L		<2.0	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	µg/L		<0.5	----	----	----	----
Chlorfenvinphos	470-90-6	0.5	µg/L		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 14	----	----	----	----
				Client sampling date / time	23-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1504426-061	----	----	----	----
EP068B: Organophosphorus Pesticides (OP) - Continued									
Bromophos-ethyl	4824-78-6	0.5	µg/L		<0.5	----	----	----	----
Fenamiphos	22224-92-6	0.5	µg/L		<0.5	----	----	----	----
Prothiofos	34643-46-4	0.5	µg/L		<0.5	----	----	----	----
Ethion	563-12-2	0.5	µg/L		<0.5	----	----	----	----
Carbophenothion	786-19-6	0.5	µg/L		<0.5	----	----	----	----
Azinphos Methyl	86-50-0	0.5	µg/L		<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L		<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L		<1.0	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L		<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	----	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		<0.5	----	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L		<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L		<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	µg/L		<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	RINSATE 14	----	----	----	----
			Client sampling date / time	23-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1504426-061	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L	<20	----	----	----	----
>C10 - C16 Fraction	>C10_C16	100	µg/L	<100	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L	<100	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L	<100	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L	<100	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L	<100	----	----	----	----
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	----	----	----	----
Toluene	108-88-3	2	µg/L	<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	----	----	----	----
^ **Total Xylenes**	1330-20-7	2	µg/L	<2	----	----	----	----
^ **Sum of BTEX**	----	1	µg/L	<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L	<5	----	----	----	----
EP090: Organotin Compounds								
Monobutyltin	78763-54-9	5	ngSn/L	<5	----	----	----	----
Dibutyltin	1002-53-5	5	ngSn/L	<5	----	----	----	----
Tributyltin	56573-85-4	2	ngSn/L	<2	----	----	----	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**111**	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**95.9**	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**99.7**	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	**19.4**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	**29.7**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	**35.8**	----	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**44.9**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**75.0**	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	RINSATE 14	----	----	----	----
			Client sampling date / time	23-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1504426-061	----	----	----	----
EP075(SIM)T: PAH Surrogates - Continued								
4-Terphenyl-d14	1718-51-0	0.1	%	82.1	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	77.8	----	----	----	----
Toluene-D8	2037-26-5	0.1	%	93.8	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	92.9	----	----	----	----
EP090S: Organotin Surrogate								
Tripropyltin	----	0.1	%	58.3	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
EP080-SD: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	67	137
Toluene-D8	2037-26-5	74	134
4-Bromofluorobenzene	460-00-4	73	137
EP090S: Organotin Surrogate			
Tripropyltin	----	35	130
EP130S: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	14.4	102
EP131S: OC Pesticide Surrogate			
Dibromo-DDE	21655-73-2	10	119
EP131T: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	10	106
EP132T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	55	135
Anthracene-d10	1719-06-8	70	136
4-Terphenyl-d14	1718-51-0	57	127

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	28.5	129
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	30	120
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	26.8	129
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10.0	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27.4	113
4-Terphenyl-d14	1718-51-0	32	112
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128
EP090S: Organotin Surrogate			
Tripropyltin	----	8.2	108

QUALITY CONTROL REPORT

Work Order	: **ES1504426**	Page	: 1 of 42
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 25-FEB-2015
Sampler	: GK	Issue Date	: 17-MAR-2015
Order number	: 245553		
		No. of samples received	: 61
Quote number	: SY/1021/14 V2	No. of samples analysed	: 61

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Ashesh Patel	Inorganic Chemist	Sydney Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
		Sydney Organics
Peter Keyte	Newcastle Manager	Newcastle - Inorganics
Phalak Inthakesone	Laboratory Manager - Organics	Sydney Organics
Ryan Story	2IC Organic Instrument Chemist	Brisbane Organics
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils
Shobhna Chandra	Metals Coordinator	Sydney Inorganics
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA055: Moisture Content (QC Lot: 3845860)									
ES1504257-075	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	6.9	6.6	4.5	No Limit
ES1504426-056	TRIPLICATE 12B	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	24.8	24.8	0.0	0% - 20%
EA055: Moisture Content (QC Lot: 3849578)									
ES1504426-005	EB1 0.3V	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	19.3	20.0	3.6	0% - 50%
ES1504426-022	EB6 0.0-0.5A	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	25.6	25.4	0.8	0% - 20%
EA055: Moisture Content (QC Lot: 3849579)									
ES1504426-035	EB11 0.0-0.5A	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	19.7	20.2	2.9	0% - 20%
ES1504426-051	EB26 0.5-1.0A	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	18.3	19.8	7.8	0% - 50%
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3852299)									
ES1504426-001	EB1 0.0-0.5A	EG005-SD: Aluminium	7429-90-5	50	mg/kg	5450	5220	4.3	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	12000	11900	0.4	0% - 20%
ES1504426-029	EB7 0.5-1.0A	EG005-SD: Aluminium	7429-90-5	50	mg/kg	13400	12800	4.8	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	25200	24600	2.2	0% - 20%
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3852302)									
ES1504426-057	TRIPLICATE 13A	EG005-SD: Aluminium	7429-90-5	50	mg/kg	5130	4480	13.5	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	8860	10300	15.3	0% - 20%
ES1504596-021	Anonymous	EG005-SD: Aluminium	7429-90-5	50	mg/kg	21400	21600	0.6	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	32700	33100	1.1	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3852298)									
ES1504426-001	EB1 0.0-0.5A	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.5	0.4	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	5.4	5.3	2.1	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	11.1	10.9	1.5	0% - 50%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	12.0	9.0	28.2	0% - 50%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	3.2	3.0	8.9	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	4.5	4.4	3.5	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	11.0	10.4	5.5	0% - 50%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	18.4	18.1	2.0	0% - 50%
		EG020-SD: Manganese	7439-96-5	10	mg/kg	448	413	8.1	0% - 20%
ES1504426-029	EB7 0.5-1.0A	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.6	0.5	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	10.2	9.9	3.6	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3852298) - continued									
ES1504426-029	EB7 0.5-1.0A	EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	23.8	22.3	6.7	0% - 20%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	23.6	22.4	5.1	0% - 20%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	7.1	7.2	1.6	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	15.3	14.2	7.8	0% - 50%
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	47.5	45.7	3.9	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	7.73	8.56	10.1	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	161	169	4.9	0% - 50%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3852301)									
ES1504426-057	TRIPLICATE 13A	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.2	0.2	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	6.3	5.7	10.4	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	8.1	7.8	3.9	No Limit
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	9.8	7.3	29.6	No Limit
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	2.5	2.4	0.0	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	6.9	5.4	24.7	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	16.2	14.2	13.2	0% - 50%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	8.16	9.93	19.6	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	176	200	12.9	0% - 20%
ES1504596-021	Anonymous	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.6	0.6	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	0.3	<0.1	107	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	11.5	11.7	1.0	0% - 20%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	26.8	26.9	0.0	0% - 20%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	79.5	58.4	# 30.6	0% - 20%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	10.0	10.9	8.4	0% - 50%
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	18.3	18.6	1.7	0% - 50%
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	56.3	56.9	1.0	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	5.88	5.81	1.2	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	143	178	21.7	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3852297)									
ES1504426-001	EB1 0.0-0.5A	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit
ES1504426-029	EB7 0.5-1.0A	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	0.01	0.01	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3852300)									
ES1504426-057	TRIPLICATE 13A	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit
ES1504596-021	Anonymous	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	0.02	0.03	0.0	No Limit
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3847296)									

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3847296) - continued									
ES1504426-001	EB1 0.0-0.5A	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1504426-028	EB7 0.0-0.5A	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3847298)									
ES1504426-057	TRIPLICATE 13A	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3847297)									
ES1504426-001	EB1 0.0-0.5A	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1504426-028	EB7 0.0-0.5A	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3847299)									
ES1504426-057	TRIPLICATE 13A	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	0.1	0.2	0.0	No Limit
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3840143)									
ES1504275-006	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	1680	1470	13.4	0% - 20%
ES1504301-055	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	280	260	5.9	0% - 50%
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3840146)									
ES1504426-008	EB2 0.5-0.85A	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	230	240	0.0	0% - 50%
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3843006)									
ES1504426-029	EB7 0.5-1.0A	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	130	130	0.0	No Limit
ES1504426-056	TRIPLICATE 12B	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	110	90	22.1	No Limit
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3840144)									
ES1504275-006	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	149	142	5.0	0% - 20%
ES1504301-055	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	303	273	10.5	0% - 20%
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3840145)									
ES1504426-008	EB2 0.5-0.85A	EK067G: Total Phosphorus as P	----	2	mg/kg	313	324	3.5	0% - 20%
ES1504655-001	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	180	178	1.2	0% - 20%
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3843007)									
ES1504426-029	EB7 0.5-1.0A	EK067G: Total Phosphorus as P	----	2	mg/kg	395	370	6.4	0% - 20%
ES1504426-056	TRIPLICATE 12B	EK067G: Total Phosphorus as P	----	2	mg/kg	176	208	16.4	0% - 20%
EK255A SD: Ammonia in Sediment (QC Lot: 3838115)									
ES1504301-061	Anonymous	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	2.3	2.3	0.0	0% - 50%
ES1504426-019	EB5 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	0.9	1.0	15.2	No Limit
EK255A SD: Ammonia in Sediment (QC Lot: 3838116)									
ES1504426-047	EB15 0.0-0.6A	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	1.5	1.5	0.0	No Limit
EP003: Total Organic Carbon (TOC) in Soil (QC Lot: 3851088)									
ES1504426-001	EB1 0.0-0.5A	EP003: Total Organic Carbon	----	0.02	%	0.11	0.10	10.1	No Limit
ES1504426-029	EB7 0.5-1.0A	EP003: Total Organic Carbon	----	0.02	%	0.09	0.08	0.0	No Limit
EP003: Total Organic Carbon (TOC) in Soil (QC Lot: 3851089)									
ES1504426-057	TRIPLICATE 13A	EP003: Total Organic Carbon	----	0.02	%	0.09	0.09	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3838582)									
ES1504426-001	EB1 0.0-0.5A	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3838582) - continued									
ES1504426-001	EB1 0.0-0.5A	EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
ES1504426-029	EB7 0.5-1.0A	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3838589)									
ES1504426-057	TRIPLICATE 13A	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3838568)									
ES1504426-005	EB1 0.3V	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
ES1504426-031	EB7 0.7V	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3838582)									
ES1504426-001	EB1 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
ES1504426-029	EB7 0.5-1.0A	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3838589)									
ES1504426-057	TRIPLICATE 13A	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
EP080-SD: BTEXN (QC Lot: 3838568)									
ES1504426-005	EB1 0.3V	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
ES1504426-031	EB7 0.7V	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP080-SD: BTEXN (QC Lot: 3838568) - continued									
ES1504426-031	EB7 0.7V	EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP090: Organotin Compounds (QC Lot: 3838248)									
ES1504426-001	EB1 0.0-0.5A	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
ES1504426-029	EB7 0.5-1.0A	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
EP090: Organotin Compounds (QC Lot: 3838249)									
ES1504426-057	TRIPLICATE 13A	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3838572)									
ES1504426-001	EB1 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
ES1504426-029	EB7 0.5-1.0A	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3838572) - continued									
ES1504426-029	EB7 0.5-1.0A	EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3838583)									
ES1504426-057	TRIPLICATE 13A	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
EP131A: Organochlorine Pesticides (QC Lot: 3838573)									
ES1504426-001	EB1 0.0-0.5A	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP131A: Organochlorine Pesticides (QC Lot: 3838573) - continued									
ES1504426-001	EB1 0.0-0.5A	EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
ES1504426-029	EB7 0.5-1.0A	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP131A: Organochlorine Pesticides (QC Lot: 3838573) - continued									
ES1504426-029	EB7 0.5-1.0A	EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
EP131A: Organochlorine Pesticides (QC Lot: 3838584)									
ES1504426-057	TRIPLICATE 13A	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 3838574)									
ES1504426-001	EB1 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
ES1504426-029	EB7 0.5-1.0A	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 3838574) - continued									
ES1504426-029	EB7 0.5-1.0A	EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 3838585)									
ES1504426-057	TRIPLICATE 13A	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3838581)									
ES1504426-001	EB1 0.0-0.5A	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit
ES1504426-029	EB7 0.5-1.0A	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3838581) - continued									
ES1504426-029	EB7 0.5-1.0A	EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3838588)									
ES1504426-057	TRIPLICATE 13A	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	<4	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3838588) - continued									
ES1504426-057	TRIPLICATE 13A	EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020T: Total Metals by ICP-MS (QC Lot: 3844857)									
ES1504301-069	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Manganese	7439-96-5	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.0	No Limit
EG020T: Total Metals by ICP-MS (QC Lot: 3844858)									
ES1504301-069	Anonymous	EG020B-T: Silver	7440-22-4	0.001	mg/L	<0.001	<0.001	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3852037)									
ES1504942-003	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EK055G: Ammonia as N by Discrete Analyser (QC Lot: 3838545)									
ES1504426-061	RINSATE 14	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.02	66.7	No Limit
ES1504546-002	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	0.04	0.10	82.2	No Limit
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3837786)									
ES1504426-061	RINSATE 14	EK057G: Nitrite as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1504576-008	Anonymous	EK057G: Nitrite as N	----	0.01	mg/L	0.15	0.15	0.0	0% - 50%
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3838544)									
ES1504426-061	RINSATE 14	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1504546-002	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	0.12	0.12	0.0	0% - 50%
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3838535)									
ES1504426-061	RINSATE 14	EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	<0.1	<0.1	0.0	No Limit
ES1504546-003	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	1.0	1.0	0.0	No Limit
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3838536)									
ES1504426-061	RINSATE 14	EK067G: Total Phosphorus as P	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1504546-003	Anonymous	EK067G: Total Phosphorus as P	----	0.01	mg/L	0.15	0.16	0.0	0% - 50%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3843048)									
ES1504426-061	RINSATE 14	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
ES1504754-005	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3843048)									

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3843048) - continued									
ES1504426-061	RINSATE 14	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
ES1504754-005	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 3843048)									
ES1504426-061	RINSATE 14	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
ES1504754-005	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3852299)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	130	86	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	89.9	70	130
EG005-SD: Vanadium	7440-62-2	2	mg/kg	----	29.6 mg/kg	111	101	129
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3852302)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	130	86	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	86.6	70	130
EG005-SD: Vanadium	7440-62-2	2	mg/kg	----	29.6 mg/kg	102	101	129
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3852298)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	4.6 mg/kg	125	70	130
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	111	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	107	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	114	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	114	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	121	84	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	100	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	127	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	116	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	129	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	2.10 mg/kg	120	64	148
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	122	83	137
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3852301)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	4.6 mg/kg	110	70	130
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	101	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	98.2	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	108	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	106	82	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3852301) - continued								
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	103	84	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	94.7	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	106	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	106	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	121	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	2.10 mg/kg	102	64	148
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	108	83	137
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3852297)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.090 mg/kg	89.7	72	116
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3852300)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.090 mg/kg	84.1	72	116
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3847296)								
EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	87.2	82	120
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3847298)								
EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	86.5	82	120
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3847297)								
EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	100	89	115
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3847299)								
EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	98.5	89	115
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3840143)								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	<20	1000 mg/kg	83.5	64	114
				----	500 mg/kg	106	70	122
				----	100 mg/kg	109	70	127
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3840146)								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	----	100 mg/kg	93.5	70	127
				<20	1000 mg/kg	84.9	64	114
				----	500 mg/kg	104	70	122
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3843006)								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	----	500 mg/kg	110	70	122
				<20	1000 mg/kg	86.9	64	114
				----	100 mg/kg	109	70	127

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3840144)								
EK067G: Total Phosphorus as P	----	2	mg/kg	<2	442 mg/kg	82.6	68	116
				----	100 mg/kg	103	69	123
				----	44.2 mg/kg	95.0	64	124
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3840145)								
EK067G: Total Phosphorus as P	----	2	mg/kg	<2	442 mg/kg	88.3	68	116
				----	44.2 mg/kg	91.4	64	124
				----	100 mg/kg	108	69	123
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3843007)								
EK067G: Total Phosphorus as P	----	2	mg/kg	----	44.2 mg/kg	102	64	124
				<2	442 mg/kg	90.5	68	116
				----	100 mg/kg	112	69	123
EK255A SD: Ammonia in Sediment (QCLot: 3838115)								
EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	<0.2	0.1 mg/kg	86.8	70	130
EK255A SD: Ammonia in Sediment (QCLot: 3838116)								
EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	<0.2	0.1 mg/kg	86.5	70	130
EP003: Total Organic Carbon (TOC) in Soil (QCLot: 3851088)								
EP003: Total Organic Carbon	----	0.02	%	<0.02	0.11 %	98.2	70	130
EP003: Total Organic Carbon (TOC) in Soil (QCLot: 3851089)								
EP003: Total Organic Carbon	----	0.02	%	<0.02	0.11 %	99.1	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3838582)								
EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	6.25 mg/kg	92.6	70	130
EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	8.75 mg/kg	98.7	74	138
EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	3.75 mg/kg	87.6	63	131
EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3838589)								
EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	6.25 mg/kg	102	70	130
EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	8.75 mg/kg	98.8	74	138
EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	3.75 mg/kg	97.3	63	131
EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3838568)								
EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	6.2 mg/kg	90.0	61	133

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3838582)								
EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	5 mg/kg	93.1	78	118
EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	7.5 mg/kg	96.2	84	118
EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	5 mg/kg	95.9	73	119
EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3838589)								
EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	5 mg/kg	91.0	78	118
EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	7.5 mg/kg	96.0	84	118
EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	5 mg/kg	101	73	119
EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD: BTEXN (QCLot: 3838568)								
EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	0.2 mg/kg	95.7	66	122
EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	0.2 mg/kg	94.4	69	122
EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.2 mg/kg	96.3	66	126
EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	0.4 mg/kg	99.2	59	129
EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.2 mg/kg	97.1	66	126
EP090: Organotin Compounds (QCLot: 3838248)								
EP090: Monobutyltin	78763-54-9	1.0	µgSn/kg	<1	1.25 µgSn/kg	88.9	36	128
EP090: Dibutyltin	1002-53-5	1.0	µgSn/kg	<1	1.25 µgSn/kg	72.8	42	132
EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	1.25 µgSn/kg	80.4	52	139
EP090: Organotin Compounds (QCLot: 3838249)								
EP090: Monobutyltin	78763-54-9	1.0	µgSn/kg	<1	1.25 µgSn/kg	99.8	36	128
EP090: Dibutyltin	1002-53-5	1.0	µgSn/kg	<1	1.25 µgSn/kg	91.3	42	132
EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	1.25 µgSn/kg	98.1	52	139
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3838572)								
EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	50 µg/kg	76.1	45	139
EP130: Carbophenothion	786-19-6	10	µg/kg	<10	50 µg/kg	76.4	47	117
EP130: Chlorfenvinphos (E)	18708-86-6	10	µg/kg	<10.0	5 µg/kg	83.1	48	156
EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	50 µg/kg	90.9	62	136
EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	50 µg/kg	76.6	57	137

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3838572) - continued								
EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	50 µg/kg	86.7	57	121
EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	50 µg/kg	88.3	20.4	142
EP130: Diazinon	333-41-5	10	µg/kg	<10	50 µg/kg	73.1	57	121
EP130: Dichlorvos	62-73-7	10	µg/kg	<10	50 µg/kg	77.0	47	115
EP130: Dimethoate	60-51-5	10	µg/kg	<10	50 µg/kg	89.9	55	133
EP130: Ethion	563-12-2	10	µg/kg	<10	50 µg/kg	85.8	54	130
EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	50 µg/kg	84.8	57	131
EP130: Fenthion	55-38-9	10	µg/kg	<10	50 µg/kg	73.4	38	130
EP130: Malathion	121-75-5	10	µg/kg	<10	50 µg/kg	77.0	62	138
EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	50 µg/kg	101	33	137
EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	50 µg/kg	78.3	50	148
EP130: Parathion	56-38-2	10	µg/kg	<10	50 µg/kg	112	64	140
EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	50 µg/kg	77.6	56	136
EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	50 µg/kg	72.9	50	132
EP130: Prothiofos	34643-46-4	10	µg/kg	<10	50 µg/kg	79.6	55	135
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3838583)								
EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	50 µg/kg	76.9	45	139
EP130: Carbophenothion	786-19-6	10	µg/kg	<10	50 µg/kg	78.6	47	117
EP130: Chlorfenvinphos (E)	18708-86-6	10	µg/kg	<10.0	5 µg/kg	83.5	48	156
EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	50 µg/kg	91.1	62	136
EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	50 µg/kg	79.8	57	137
EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	50 µg/kg	71.7	57	121
EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	50 µg/kg	87.7	20.4	142
EP130: Diazinon	333-41-5	10	µg/kg	<10	50 µg/kg	73.5	57	121
EP130: Dichlorvos	62-73-7	10	µg/kg	<10	50 µg/kg	78.0	47	115
EP130: Dimethoate	60-51-5	10	µg/kg	<10	50 µg/kg	91.4	55	133
EP130: Ethion	563-12-2	10	µg/kg	<10	50 µg/kg	84.2	54	130
EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	50 µg/kg	85.8	57	131
EP130: Fenthion	55-38-9	10	µg/kg	<10	50 µg/kg	75.8	38	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3838583) - continued								
EP130: Malathion	121-75-5	10	µg/kg	<10	50 µg/kg	78.4	62	138
EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	50 µg/kg	100	33	137
EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	50 µg/kg	79.4	50	148
EP130: Parathion	56-38-2	10	µg/kg	<10	50 µg/kg	75.4	64	140
EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	50 µg/kg	80.8	56	136
EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	50 µg/kg	76.3	50	132
EP130: Prothiofos	34643-46-4	10	µg/kg	<10	50 µg/kg	80.6	55	135
EP131A: Organochlorine Pesticides (QCLot: 3838573)								
EP131A: Aldrin	309-00-2	0.5	µg/kg	<0.50	5 µg/kg	41.6	38	150
EP131A: alpha-BHC	319-84-6	0.5	µg/kg	<0.50	5 µg/kg	39.3	17.6	156
EP131A: beta-BHC	319-85-7	0.5	µg/kg	<0.50	5 µg/kg	47.6	30.5	152
EP131A: delta-BHC	319-86-8	0.5	µg/kg	<0.50	5 µg/kg	59.7	37	151
EP131A: 4.4`-DDD	72-54-8	0.5	µg/kg	<0.50	5 µg/kg	53.2	25.9	150
EP131A: 4.4`-DDE	72-55-9	0.5	µg/kg	<0.50	5 µg/kg	48.6	35	129
EP131A: 4.4`-DDT	50-29-3	0.5	µg/kg	<0.50	5 µg/kg	75.7	23.4	163
EP131A: Sum of DDD + DDE + DDT	----	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Dieldrin	60-57-1	0.5	µg/kg	<0.50	5 µg/kg	62.6	30.2	140
EP131A: alpha-Endosulfan	959-98-8	0.5	µg/kg	<0.50	5 µg/kg	43.2	38	140
EP131A: beta-Endosulfan	33213-65-9	0.5	µg/kg	<0.50	5 µg/kg	49.3	32	152
EP131A: Endosulfan sulfate	1031-07-8	0.5	µg/kg	<0.50	5 µg/kg	51.4	36	162
EP131A: Endosulfan (sum)	115-29-7	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Endrin	72-20-8	0.5	µg/kg	<0.50	5 µg/kg	93.9	25.8	166
EP131A: Endrin aldehyde	7421-93-4	0.5	µg/kg	<0.50	5 µg/kg	50.7	20.1	116
EP131A: Endrin ketone	53494-70-5	0.5	µg/kg	<0.50	5 µg/kg	39.7	13.4	151
EP131A: Heptachlor	76-44-8	0.5	µg/kg	<0.50	5 µg/kg	73.5	39	173
EP131A: Heptachlor epoxide	1024-57-3	0.5	µg/kg	<0.50	5 µg/kg	44.3	34	148
EP131A: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/kg	<0.50	5 µg/kg	58.0	26.1	152
EP131A: gamma-BHC	58-89-9	0.5	µg/kg	<0.50	5 µg/kg	38.8	31.2	159
EP131A: Methoxychlor	72-43-5	0.5	µg/kg	<0.50	5 µg/kg	75.3	36	160

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP131A: Organochlorine Pesticides (QCLot: 3838573) - continued								
EP131A: cis-Chlordane	5103-71-9	0.5	µg/kg	<0.50	5 µg/kg	45.0	36	142
EP131A: trans-Chlordane	5103-74-2	0.5	µg/kg	<0.50	5 µg/kg	58.1	29.5	138
EP131A: Total Chlordane (sum)	----	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Organochlorine Pesticides (QCLot: 3838584)								
EP131A: Aldrin	309-00-2	0.5	µg/kg	<0.50	5 µg/kg	59.6	38	150
EP131A: alpha-BHC	319-84-6	0.5	µg/kg	<0.50	5 µg/kg	57.8	17.6	156
EP131A: beta-BHC	319-85-7	0.5	µg/kg	<0.50	5 µg/kg	68.8	30.5	152
EP131A: delta-BHC	319-86-8	0.5	µg/kg	<0.50	5 µg/kg	85.5	37	151
EP131A: 4.4`-DDD	72-54-8	0.5	µg/kg	<0.50	5 µg/kg	78.8	25.9	150
EP131A: 4.4`-DDE	72-55-9	0.5	µg/kg	<0.50	5 µg/kg	58.3	35	129
EP131A: 4.4`-DDT	50-29-3	0.5	µg/kg	<0.50	5 µg/kg	98.2	23.4	163
EP131A: Sum of DDD + DDE + DDT	----	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Dieldrin	60-57-1	0.5	µg/kg	<0.50	5 µg/kg	83.6	30.2	140
EP131A: alpha-Endosulfan	959-98-8	0.5	µg/kg	<0.50	5 µg/kg	73.9	38	140
EP131A: beta-Endosulfan	33213-65-9	0.5	µg/kg	<0.50	5 µg/kg	75.0	32	152
EP131A: Endosulfan sulfate	1031-07-8	0.5	µg/kg	<0.50	5 µg/kg	78.2	36	162
EP131A: Endosulfan (sum)	115-29-7	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Endrin	72-20-8	0.5	µg/kg	<0.50	5 µg/kg	126	25.8	166
EP131A: Endrin aldehyde	7421-93-4	0.5	µg/kg	<0.50	5 µg/kg	57.2	20.1	116
EP131A: Endrin ketone	53494-70-5	0.5	µg/kg	<0.50	5 µg/kg	61.8	13.4	151
EP131A: Heptachlor	76-44-8	0.5	µg/kg	<0.50	5 µg/kg	110	39	173
EP131A: Heptachlor epoxide	1024-57-3	0.5	µg/kg	<0.50	5 µg/kg	63.8	34	148
EP131A: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/kg	<0.50	5 µg/kg	121	26.1	152
EP131A: gamma-BHC	58-89-9	0.5	µg/kg	<0.50	5 µg/kg	57.0	31.2	159
EP131A: Methoxychlor	72-43-5	0.5	µg/kg	<0.50	5 µg/kg	119	36	160
EP131A: cis-Chlordane	5103-71-9	0.5	µg/kg	<0.50	5 µg/kg	63.4	36	142
EP131A: trans-Chlordane	5103-74-2	0.5	µg/kg	<0.50	5 µg/kg	82.7	29.5	138
EP131A: Total Chlordane (sum)	----	0.5	µg/kg	<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3838574)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3838574) - continued								
EP131B: Total Polychlorinated biphenyls	----	5	µg/kg	<5.0	50 µg/kg	85.0	44	136
EP131B: Aroclor 1016	12674-11-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1221	11104-28-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1232	11141-16-5	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1242	53469-21-9	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1248	12672-29-6	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1254	11097-69-1	5	µg/kg	<5.0	50 µg/kg	85.0	44	136
EP131B: Aroclor 1260	11096-82-5	5	µg/kg	<5.0	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3838585)								
EP131B: Total Polychlorinated biphenyls	----	5	µg/kg	<5.0	50 µg/kg	96.2	44	136
EP131B: Aroclor 1016	12674-11-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1221	11104-28-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1232	11141-16-5	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1242	53469-21-9	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1248	12672-29-6	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1254	11097-69-1	5	µg/kg	<5.0	50 µg/kg	96.2	44	136
EP131B: Aroclor 1260	11096-82-5	5	µg/kg	<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3838581)								
EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	25 µg/kg	86.7	67	133
EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	25 µg/kg	91.2	63	135
EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	25 µg/kg	89.6	68	132
EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	25 µg/kg	94.4	67	133
EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	25 µg/kg	89.0	69	131
EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	25 µg/kg	91.0	66	138
EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	25 µg/kg	94.8	67	133
EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	25 µg/kg	96.0	64	130
EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	25 µg/kg	100	67	133
EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	25 µg/kg	82.9	65	133
EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	25 µg/kg	93.9	70	134

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3838581) - continued								
EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	25 µg/kg	86.2	63	133
EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	25 µg/kg	87.3	67	133
EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	25 µg/kg	91.2	64	130
EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	25 µg/kg	87.5	72	130
EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	25 µg/kg	89.1	70	132
EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	25 µg/kg	90.5	65	127
EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	25 µg/kg	87.6	67	135
EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	25 µg/kg	87.6	62	126
EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	25 µg/kg	99.4	66	134
EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3838588)								
EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	25 µg/kg	83.6	67	133
EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	25 µg/kg	89.8	63	135
EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	25 µg/kg	80.5	68	132
EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	25 µg/kg	90.6	67	133
EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	25 µg/kg	82.2	69	131
EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	25 µg/kg	87.2	66	138
EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	25 µg/kg	97.0	67	133
EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	25 µg/kg	124	64	130
EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	25 µg/kg	114	67	133
EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	25 µg/kg	93.9	65	133
EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	25 µg/kg	101	70	134
EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	25 µg/kg	98.5	63	133
EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	25 µg/kg	101	67	133
EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	25 µg/kg	99.4	64	130
EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	25 µg/kg	89.4	72	130
EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	25 µg/kg	95.8	70	132
EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	25 µg/kg	99.4	65	127

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3838588) - continued								
EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	25 µg/kg	90.6	67	135
EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	25 µg/kg	83.0	62	126
EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	25 µg/kg	92.9	66	134
EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 3844857)								
EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	----	----	----	----
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	96.1	79	121
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	103	83	113
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	105	84	116
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	105	83	117
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	102	84	116
EG020A-T: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	100	85	115
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	104	84	116
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	98.1	77	117
EG020T: Total Metals by ICP-MS (QCLot: 3844858)								
EG020B-T: Silver	7440-22-4	0.001	mg/L	<0.001	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3852037)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	91.6	77	115
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3838545)								
EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	1.0 mg/L	99.4	86	112
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3837786)								
EK057G: Nitrite as N	----	0.01	mg/L	<0.01	0.5 mg/L	84.2	83	119
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3838544)								
EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	0.5 mg/L	97.9	87	119
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3838535)								
EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	----	5 mg/L	97.6	66	119
				----	1.0 mg/L	78.2	66	126
				<0.1	10 mg/L	93.7	66	114

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3838536)								
EK067G: Total Phosphorus as P	----	0.01	mg/L	----	1.0 mg/L	91.2	66	124
				<0.01	4.42 mg/L	89.3	67	117
				----	0.442 mg/L	73.0	63	123
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3838700)								
EP066: Total Polychlorinated biphenyls	----	1	µg/L	<1	10 µg/L	106	61.6	107
EP068A: Organochlorine Pesticides (OC) (QCLot: 3838699)								
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	5 µg/L	107	65	107
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	5 µg/L	66.1	51	119
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	5 µg/L	94.6	63	113
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	5 µg/L	81.2	62	112
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	5 µg/L	102	60	106
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	5 µg/L	103	58	108
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	5 µg/L	103	58	114
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	5 µg/L	102	59	111
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	5 µg/L	107	62	114
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	5 µg/L	99.7	64	114
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	5 µg/L	105	62	114
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	5 µg/L	101	59	111
EP068: 4.4`-DDE	72-55-9	0.5	µg/L	<0.5	5 µg/L	90.5	63	111
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	5 µg/L	106	61	119
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	5 µg/L	108	71	119
EP068: 4.4`-DDD	72-54-8	0.5	µg/L	<0.5	5 µg/L	108	70	118
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	5 µg/L	87.4	62	112
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	5 µg/L	96.3	53	113
EP068: 4.4`-DDT	50-29-3	2.0	µg/L	<2.0	5 µg/L	96.0	52	120
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	5 µg/L	91.1	51	117
EP068: Methoxychlor	72-43-5	2.0	µg/L	<2.0	5 µg/L	95.0	53	127
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3838699)								
EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	5 µg/L	95.7	52	122
EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	5 µg/L	88.1	51	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3838699) - continued								
EP068: Monocrotophos	6923-22-4	0.5	µg/L	<2.0	5 µg/L	28.7	10	89.1
EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	5 µg/L	100	61	119
EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	5 µg/L	92.4	67	113
EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	5 µg/L	107	60	116
EP068: Parathion-methyl	298-00-0	2.0	µg/L	<2.0	5 µg/L	91.6	64	120
EP068: Malathion	121-75-5	0.5	µg/L	<0.5	5 µg/L	108	67	115
EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	5 µg/L	98.5	64	110
EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	5 µg/L	85.6	63	109
EP068: Parathion	56-38-2	2.0	µg/L	<2.0	5 µg/L	100	63	121
EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	5 µg/L	105	60	110
EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	5 µg/L	101	68	114
EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	5 µg/L	107	61	109
EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	5 µg/L	94.0	63	117
EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	5 µg/L	95.8	63	111
EP068: Ethion	563-12-2	0.5	µg/L	<0.5	5 µg/L	87.4	65	115
EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	5 µg/L	93.3	55	115
EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	5 µg/L	88.5	44	124
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3838702)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	<1.0	5 µg/L	63.2	58.6	119
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	<1.0	5 µg/L	70.7	63.6	114
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	<1.0	5 µg/L	64.8	62.2	113
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	<1.0	5 µg/L	74.2	63.9	115
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	<1.0	5 µg/L	81.7	62.6	116
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	<1.0	5 µg/L	81.1	64.3	116
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	<1.0	5 µg/L	90.8	63.6	118
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	<1.0	5 µg/L	91.5	63.1	118
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	<1.0	5 µg/L	86.9	64.1	117
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	<1.0	5 µg/L	91.6	62.5	116
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.2	µg/L	<1.0	5 µg/L	91.4	61.7	119

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3838702) - continued								
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	<1.0	5 µg/L	96.0	61.7	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	<0.5	5 µg/L	87.2	63.3	117
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.2	µg/L	<1.0	5 µg/L	88.0	59.9	118
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.2	µg/L	<1.0	5 µg/L	88.6	61.2	117
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.2	µg/L	<1.0	5 µg/L	87.6	59.1	118
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3838701)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	2000 µg/L	89.0	59	129
EP071: C15 - C28 Fraction	----	100	µg/L	<100	3000 µg/L	96.7	71	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	2000 µg/L	99.5	62	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3843048)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	100	75	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3838701)								
EP071: >C10 - C16 Fraction	>C10_C16	100	µg/L	<100	2500 µg/L	101	58.9	131
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	3500 µg/L	92.4	73.9	138
EP071: >C34 - C40 Fraction	----	50	µg/L	<100	1500 µg/L	93.8	67	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3843048)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	104	75	127
EP080: BTEXN (QCLot: 3843048)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	90.8	70	124
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	100	65	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	101	70	120
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	98.6	69	121
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	100	72	122
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	101	70	124
EP090: Organotin Compounds (QCLot: 3839472)								
EP090H: Monobutyltin	78763-54-9	2	ngSn/L	<5	50 ngSn/L	70.0	25	139
EP090H: Dibutyltin	1002-53-5	2	ngSn/L	<5	50 ngSn/L	# 36.3	50	114
EP090H: Tributyltin	56573-85-4	1	ngSn/L	<2	50 ngSn/L	# 35.1	39	120

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3852298)							
ES1504426-002	EB1 0.5-1.0A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	97.0	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	98.1	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	104	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	103	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	90.5	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	97.9	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	99.2	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3852301)							
ES1504426-058	TRIPLICATE 13B	EG020-SD: Arsenic	7440-38-2	50 mg/kg	100	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	100	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	107	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	106	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	95.5	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	103	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	103	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3852297)							
ES1504426-001	EB1 0.0-0.5A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	117	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3852300)							
ES1504426-057	TRIPLICATE 13A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	120	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3847296)							
ES1504426-001	EB1 0.0-0.5A	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	108	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3847298)							
ES1504426-057	TRIPLICATE 13A	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	108	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3847297)							
ES1504426-001	EB1 0.0-0.5A	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	122	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3847299)							
ES1504426-057	TRIPLICATE 13A	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	123	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3840143)							
ES1504275-006	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	87.0	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3840146)							
ES1504426-008	EB2 0.5-0.85A	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	93.0	70	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3843006)							
ES1504426-029	EB7 0.5-1.0A	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	84.4	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3840144)							
ES1504275-006	Anonymous	EK067G: Total Phosphorus as P	----	100 mg/kg	87.1	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3840145)							
ES1504426-008	EB2 0.5-0.85A	EK067G: Total Phosphorus as P	----	100 mg/kg	90.3	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3843007)							
ES1504426-029	EB7 0.5-1.0A	EK067G: Total Phosphorus as P	----	100 mg/kg	112	70	130
EK255A SD: Ammonia in Sediment (QCLot: 3838115)							
ES1504301-061	Anonymous	EK255A: Ammonia as N	7664-41-7	1.0 mg/kg	74.8	70	130
EK255A SD: Ammonia in Sediment (QCLot: 3838116)							
ES1504426-047	EB15 0.0-0.6A	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	80.6	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3838568)							
ES1504426-005	EB1 0.3V	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	113	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3838582)							
ES1504426-001	EB1 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	16 mg/kg	79.2	70	130
		EP071-SD: C15 - C28 Fraction	----	78.5 mg/kg	110	70	130
		EP071-SD: C29 - C36 Fraction	----	71.5 mg/kg	113	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3838589)							
ES1504426-057	TRIPLICATE 13A	EP071-SD: C10 - C14 Fraction	----	16 mg/kg	102	70	130
		EP071-SD: C15 - C28 Fraction	----	78.5 mg/kg	104	70	130
		EP071-SD: C29 - C36 Fraction	----	71.5 mg/kg	88.1	70	130
EP080-SD: BTEXN (QCLot: 3838568)							
ES1504426-005	EB1 0.3V	EP080-SD: Benzene	71-43-2	0.5 mg/kg	89.0	70	130
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	74.7	70	130
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	81.6	70	130
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	84.4	70	130
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	82.9	70	130
EP090: Organotin Compounds (QCLot: 3838248)							
ES1504426-002	EB1 0.5-1.0A	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	# 18.3	35	130
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	76.9	20	130
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	86.0	20	130
EP090: Organotin Compounds (QCLot: 3838249)							
ES1504426-058	TRIPLICATE 13B	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	65.0	35	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP090: Organotin Compounds (QCLot: 3838249) - continued							
ES1504426-058	TRIPLICATE 13B	EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	96.4	20	130
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	99.5	20	130
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3838572)							
ES1504426-001	EB1 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	75.1	36	144
		EP130: Carbophenothion	786-19-6	50 µg/kg	98.8	38	120
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	82.7	49	157
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	84.5	53	145
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	104	60	140
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	96.0	56	126
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	86.3	9.7	148
		EP130: Diazinon	333-41-5	50 µg/kg	90.5	60	122
		EP130: Dichlorvos	62-73-7	50 µg/kg	77.2	33	123
		EP130: Dimethoate	60-51-5	50 µg/kg	77.6	36	142
		EP130: Ethion	563-12-2	50 µg/kg	91.3	48	136
		EP130: Fenamiphos	22224-92-6	50 µg/kg	70.4	42	136
		EP130: Fenthion	55-38-9	50 µg/kg	83.0	35	131
		EP130: Malathion	121-75-5	50 µg/kg	87.3	55	141
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	100	23.5	132
		EP130: Monocrotophos	6923-22-4	50 µg/kg	87.4	35	153
		EP130: Parathion	56-38-2	50 µg/kg	73.2	57	147
		EP130: Parathion-methyl	298-00-0	50 µg/kg	98.2	48	140
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	83.6	45	137
		EP130: Prothiofos	34643-46-4	50 µg/kg	96.9	51	137
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3838583)							
ES1504426-057	TRIPLICATE 13A	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	69.6	36	144
		EP130: Carbophenothion	786-19-6	50 µg/kg	94.1	38	120
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	73.2	49	157
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	77.8	53	145
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	97.8	60	140
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	92.6	56	126
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	90.4	9.7	148
		EP130: Diazinon	333-41-5	50 µg/kg	87.2	60	122
		EP130: Dichlorvos	62-73-7	50 µg/kg	85.4	33	123
		EP130: Dimethoate	60-51-5	50 µg/kg	75.1	36	142
		EP130: Ethion	563-12-2	50 µg/kg	84.3	48	136
		EP130: Fenamiphos	22224-92-6	50 µg/kg	69.8	42	136
		EP130: Fenthion	55-38-9	50 µg/kg	86.8	35	131

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3838583) - continued							
ES1504426-057	TRIPLICATE 13A	EP130: Malathion	121-75-5	50 µg/kg	81.4	55	141
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	89.7	23.5	132
		EP130: Monocrotophos	6923-22-4	50 µg/kg	95.6	35	153
		EP130: Parathion	56-38-2	50 µg/kg	86.3	57	147
		EP130: Parathion-methyl	298-00-0	50 µg/kg	88.4	48	140
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	69.5	45	137
		EP130: Prothiofos	34643-46-4	50 µg/kg	88.0	51	137
EP131A: Organochlorine Pesticides (QCLot: 3838573)							
ES1504426-001	EB1 0.0-0.5A	EP131A: Aldrin	309-00-2	5 µg/kg	39.2	23.4	153
		EP131A: alpha-BHC	319-84-6	5 µg/kg	40.5	17.6	156
		EP131A: beta-BHC	319-85-7	5 µg/kg	47.6	24.9	153
		EP131A: delta-BHC	319-86-8	5 µg/kg	80.0	25.2	147
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	44.7	25.9	150
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	59.2	31.2	125
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	68.7	23.4	163
		EP131A: Dieldrin	60-57-1	5 µg/kg	57.1	30.2	140
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	52.4	28.8	135
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	47.8	22.6	141
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	53.4	16.1	156
		EP131A: Endrin	72-20-8	5 µg/kg	95.5	17.7	162
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	47.1	20.1	116
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	43.5	13.4	151
		EP131A: Heptachlor	76-44-8	5 µg/kg	82.0	23.8	170
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	41.5	28.3	140
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	54.6	17.7	144
		EP131A: gamma-BHC	58-89-9	5 µg/kg	45.8	21.8	158
		EP131A: Methoxychlor	72-43-5	5 µg/kg	70.3	24.4	158
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	42.9	27.3	139
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	57.7	29.5	138
EP131A: Organochlorine Pesticides (QCLot: 3838584)							
ES1504426-057	TRIPLICATE 13A	EP131A: Aldrin	309-00-2	5 µg/kg	37.5	23.4	153
		EP131A: alpha-BHC	319-84-6	5 µg/kg	49.6	17.6	156
		EP131A: beta-BHC	319-85-7	5 µg/kg	48.0	24.9	153
		EP131A: delta-BHC	319-86-8	5 µg/kg	63.1	25.2	147
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	46.2	25.9	150
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	38.0	31.2	125
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	74.3	23.4	163

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP131A: Organochlorine Pesticides (QCLot: 3838584) - continued							
ES1504426-057	TRIPLICATE 13A	EP131A: Dieldrin	60-57-1	5 µg/kg	50.9	30.2	140
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	39.7	28.8	135
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	45.8	22.6	141
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	51.8	16.1	156
		EP131A: Endrin	72-20-8	5 µg/kg	103	17.7	162
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	39.6	20.1	116
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	45.0	13.4	151
		EP131A: Heptachlor	76-44-8	5 µg/kg	93.8	23.8	170
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	41.4	28.3	140
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	42.5	17.7	144
		EP131A: gamma-BHC	58-89-9	5 µg/kg	41.7	21.8	158
		EP131A: Methoxychlor	72-43-5	5 µg/kg	59.0	24.4	158
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	40.2	27.3	139
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	52.2	29.5	138
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3838574)							
ES1504426-001	EB1 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	90.0	44	136
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	90.0	44	136
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3838585)							
ES1504426-057	TRIPLICATE 13A	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	88.8	44	136
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	88.8	44	136
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3838581)							
ES1504426-001	EB1 0.0-0.5A	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	84.5	70	130
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	103	70	130
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	89.1	70	130
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	92.1	70	130
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	88.2	70	130
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	84.8	70	130
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	89.4	70	130
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	91.0	70	130
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	92.0	70	130
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	106	70	130
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	102	70	130
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	102	70	130
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	92.6	70	130
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	102	70	130

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Recovery Limits (%): Low	Recovery Limits (%): High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3838581) - continued							
ES1504426-001	EB1 0.0-0.5A	EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	99.2	70	130
		EP132B-SD: Perylene	198-55-0	25 µg/kg	105	70	130
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	103	70	130
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	102	70	130
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	100	70	130
		EP132B-SD: Coronene	191-07-1	25 µg/kg	118	70	130
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3838588)							
ES1504426-057	TRIPLICATE 13A	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	87.6	70	130
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	89.1	70	130
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	86.2	70	130
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	83.9	70	130
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	102	70	130
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	88.9	70	130
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	80.6	70	130
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	118	70	130
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	117	70	130
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	87.8	70	130
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	90.7	70	130
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	99.9	70	130
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	96.0	70	130
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	94.9	70	130
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	88.0	70	130
		EP132B-SD: Perylene	198-55-0	25 µg/kg	89.1	70	130
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	108	70	130
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	95.0	70	130
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	84.6	70	130
		EP132B-SD: Coronene	191-07-1	25 µg/kg	80.9	70	130

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 3844857)							
ES1504426-061	RINSATE 14	EG020A-T: Arsenic	7440-38-2	1 mg/L	104	70	130
		EG020A-T: Cadmium	7440-43-9	0.250 mg/L	104	70	130
		EG020A-T: Chromium	7440-47-3	1 mg/L	104	70	130
		EG020A-T: Copper	7440-50-8	1 mg/L	104	70	130
		EG020A-T: Lead	7439-92-1	1 mg/L	104	70	130

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 3844857) - continued							
ES1504426-061	RINSATE 14	EG020A-T: Manganese	7439-96-5	1 mg/L	110	70	130
		EG020A-T: Nickel	7440-02-0	1 mg/L	104	70	130
		EG020A-T: Zinc	7440-66-6	1 mg/L	107	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3852037)							
ES1504426-061	RINSATE 14	EG035T: Mercury	7439-97-6	0.010 mg/L	89.0	70	130
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3838545)							
ES1504426-061	RINSATE 14	EK055G: Ammonia as N	7664-41-7	1 mg/L	101	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3837786)							
ES1504426-061	RINSATE 14	EK057G: Nitrite as N	----	0.5 mg/L	103	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3838544)							
ES1504426-061	RINSATE 14	EK059G: Nitrite + Nitrate as N	----	0.5 mg/L	98.0	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3838535)							
ES1504457-001	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	5 mg/L	79.7	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3838536)							
ES1504457-001	Anonymous	EK067G: Total Phosphorus as P	----	1.0 mg/L	71.0	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3843048)							
ES1504426-061	RINSATE 14	EP080: C6 - C9 Fraction	----	325 µg/L	113	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3843048)							
ES1504426-061	RINSATE 14	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	117	70	130
EP080: BTEXN (QCLot: 3843048)							
ES1504426-061	RINSATE 14	EP080: Benzene	71-43-2	25 µg/L	82.4	70	130
		EP080: Toluene	108-88-3	25 µg/L	93.0	70	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	95.5	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	92.1	70	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	101	70	130
		EP080: Naphthalene	91-20-3	25 µg/L	112	70	130

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

The quality control term Matrix Spike (MS) and Matrix Spike Duplicate (MSD) refers to intralaboratory split samples spiked with a representative set of target analytes. The purpose of these QC parameters are to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report: Spike Concentration	Spike Recovery (%): MS	Spike Recovery (%): MSD	Recovery Limits (%): Low	Recovery Limits (%): High	RPDs (%): Value	RPDs (%): Control Limit

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EK255A SD: Ammonia in Sediment (QCLot: 3838115)										
ES1504301-061	Anonymous	EK255A: Ammonia as N	7664-41-7	1.0 mg/kg	74.8	----	70	130	----	----
EK255A SD: Ammonia in Sediment (QCLot: 3838116)										
ES1504426-047	EB15 0.0-0.6A	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	80.6	----	70	130	----	----
EP090: Organotin Compounds (QCLot: 3838248)										
ES1504426-002	EB1 0.5-1.0A	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	# 18.3	----	35	130	----	----
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	76.9	----	20	130	----	----
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	86.0	----	20	130	----	----
EP090: Organotin Compounds (QCLot: 3838249)										
ES1504426-058	TRIPLICATE 13B	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	65.0	----	35	130	----	----
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	96.4	----	20	130	----	----
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	99.5	----	20	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3838568)										
ES1504426-005	EB1 0.3V	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	113	----	70	130	----	----
EP080-SD: BTEXN (QCLot: 3838568)										
ES1504426-005	EB1 0.3V	EP080-SD: Benzene	71-43-2	0.5 mg/kg	89.0	----	70	130	----	----
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	74.7	----	70	130	----	----
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	81.6	----	70	130	----	----
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	84.4	----	70	130	----	----
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	82.9	----	70	130	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3838572)										
ES1504426-001	EB1 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	75.1	----	36	144	----	----
		EP130: Carbophenothion	786-19-6	50 µg/kg	98.8	----	38	120	----	----
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	82.7	----	49	157	----	----
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	84.5	----	53	145	----	----
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	104	----	60	140	----	----
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	96.0	----	56	126	----	----
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	86.3	----	9.7	148	----	----
		EP130: Diazinon	333-41-5	50 µg/kg	90.5	----	60	122	----	----
		EP130: Dichlorvos	62-73-7	50 µg/kg	77.2	----	33	123	----	----
		EP130: Dimethoate	60-51-5	50 µg/kg	77.6	----	36	142	----	----
		EP130: Ethion	563-12-2	50 µg/kg	91.3	----	48	136	----	----
		EP130: Fenamiphos	22224-92-6	50 µg/kg	70.4	----	42	136	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3838572) - continued										
ES1504426-001	EB1 0.0-0.5A	EP130: Fenthion	55-38-9	50 µg/kg	83.0	----	35	131	----	----
		EP130: Malathion	121-75-5	50 µg/kg	87.3	----	55	141	----	----
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	100	----	23.5	132	----	----
		EP130: Monocrotophos	6923-22-4	50 µg/kg	87.4	----	35	153	----	----
		EP130: Parathion	56-38-2	50 µg/kg	73.2	----	57	147	----	----
		EP130: Parathion-methyl	298-00-0	50 µg/kg	98.2	----	48	140	----	----
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	83.6	----	45	137	----	----
		EP130: Prothiofos	34643-46-4	50 µg/kg	96.9	----	51	137	----	----
EP131A: Organochlorine Pesticides (QCLot: 3838573)										
ES1504426-001	EB1 0.0-0.5A	EP131A: Aldrin	309-00-2	5 µg/kg	39.2	----	23.4	153	----	----
		EP131A: alpha-BHC	319-84-6	5 µg/kg	40.5	----	17.6	156	----	----
		EP131A: beta-BHC	319-85-7	5 µg/kg	47.6	----	24.9	153	----	----
		EP131A: delta-BHC	319-86-8	5 µg/kg	80.0	----	25.2	147	----	----
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	44.7	----	25.9	150	----	----
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	59.2	----	31.2	125	----	----
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	68.7	----	23.4	163	----	----
		EP131A: Dieldrin	60-57-1	5 µg/kg	57.1	----	30.2	140	----	----
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	52.4	----	28.8	135	----	----
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	47.8	----	22.6	141	----	----
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	53.4	----	16.1	156	----	----
		EP131A: Endrin	72-20-8	5 µg/kg	95.5	----	17.7	162	----	----
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	47.1	----	20.1	116	----	----
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	43.5	----	13.4	151	----	----
		EP131A: Heptachlor	76-44-8	5 µg/kg	82.0	----	23.8	170	----	----
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	41.5	----	28.3	140	----	----
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	54.6	----	17.7	144	----	----
		EP131A: gamma-BHC	58-89-9	5 µg/kg	45.8	----	21.8	158	----	----
		EP131A: Methoxychlor	72-43-5	5 µg/kg	70.3	----	24.4	158	----	----
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	42.9	----	27.3	139	----	----
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	57.7	----	29.5	138	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3838574)										
ES1504426-001	EB1 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	90.0	----	44	136	----	----
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	90.0	----	44	136	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3838581)										
ES1504426-001	EB1 0.0-0.5A	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	84.5	----	70	130	----	----
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	103	----	70	130	----	----
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	89.1	----	70	130	----	----
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	92.1	----	70	130	----	----
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	88.2	----	70	130	----	----
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	84.8	----	70	130	----	----
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	89.4	----	70	130	----	----
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	91.0	----	70	130	----	----
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	92.0	----	70	130	----	----
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	106	----	70	130	----	----
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	102	----	70	130	----	----
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	102	----	70	130	----	----
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	92.6	----	70	130	----	----
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	102	----	70	130	----	----
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	99.2	----	70	130	----	----
		EP132B-SD: Perylene	198-55-0	25 µg/kg	105	----	70	130	----	----
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	103	----	70	130	----	----
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	102	----	70	130	----	----
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	100	----	70	130	----	----
		EP132B-SD: Coronene	191-07-1	25 µg/kg	118	----	70	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3838582)										
ES1504426-001	EB1 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	16 mg/kg	79.2	----	70	130	----	----
		EP071-SD: C15 - C28 Fraction	----	78.5 mg/kg	110	----	70	130	----	----
		EP071-SD: C29 - C36 Fraction	----	71.5 mg/kg	113	----	70	130	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3838583)										
ES1504426-057	TRIPLICATE 13A	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	69.6	----	36	144	----	----
		EP130: Carbophenothion	786-19-6	50 µg/kg	94.1	----	38	120	----	----
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	73.2	----	49	157	----	----
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	77.8	----	53	145	----	----
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	97.8	----	60	140	----	----
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	92.6	----	56	126	----	----
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	90.4	----	9.7	148	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3838583) - continued										
ES1504426-057	TRIPLICATE 13A	EP130: Diazinon	333-41-5	50 µg/kg	87.2	----	60	122	----	----
		EP130: Dichlorvos	62-73-7	50 µg/kg	85.4	----	33	123	----	----
		EP130: Dimethoate	60-51-5	50 µg/kg	75.1	----	36	142	----	----
		EP130: Ethion	563-12-2	50 µg/kg	84.3	----	48	136	----	----
		EP130: Fenamiphos	22224-92-6	50 µg/kg	69.8	----	42	136	----	----
		EP130: Fenthion	55-38-9	50 µg/kg	86.8	----	35	131	----	----
		EP130: Malathion	121-75-5	50 µg/kg	81.4	----	55	141	----	----
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	89.7	----	23.5	132	----	----
		EP130: Monocrotophos	6923-22-4	50 µg/kg	95.6	----	35	153	----	----
		EP130: Parathion	56-38-2	50 µg/kg	86.3	----	57	147	----	----
		EP130: Parathion-methyl	298-00-0	50 µg/kg	88.4	----	48	140	----	----
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	69.5	----	45	137	----	----
		EP130: Prothiofos	34643-46-4	50 µg/kg	88.0	----	51	137	----	----
EP131A: Organochlorine Pesticides (QCLot: 3838584)										
ES1504426-057	TRIPLICATE 13A	EP131A: Aldrin	309-00-2	5 µg/kg	37.5	----	23.4	153	----	----
		EP131A: alpha-BHC	319-84-6	5 µg/kg	49.6	----	17.6	156	----	----
		EP131A: beta-BHC	319-85-7	5 µg/kg	48.0	----	24.9	153	----	----
		EP131A: delta-BHC	319-86-8	5 µg/kg	63.1	----	25.2	147	----	----
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	46.2	----	25.9	150	----	----
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	38.0	----	31.2	125	----	----
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	74.3	----	23.4	163	----	----
		EP131A: Dieldrin	60-57-1	5 µg/kg	50.9	----	30.2	140	----	----
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	39.7	----	28.8	135	----	----
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	45.8	----	22.6	141	----	----
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	51.8	----	16.1	156	----	----
		EP131A: Endrin	72-20-8	5 µg/kg	103	----	17.7	162	----	----
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	39.6	----	20.1	116	----	----
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	45.0	----	13.4	151	----	----
		EP131A: Heptachlor	76-44-8	5 µg/kg	93.8	----	23.8	170	----	----
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	41.4	----	28.3	140	----	----
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	42.5	----	17.7	144	----	----
		EP131A: gamma-BHC	58-89-9	5 µg/kg	41.7	----	21.8	158	----	----
		EP131A: Methoxychlor	72-43-5	5 µg/kg	59.0	----	24.4	158	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP131A: Organochlorine Pesticides (QCLot: 3838584) - continued										
ES1504426-057	TRIPLICATE 13A	EP131A: cis-Chlordane	5103-71-9	5 µg/kg	40.2	----	27.3	139	----	----
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	52.2	----	29.5	138	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3838585)										
ES1504426-057	TRIPLICATE 13A	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	88.8	----	44	136	----	----
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	88.8	----	44	136	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3838588)										
ES1504426-057	TRIPLICATE 13A	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	87.6	----	70	130	----	----
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	89.1	----	70	130	----	----
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	86.2	----	70	130	----	----
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	83.9	----	70	130	----	----
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	102	----	70	130	----	----
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	88.9	----	70	130	----	----
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	80.6	----	70	130	----	----
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	118	----	70	130	----	----
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	117	----	70	130	----	----
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	87.8	----	70	130	----	----
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	90.7	----	70	130	----	----
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	99.9	----	70	130	----	----
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	96.0	----	70	130	----	----
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	94.9	----	70	130	----	----
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	88.0	----	70	130	----	----
		EP132B-SD: Perylene	198-55-0	25 µg/kg	89.1	----	70	130	----	----
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	108	----	70	130	----	----
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	95.0	----	70	130	----	----
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	84.6	----	70	130	----	----
		EP132B-SD: Coronene	191-07-1	25 µg/kg	80.9	----	70	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3838589)										
ES1504426-057	TRIPLICATE 13A	EP071-SD: C10 - C14 Fraction	----	16 mg/kg	102	----	70	130	----	----
		EP071-SD: C15 - C28 Fraction	----	78.5 mg/kg	104	----	70	130	----	----
		EP071-SD: C29 - C36 Fraction	----	71.5 mg/kg	88.1	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3840143)										
ES1504275-006	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	87.0	----	70	130	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3840144)										
ES1504275-006	Anonymous	EK067G: Total Phosphorus as P	----	100 mg/kg	87.1	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3840145)										
ES1504426-008	EB2 0.5-0.85A	EK067G: Total Phosphorus as P	----	100 mg/kg	90.3	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3840146)										
ES1504426-008	EB2 0.5-0.85A	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	93.0	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3843006)										
ES1504426-029	EB7 0.5-1.0A	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	84.4	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3843007)										
ES1504426-029	EB7 0.5-1.0A	EK067G: Total Phosphorus as P	----	100 mg/kg	112	----	70	130	----	----
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3847296)										
ES1504426-001	EB1 0.0-0.5A	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	108	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3847297)										
ES1504426-001	EB1 0.0-0.5A	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	122	----	70	130	----	----
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3847298)										
ES1504426-057	TRIPLICATE 13A	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	108	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3847299)										
ES1504426-057	TRIPLICATE 13A	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	123	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3852297)										
ES1504426-001	EB1 0.0-0.5A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	117	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3852298)										
ES1504426-002	EB1 0.5-1.0A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	97.0	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	98.1	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	104	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	103	----	70	130	----	----
		EG020-SD: Lead	7439-92-1	250 mg/kg	90.5	----	70	130	----	----
		EG020-SD: Nickel	7440-02-0	50 mg/kg	97.9	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	99.2	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3852300)										
ES1504426-057	TRIPLICATE 13A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	120	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3852301)										
ES1504426-058	TRIPLICATE 13B	EG020-SD: Arsenic	7440-38-2	50 mg/kg	100	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	100	----	70	130	----	----

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report: Spike Concentration	Spike Recovery (%): MS	Spike Recovery (%): MSD	Recovery Limits (%): Low	Recovery Limits (%): High	RPDs (%): Value	RPDs (%): Control Limit
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3852301) - continued										
ES1504426-058	TRIPLICATE 13B	EG020-SD: Chromium	7440-47-3	50 mg/kg	107	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	106	----	70	130	----	----
		EG020-SD: Lead	7439-92-1	250 mg/kg	95.5	----	70	130	----	----
		EG020-SD: Nickel	7440-02-0	50 mg/kg	103	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	103	----	70	130	----	----

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report: Spike Concentration	Spike Recovery (%): MS	Spike Recovery (%): MSD	Recovery Limits (%): Low	Recovery Limits (%): High	RPDs (%): Value	RPDs (%): Control Limit
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3837786)										
ES1504426-061	RINSATE 14	EK057G: Nitrite as N	----	0.5 mg/L	103	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3838535)										
ES1504457-001	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	5 mg/L	79.7	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3838536)										
ES1504457-001	Anonymous	EK067G: Total Phosphorus as P	----	1.0 mg/L	71.0	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3838544)										
ES1504426-061	RINSATE 14	EK059G: Nitrite + Nitrate as N	----	0.5 mg/L	98.0	----	70	130	----	----
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3838545)										
ES1504426-061	RINSATE 14	EK055G: Ammonia as N	7664-41-7	1 mg/L	101	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3843048)										
ES1504426-061	RINSATE 14	EP080: C6 - C9 Fraction	----	325 µg/L	113	----	70	130	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3843048)										
ES1504426-061	RINSATE 14	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	117	----	70	130	----	----
EP080: BTEXN (QCLot: 3843048)										
ES1504426-061	RINSATE 14	EP080: Benzene	71-43-2	25 µg/L	82.4	----	70	130	----	----
		EP080: Toluene	108-88-3	25 µg/L	93.0	----	70	130	----	----
		EP080: Ethylbenzene	100-41-4	25 µg/L	95.5	----	70	130	----	----
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	92.1	----	70	130	----	----
		EP080: ortho-Xylene	95-47-6	25 µg/L	101	----	70	130	----	----
		EP080: Naphthalene	91-20-3	25 µg/L	112	----	70	130	----	----
EG020T: Total Metals by ICP-MS (QCLot: 3844857)										
ES1504426-061	RINSATE 14	EG020A-T: Arsenic	7440-38-2	1 mg/L	104	----	70	130	----	----
		EG020A-T: Cadmium	7440-43-9	0.250 mg/L	104	----	70	130	----	----

Sub-Matrix: **WATER**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EG020T: Total Metals by ICP-MS (QCLot: 3844857) - continued										
ES1504426-061	RINSATE 14	EG020A-T: Chromium	7440-47-3	1 mg/L	104	----	70	130	----	----
		EG020A-T: Copper	7440-50-8	1 mg/L	104	----	70	130	----	----
		EG020A-T: Lead	7439-92-1	1 mg/L	104	----	70	130	----	----
		EG020A-T: Manganese	7439-96-5	1 mg/L	110	----	70	130	----	----
		EG020A-T: Nickel	7440-02-0	1 mg/L	104	----	70	130	----	----
		EG020A-T: Zinc	7440-66-6	1 mg/L	107	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3852037)										
ES1504426-061	RINSATE 14	EG035T: Mercury	7439-97-6	0.010 mg/L	89.0	----	70	130	----	----

ALS Environmental

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1504426**	Page	: 1 of 20
Client	: AURECON AUSTRALASIA PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 25-FEB-2015
Sampler	: GK	Issue Date	: 17-MAR-2015
Order number	: 245553		
		No. of samples received	: 61
Quote number	: SY/1021/14 V2	No. of samples analysed	: 61

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with recommended holding times (USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content							
Soil Glass Jar - Unpreserved (EA055-103)							
EB2 0.5-0.85A	**23-FEB-2015**	**----**	----	----	**03-MAR-2015**	09-MAR-2015	✓
Soil Glass Jar - Unpreserved (EA055-103)							
EB7 0.5-1.0A, TRIPLICATE 12B	**23-FEB-2015**	**----**	----	----	**04-MAR-2015**	09-MAR-2015	✓
Soil Glass Jar - Unpreserved (EA055-103)							
EB1 0.0-0.5A, EB1 0.5-1.0A, EB1 0.3V, EB1 0.7V, EB2 0.0-0.5A, EB2 0.3V, EB2 0.7V, EB3 0.0-0.7A, EB3 0.3V, EB4 0.0-0.4A, EB4 0.3V, EB5 0.0-0.5A, EB5 0.3V, EB6 0.0-0.5A, EB6 0.5-1.0A, EB6 0.3V, EB6 0.7V, EB7 0.0-0.5A, EB7 0.3V, EB7 0.7V, EB9 0.0-0.7A, EB9 0.3V, EB11 0.0-0.5A, EB11 0.5-0.8A, EB11 0.3V, EB11 0.7V, EB14 0.0-0.5A, EB14 0.5-1.0A, EB14 0.3V, EB14 0.7V, EB15 0.0-0.6A, EB15 0.3V, EB26 0.0-0.5A, EB26 0.5-1.0A, EB26 0.3V, EB26 0.7V, TRIPLICATE 13A, TRIPLICATE 13B, DUPLICATE 6A	**23-FEB-2015**	**----**	----	----	**06-MAR-2015**	09-MAR-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA150: Particle Sizing							
Snap Lock Bag (EA150H)							
EB1 0.0-0.5B, EB1 0.5-1.0B, EB2 0.0-0.5B, EB2 0.5-0.85B, EB3 0.0-0.7B, EB4 0.0-0.4B, EB5 0.0-0.5B, EB6 0.0-0.5B, EB6 0.5-1.0B, EB9 0.0-0.7B, EB11 0.0-0.5B, EB11 0.5-0.8B, EB14 0.0-0.5B, EB14 0.5-1.0B, EB15 0.0-0.6B, EB26 0.0-0.5B, EB26 0.5-1.0B	**23-FEB-2015**	**---**	22-AUG-2015	----	**12-MAR-2015**	22-AUG-2015	✓
EA150: Soil Classification based on Particle Size							
Snap Lock Bag (EA150H)							
EB1 0.0-0.5B, EB1 0.5-1.0B, EB2 0.0-0.5B, EB2 0.5-0.85B, EB3 0.0-0.7B, EB4 0.0-0.4B, EB5 0.0-0.5B, EB6 0.0-0.5B, EB6 0.5-1.0B, EB9 0.0-0.7B, EB11 0.0-0.5B, EB11 0.5-0.8B, EB14 0.0-0.5B, EB14 0.5-1.0B, EB15 0.0-0.6B, EB26 0.0-0.5B, EB26 0.5-1.0B	**23-FEB-2015**	**---**	22-AUG-2015	----	**12-MAR-2015**	22-AUG-2015	✓
EA152: Soil Particle Density							
Snap Lock Bag (EA152)							
EB1 0.0-0.5B, EB1 0.5-1.0B, EB2 0.0-0.5B, EB2 0.5-0.85B, EB3 0.0-0.7B, EB4 0.0-0.4B, EB5 0.0-0.5B, EB6 0.0-0.5B, EB6 0.5-1.0B, EB9 0.0-0.7B, EB11 0.0-0.5B, EB11 0.5-0.8B, EB14 0.0-0.5B, EB14 0.5-1.0B, EB15 0.0-0.6B, EB26 0.0-0.5B, EB26 0.5-1.0B	**23-FEB-2015**	**---**	22-AUG-2015	----	**17-MAR-2015**	22-AUG-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005-SD: Total Metals in Sediments by ICP-AES							
Soil Glass Jar - Unpreserved (EG005-SD)							
EB1 0.0-0.5A, EB1 0.5-1.0A, EB2 0.0-0.5A, EB2 0.5-0.85A, EB3 0.0-0.7A, EB4 0.0-0.4A, EB5 0.0-0.5A, EB6 0.0-0.5A, EB6 0.5-1.0A, EB7 0.0-0.5A, EB7 0.5-1.0A, EB9 0.0-0.7A, EB11 0.0-0.5A, EB11 0.5-0.8A, EB14 0.0-0.5A, EB14 0.5-1.0A, EB15 0.0-0.6A, EB26 0.0-0.5A, EB26 0.5-1.0A, TRIPLICATE 12B, TRIPLICATE 13A, TRIPLICATE 13B, DUPLICATE 6A	**23-FEB-2015**	**10-MAR-2015**	22-AUG-2015	✓	**11-MAR-2015**	22-AUG-2015	✓
EG020-SD: Total Metals in Sediments by ICPMS							
Soil Glass Jar - Unpreserved (EG020-SD)							
EB1 0.0-0.5A, EB1 0.5-1.0A, EB2 0.0-0.5A, EB2 0.5-0.85A, EB3 0.0-0.7A, EB4 0.0-0.4A, EB5 0.0-0.5A, EB6 0.0-0.5A, EB6 0.5-1.0A, EB7 0.0-0.5A, EB7 0.5-1.0A, EB9 0.0-0.7A, EB11 0.0-0.5A, EB11 0.5-0.8A, EB14 0.0-0.5A, EB14 0.5-1.0A, EB15 0.0-0.6A, EB26 0.0-0.5A, EB26 0.5-1.0A, TRIPLICATE 12B, TRIPLICATE 13A, TRIPLICATE 13B, DUPLICATE 6A	**23-FEB-2015**	**10-MAR-2015**	22-AUG-2015	✓	**11-MAR-2015**	22-AUG-2015	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T-LL)							
EB1 0.0-0.5A, EB1 0.5-1.0A, EB2 0.0-0.5A, EB2 0.5-0.85A, EB3 0.0-0.7A, EB4 0.0-0.4A, EB5 0.0-0.5A, EB6 0.0-0.5A, EB6 0.5-1.0A, EB7 0.0-0.5A, EB7 0.5-1.0A, EB9 0.0-0.7A, EB11 0.0-0.5A, EB11 0.5-0.8A, EB14 0.0-0.5A, EB14 0.5-1.0A, EB15 0.0-0.6A, EB26 0.0-0.5A, EB26 0.5-1.0A, TRIPLICATE 12B, TRIPLICATE 13A, TRIPLICATE 13B, DUPLICATE 6A	**23-FEB-2015**	**10-MAR-2015**	23-MAR-2015	✓	**11-MAR-2015**	23-MAR-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK057G: Nitrite as N by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK057G)							
EB1 0.0-0.5A, EB1 0.5-1.0A, EB2 0.0-0.5A, EB2 0.5-0.85A, EB3 0.0-0.7A, EB4 0.0-0.4A, EB5 0.0-0.5A, EB6 0.0-0.5A, EB6 0.5-1.0A, EB7 0.0-0.5A, EB7 0.5-1.0A, EB9 0.0-0.7A, EB11 0.0-0.5A, EB11 0.5-0.8A, EB14 0.0-0.5A, EB14 0.5-1.0A, EB15 0.0-0.6A, EB26 0.0-0.5A, EB26 0.5-1.0A, TRIPLICATE 12B, TRIPLICATE 13A, TRIPLICATE 13B, DUPLICATE 6A	**23-FEB-2015**	**06-MAR-2015**	22-AUG-2015	✓	**06-MAR-2015**	22-AUG-2015	✓
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK059G)							
EB1 0.0-0.5A, EB1 0.5-1.0A, EB2 0.0-0.5A, EB2 0.5-0.85A, EB3 0.0-0.7A, EB4 0.0-0.4A, EB5 0.0-0.5A, EB6 0.0-0.5A, EB6 0.5-1.0A, EB7 0.0-0.5A, EB7 0.5-1.0A, EB9 0.0-0.7A, EB11 0.0-0.5A, EB11 0.5-0.8A, EB14 0.0-0.5A, EB14 0.5-1.0A, EB15 0.0-0.6A, EB26 0.0-0.5A, EB26 0.5-1.0A, TRIPLICATE 12B, TRIPLICATE 13A, TRIPLICATE 13B, DUPLICATE 6A	**23-FEB-2015**	**06-MAR-2015**	22-AUG-2015	✓	**06-MAR-2015**	22-AUG-2015	✓
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser							
Soil Glass Jar - Unpreserved (EK061G)							
EB7 0.5-1.0A, EB9 0.0-0.7A, EB11 0.0-0.5A, EB11 0.5-0.8A, EB14 0.0-0.5A, EB14 0.5-1.0A, EB15 0.0-0.6A, EB26 0.0-0.5A, EB26 0.5-1.0A, TRIPLICATE 12B, TRIPLICATE 13A, TRIPLICATE 13B, DUPLICATE 6A	**23-FEB-2015**	**03-MAR-2015**	22-AUG-2015	✓	**03-MAR-2015**	22-AUG-2015	✓
Soil Glass Jar - Unpreserved (EK061G)							
EB1 0.0-0.5A, EB1 0.5-1.0A, EB2 0.0-0.5A, EB2 0.5-0.85A, EB3 0.0-0.7A, EB4 0.0-0.4A, EB5 0.0-0.5A, EB6 0.0-0.5A, EB6 0.5-1.0A, EB7 0.0-0.5A	**23-FEB-2015**	**27-FEB-2015**	22-AUG-2015	✓	**27-FEB-2015**	22-AUG-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK067G: Total Phosphorus as P by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK067G)							
EB7 0.5-1.0A, EB9 0.0-0.7A, EB11 0.0-0.5A, EB11 0.5-0.8A, EB14 0.0-0.5A, EB14 0.5-1.0A, EB15 0.0-0.6A, EB26 0.0-0.5A, EB26 0.5-1.0A, TRIPLICATE 12B, TRIPLICATE 13A, TRIPLICATE 13B, DUPLICATE 6A	**23-FEB-2015**	**03-MAR-2015**	22-AUG-2015	✓	**03-MAR-2015**	22-AUG-2015	✓
Soil Glass Jar - Unpreserved (EK067G)							
EB1 0.0-0.5A, EB1 0.5-1.0A, EB2 0.0-0.5A, EB2 0.5-0.85A, EB3 0.0-0.7A, EB4 0.0-0.4A, EB5 0.0-0.5A, EB6 0.0-0.5A, EB6 0.5-1.0A, EB7 0.0-0.5A	**23-FEB-2015**	**27-FEB-2015**	22-AUG-2015	✓	**27-FEB-2015**	22-AUG-2015	✓
EK255A SD Ammonia in Sediment							
Soil Glass Jar - Unpreserved (EK255A SD)							
EB1 0.0-0.5A, EB1 0.5-1.0A, EB2 0.0-0.5A, EB2 0.5-0.85A, EB3 0.0-0.7A, EB4 0.0-0.4A, EB5 0.0-0.5A, EB6 0.0-0.5A, EB6 0.5-1.0A, EB7 0.0-0.5A, EB7 0.5-1.0A, EB9 0.0-0.7A, EB11 0.0-0.5A, EB11 0.5-0.8A, EB14 0.0-0.5A, EB14 0.5-1.0A, EB15 0.0-0.6A, EB26 0.0-0.5A, EB26 0.5-1.0A, TRIPLICATE 12B, TRIPLICATE 13A, TRIPLICATE 13B, DUPLICATE 6A	**23-FEB-2015**	**----**	----	----	**26-FEB-2015**	22-AUG-2015	✓
EP003: Total Organic Carbon (TOC) in Soil							
Pulp Bag (EP003)							
EB1 0.0-0.5A, EB1 0.5-1.0A, EB2 0.0-0.5A, EB2 0.5-0.85A, EB3 0.0-0.7A, EB4 0.0-0.4A, EB5 0.0-0.5A, EB6 0.0-0.5A, EB6 0.5-1.0A, EB7 0.0-0.5A, EB7 0.5-1.0A, EB9 0.0-0.7A, EB11 0.0-0.5A, EB11 0.5-0.8A, EB14 0.0-0.5A, EB14 0.5-1.0A, EB15 0.0-0.6A, EB26 0.0-0.5A, EB26 0.5-1.0A, TRIPLICATE 12B, TRIPLICATE 13A, TRIPLICATE 13B, DUPLICATE 6A	**23-FEB-2015**	**09-MAR-2015**	23-MAR-2015	✓	**09-MAR-2015**	23-MAR-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP071-SD)								
EB1 0.0-0.5A,	EB1 0.5-1.0A,	**23-FEB-2015**	**04-MAR-2015**	09-MAR-2015	✓	**07-MAR-2015**	13-APR-2015	✓
EB2 0.0-0.5A,	EB2 0.5-0.85A,							
EB3 0.0-0.7A,	EB4 0.0-0.4A,							
EB5 0.0-0.5A,	EB6 0.0-0.5A,							
EB6 0.5-1.0A,	EB7 0.0-0.5A,							
EB7 0.5-1.0A,	EB9 0.0-0.7A,							
EB11 0.0-0.5A,	EB11 0.5-0.8A,							
EB14 0.0-0.5A,	EB14 0.5-1.0A,							
EB15 0.0-0.6A,	EB26 0.0-0.5A,							
EB26 0.5-1.0A,	TRIPLICATE 12B							
Soil Glass Jar - Unpreserved (EP071-SD)								
TRIPLICATE 13A,	TRIPLICATE 13B,	**23-FEB-2015**	**07-MAR-2015**	09-MAR-2015	✓	**07-MAR-2015**	16-APR-2015	✓
DUPLICATE 6A,	TRIP BLANK 14							
EP080-SD: BTEXN								
Soil Glass Jar - Unpreserved (EP080-SD)								
EB1 0.3V,	EB1 0.7V,	**23-FEB-2015**	**27-FEB-2015**	09-MAR-2015	✓	**09-MAR-2015**	09-MAR-2015	✓
EB2 0.3V,	EB2 0.7V,							
EB3 0.3V,	EB4 0.3V,							
EB5 0.3V,	EB6 0.3V,							
EB6 0.7V,	EB7 0.3V,							
EB7 0.7V,	EB9 0.3V,							
EB11 0.3V,	EB11 0.7V,							
EB14 0.3V,	EB14 0.7V,							
EB15 0.3V,	EB26 0.3V,							
EB26 0.7V,	TRIP BLANK 14							
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080-SD)								
EB1 0.3V,	EB1 0.7V,	**23-FEB-2015**	**27-FEB-2015**	09-MAR-2015	✓	**09-MAR-2015**	09-MAR-2015	✓
EB2 0.3V,	EB2 0.7V,							
EB3 0.3V,	EB4 0.3V,							
EB5 0.3V,	EB6 0.3V,							
EB6 0.7V,	EB7 0.3V,							
EB7 0.7V,	EB9 0.3V,							
EB11 0.3V,	EB11 0.7V,							
EB14 0.3V,	EB14 0.7V,							
EB15 0.3V,	EB26 0.3V,							
EB26 0.7V,	TRIP BLANK 14							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP090: Organotin Compounds							
Soil Glass Jar - Unpreserved (EP090)							
TRIPLICATE 13A, TRIPLICATE 13B, DUPLICATE 6A	**23-FEB-2015**	**02-MAR-2015**	09-MAR-2015	✓	**04-MAR-2015**	11-APR-2015	✓
Soil Glass Jar - Unpreserved (EP090)							
EB1 0.0-0.5A, EB1 0.5-1.0A, EB2 0.0-0.5A, EB2 0.5-0.85A, EB3 0.0-0.7A, EB4 0.0-0.4A, EB5 0.0-0.5A, EB6 0.0-0.5A, EB6 0.5-1.0A, EB7 0.0-0.5A, EB7 0.5-1.0A, EB9 0.0-0.7A, EB11 0.0-0.5A, EB11 0.5-0.8A, EB14 0.0-0.5A, EB14 0.5-1.0A, EB15 0.0-0.6A, EB26 0.0-0.5A, EB26 0.5-1.0A, TRIPLICATE 12B	**23-FEB-2015**	**05-MAR-2015**	09-MAR-2015	✓	**09-MAR-2015**	14-APR-2015	✓
EP130A: Organophosphorus Pesticides (Ultra-trace)							
Soil Glass Jar - Unpreserved (EP130)							
EB1 0.0-0.5A, EB1 0.5-1.0A, EB2 0.0-0.5A, EB2 0.5-0.85A, EB3 0.0-0.7A, EB4 0.0-0.4A, EB5 0.0-0.5A, EB6 0.0-0.5A, EB6 0.5-1.0A, EB7 0.0-0.5A, EB7 0.5-1.0A, EB9 0.0-0.7A, EB11 0.0-0.5A, EB11 0.5-0.8A, EB14 0.0-0.5A, EB14 0.5-1.0A, EB15 0.0-0.6A, EB26 0.0-0.5A, EB26 0.5-1.0A, TRIPLICATE 12B	**23-FEB-2015**	**04-MAR-2015**	09-MAR-2015	✓	**09-MAR-2015**	13-APR-2015	✓
Soil Glass Jar - Unpreserved (EP130)							
TRIPLICATE 13A, TRIPLICATE 13B, DUPLICATE 6A	**23-FEB-2015**	**09-MAR-2015**	09-MAR-2015	✓	**09-MAR-2015**	18-APR-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP131A: Organochlorine Pesticides							
Soil Glass Jar - Unpreserved (EP131A)							
EB1 0.0-0.5A, EB1 0.5-1.0A, EB2 0.0-0.5A, EB2 0.5-0.85A, EB3 0.0-0.7A, EB4 0.0-0.4A, EB5 0.0-0.5A, EB6 0.0-0.5A, EB6 0.5-1.0A, EB7 0.0-0.5A, EB7 0.5-1.0A, EB9 0.0-0.7A, EB11 0.0-0.5A, EB11 0.5-0.8A, EB14 0.0-0.5A, EB14 0.5-1.0A, EB15 0.0-0.6A, EB26 0.0-0.5A, EB26 0.5-1.0A, TRIPLICATE 12B	**23-FEB-2015**	**04-MAR-2015**	09-MAR-2015	✓	**09-MAR-2015**	13-APR-2015	✓
Soil Glass Jar - Unpreserved (EP131A)							
TRIPLICATE 13A, TRIPLICATE 13B, DUPLICATE 6A	**23-FEB-2015**	**09-MAR-2015**	09-MAR-2015	✓	**09-MAR-2015**	18-APR-2015	✓
EP131B: Polychlorinated Biphenyls (as Aroclors)							
Soil Glass Jar - Unpreserved (EP131B)							
EB1 0.0-0.5A, EB1 0.5-1.0A, EB2 0.0-0.5A, EB2 0.5-0.85A, EB3 0.0-0.7A, EB4 0.0-0.4A, EB5 0.0-0.5A, EB6 0.0-0.5A, EB6 0.5-1.0A, EB7 0.0-0.5A, EB7 0.5-1.0A, EB9 0.0-0.7A, EB11 0.0-0.5A, EB11 0.5-0.8A, EB14 0.0-0.5A, EB14 0.5-1.0A, EB15 0.0-0.6A, EB26 0.0-0.5A, EB26 0.5-1.0A, TRIPLICATE 12B	**23-FEB-2015**	**04-MAR-2015**	09-MAR-2015	✓	**09-MAR-2015**	13-APR-2015	✓
Soil Glass Jar - Unpreserved (EP131B)							
TRIPLICATE 13A, TRIPLICATE 13B, DUPLICATE 6A	**23-FEB-2015**	**09-MAR-2015**	09-MAR-2015	✓	**09-MAR-2015**	18-APR-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP132B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP132B-SD)							
EB1 0.0-0.5A, EB1 0.5-1.0A, EB2 0.0-0.5A, EB2 0.5-0.85A, EB3 0.0-0.7A, EB4 0.0-0.4A, EB5 0.0-0.5A, EB6 0.0-0.5A, EB6 0.5-1.0A, EB7 0.0-0.5A, EB7 0.5-1.0A, EB9 0.0-0.7A, EB11 0.0-0.5A, EB11 0.5-0.8A, EB14 0.0-0.5A, EB14 0.5-1.0A, EB15 0.0-0.6A, EB26 0.0-0.5A, EB26 0.5-1.0A, TRIPLICATE 12B	**23-FEB-2015**	**04-MAR-2015**	09-MAR-2015	✓	**07-MAR-2015**	13-APR-2015	✓
Soil Glass Jar - Unpreserved (EP132B-SD)							
TRIPLICATE 13A, TRIPLICATE 13B, DUPLICATE 6A	**23-FEB-2015**	**07-MAR-2015**	09-MAR-2015	✓	**07-MAR-2015**	16-APR-2015	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG020A-T)							
RINSATE 14	**23-FEB-2015**	**04-MAR-2015**	22-AUG-2015	✓	**05-MAR-2015**	22-AUG-2015	✓
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG020B-T)							
RINSATE 14	**23-FEB-2015**	**04-MAR-2015**	22-AUG-2015	✓	**05-MAR-2015**	22-AUG-2015	✓
EG035T: Total Recoverable Mercury by FIMS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG035T)							
RINSATE 14	**23-FEB-2015**	**----**	----	----	**10-MAR-2015**	23-MAR-2015	✓
EK055G: Ammonia as N by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK055G)							
RINSATE 14	**23-FEB-2015**	**---**	23-MAR-2015	----	**26-FEB-2015**	23-MAR-2015	✓
EK057G: Nitrite as N by Discrete Analyser							
Clear Plastic Bottle - Natural (EK057G)							
RINSATE 14	**23-FEB-2015**	**---**	25-FEB-2015	----	**25-FEB-2015**	25-FEB-2015	✓
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK059G)							
RINSATE 14	**23-FEB-2015**	**---**	23-MAR-2015	----	**26-FEB-2015**	23-MAR-2015	✓
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK061G)							
RINSATE 14	**23-FEB-2015**	**26-FEB-2015**	23-MAR-2015	✓	**26-FEB-2015**	23-MAR-2015	✓
EK067G: Total Phosphorus as P by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK067G)							
RINSATE 14	**23-FEB-2015**	**26-FEB-2015**	23-MAR-2015	✓	**26-FEB-2015**	23-MAR-2015	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP066: Polychlorinated Biphenyls (PCB)							
Amber Glass Bottle - Unpreserved (EP066)							
RINSATE 14	**23-FEB-2015**	**27-FEB-2015**	02-MAR-2015	✓	**02-MAR-2015**	08-APR-2015	✓
EP068A: Organochlorine Pesticides (OC)							
Amber Glass Bottle - Unpreserved (EP068)							
RINSATE 14	**23-FEB-2015**	**27-FEB-2015**	02-MAR-2015	✓	**02-MAR-2015**	08-APR-2015	✓
EP068B: Organophosphorus Pesticides (OP)							
Amber Glass Bottle - Unpreserved (EP068)							
RINSATE 14	**23-FEB-2015**	**27-FEB-2015**	02-MAR-2015	✓	**02-MAR-2015**	08-APR-2015	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
RINSATE 14	**23-FEB-2015**	**27-FEB-2015**	02-MAR-2015	✓	**02-MAR-2015**	08-APR-2015	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
RINSATE 14	**23-FEB-2015**	**27-FEB-2015**	02-MAR-2015	✓	**02-MAR-2015**	08-APR-2015	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
RINSATE 14	**23-FEB-2015**	**04-MAR-2015**	09-MAR-2015	✓	**04-MAR-2015**	09-MAR-2015	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber VOC Vial - Sulfuric Acid (EP080)							
RINSATE 14	**23-FEB-2015**	**04-MAR-2015**	09-MAR-2015	✓	**04-MAR-2015**	09-MAR-2015	✓
EP090: Organotin Compounds							
Amber Glass Bottle - Unpreserved (EP090H)							
RINSATE 14	**23-FEB-2015**	**27-FEB-2015**	02-MAR-2015	✓	**27-FEB-2015**	08-APR-2015	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Ammonia in Sediments	EK255A SD	3	27	11.1	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Moisture Content	EA055-103	6	59	10.2	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	3	26	11.5	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	3	24	12.5	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	3	23	13.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	3	23	13.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	3	16	18.8	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	3	23	13.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	3	23	13.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	5	50	10.0	9.5	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	4	36	11.1	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	4	36	11.1	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	4	36	11.1	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	3	23	13.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	6	50	12.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	3	24	12.5	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Ammonia in Sediments	EK255A SD	2	27	7.4	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	2	26	7.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	2	24	8.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	2	23	8.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	2	23	8.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	2	16	12.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	2	23	8.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	2	23	8.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	9	50	18.0	14.3	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	36	5.6	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	36	5.6	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	36	5.6	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	2	23	8.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	9	50	18.0	15.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	2	24	8.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Method Blanks (MB)							
Ammonia in Sediments	EK255A SD	2	27	7.4	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	2	26	7.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	2	24	8.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	2	23	8.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	2	23	8.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	2	16	12.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	2	23	8.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	2	23	8.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	3	50	6.0	4.8	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	36	5.6	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	36	5.6	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	36	5.6	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	2	23	8.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	3	50	6.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	2	24	8.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia in Sediments	EK255A SD	2	27	7.4	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	2	26	7.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	2	24	8.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	2	23	8.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	2	23	8.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	2	16	12.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	2	23	8.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	2	23	8.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	3	50	6.0	4.8	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	36	5.6	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	36	5.6	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	3	50	6.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	2	24	8.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Ammonia as N by Discrete analyser	EK055G	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	2	19	10.5	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP) - Continued							
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	9	**11.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	8	**12.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	5	**20.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Ammonia as N by Discrete analyser	EK055G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Compounds (Soluble)	EP090H	1	3	**33.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	5	**20.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	4	**25.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	12	**8.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	3	20	**15.0**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	8	**12.5**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	5	**20.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	3	20	**15.0**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	12	**8.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Ammonia as N by Discrete analyser	EK055G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Compounds (Soluble)	EP090H	1	3	**33.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	5	**20.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	4	**25.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	12	**8.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	8	**12.5**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	5	**20.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	12	**8.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia as N by Discrete analyser	EK055G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Matrix Spikes (MS) - Continued							
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	8	**12.5**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055-103	SOIL	In-house. A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Particle Size Analysis by Hydrometer	EA150H	SOIL	Particle Size Analysis by Hydrometer according to AS1289.3.6.3 - 2003
Soil Particle Density	* EA152	SOIL	Soil Particle Density by AS 1289.3.5.1-2006 : Methods of testing soils for engineering purposes - Soil classification tests - Determination of the soil particle density of a soil - Standard method A modification of the AS 1289.3.5.1 method may apply when testing dispersed soils also tested by AS1289.3.6.3. This modification uses the dispersion solution from AS1289.3.6.3 in place of water for density determinations
Total Fe and Al in Sediments by ICPAES	EG005-SD	SOIL	In house: Referenced to APHA 21st ed., 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3). LORs per NODG
Total Metals in Sediments by ICPMS	EG020-SD	SOIL	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector. Analyte list and LORs per NODG.
Total Mercury by FIMS (Low Level)	EG035T-LL	SOIL	In house: Referenced to AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Nitrite as N - Soluble by Discrete Analyser	EK057G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3- B. Nitrite in a water extract is determined by direct colourimetry by Discrete Analyser.
Nitrate as N - Soluble by Discrete Analyser	EK058G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3--F. Nitrate in the 1:5 soil:water extract is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results.
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3- F. Combined oxidised Nitrogen (NO2+NO3) in a water extract is determined by Chemical Reduction, and direct colourimetry by Discrete Analyser.
TKN as N By Discrete Analyser	EK061G	SOIL	In house: Referenced to APHA 21st ed., 4500-Norg-D Soil samples are digested using Kjeldahl digestion followed by determination by Discrete Analyser.
Total Nitrogen as N (TKN + NOx) By Discrete Analyser	EK062G	SOIL	In house: Referenced to APHA 21st ed., 4500 Norg/NO3- Total Nitrogen is determined as the sum of TKN and Oxidised Nitrrogen, each determined seperately as N.
Total Phosporus By Discrete Analyser	EK067G	SOIL	In house: Referenced to APHA 21st ed., 4500 P-B&F This procedure involves sulfuric acid digestion and quantification using Discrete Analyser.
Ammonia in Sediments	EK255A SD	SOIL	Rayment and Higginson (1992) Method 7C1 and 7C2. This method measures exchangeable ammonium which is defined by the amount of ammonium released by shaking sediment with an un-buffered 2M potassium chloride solution.

Analytical Methods	Method	Matrix	Method Descriptions
Total Organic Carbon	EP003	SOIL	In-house C-IR17. Dried and pulverised sample is reacted with acid to remove inorganic Carbonates, then combusted in a LECO furnace in the presence of strong oxidants / catalysts. The evolved (Organic) Carbon (as CO2) is automaticaly measured by infra-red detector.
TPH - Semivolatile Fraction	EP071-SD	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 504)
TRH Volatiles/BTEX in Sediments	EP080-SD	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve.
Organotin Analysis	EP090	SOIL	(USEPA SW 846 - 8270D) Prepared sample extracts are analysed by GC/MS coupled with high volume injection, and quanitified against an established calibration curve.
Organophosphorus Pesticides (Ultra-trace)	EP130	SOIL	USEPA Method 3640 (GPC cleanup), 8141 (GC/FPD - Capillary Column) This technique is compliant with NEPM (2013) Schedule B(3) (Method 505)
Organochlorine Pesticides (Ultra-trace)	EP131A	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (2013) Schedule B(3) (Method 504)
PCB's (Ultra-trace)	EP131B	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (2013) Schedule B(3) (Method 504)
PAHs in Sediments by GCMS(SIM)	EP132B-SD	SOIL	USEPA 8270 GCMS Capillary column, SIM mode using large volume programmed temperature vaporisation injection.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Metals by ICP-MS - Suite B	EG020B-T	WATER	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Mercury by FIMS	EG035T	WATER	In house: Referenced to AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Ammonia as N by Discrete analyser	EK055G	WATER	In house: Referenced to APHA 21st ed., 4500-NH3 G Ammonia is determined by direct colorimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Nitrite as N by Discrete Analyser	EK057G	WATER	In house: Referenced to APHA 21st ed., 4500-NO2- B. Nitrite is determined by direct colourimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Nitrate as N by Discrete Analyser	EK058G	WATER	In house: Referenced to APHA 21st ed., 4500-NO3- F. Nitrate is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results. This method is compliant with NEPM (2013) Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	WATER	In house: Referenced to APHA 21st ed., 4500-NO3- F. Combined oxidised Nitrogen (NO2+NO3) is determined by Chemical Reduction and direct colourimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	WATER	In house: Referenced to APHA 21st ed., 4500-Norg D (In house). An aliquot of sample is digested using a high temperature Kjeldahl digestion to convert nitrogenous compounds to ammonia. Ammonia is determined colorimetrically by discrete analyser. This method is compliant with NEPM (2013) Schedule B(3)
Total Nitrogen as N (TKN + Nox) By Discrete Analyser	EK062G	WATER	In house: Referenced to APHA 21st ed., 4500-Norg / 4500-NO3-. This method is compliant with NEPM (2013) Schedule B(3)
Total Phosphorus as P By Discrete Analyser	EK067G	WATER	In house: Referenced to APHA 21st ed., 4500-P H, Jirka et al (1976), Zhang et al (2006). This procedure involves sulphuric acid digestion of a sample aliquot to break phosphorus down to orthophosphate. The orthophosphate reacts with ammonium molybdate and antimony potassium tartrate to form a complex which is then reduced and its concentration measured at 880nm using discrete analyser. This method is compliant with NEPM (2013) Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Pesticides by GCMS	EP068	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
Organotin Compounds (Soluble)	EP090H	WATER	(USEPA SW 846 - 8270D, ALS QWI-ORG/EP090) Sample extracts (ALS QWI-ORG/035) are analysed by GC/MS coupled with high volume injection (10-50µL). Quantitation is achieved using internal standard and average response factor quantitation techniques against an established five-point curve. Butyltin results are reported in either "as tin" units eg. ng Sn/L or "ng TBT+/L". The analytical standards are prepared in "as tin" units. Sample results are converted to TBT+ results as required.

Preparation Methods	Method	Matrix	Method Descriptions
TKN/TP Digestion	EK061/EK067	SOIL	APHA 21st ed., 4500 Norg- D; APHA 21st ed., 4500 P - H. Macro Kjeldahl digestion.
1:5 solid / water leach for soluble analytes	EN34	SOIL	10 g of soil is mixed with 50 mL of distilled water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids/ Sample Cleanup	ORG17A-UTP	SOIL	In-house, Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. Samples are extracted, concentrated (by KD) and exchanged into an appropriate solvent for GPC and florisil cleanup as required.

Preparation Methods	Method	Matrix	Method Descriptions
Tumbler Extraction of Solids for LVI (Non-concentrating)	ORG17D	SOIL	In house: 10g of sample, Na2SO4 and surrogate are extracted with 50mL 1:1 DCM/Acetone by end over end tumbling. An aliquot is concentrated by nitrogen blowdown to a reduced volume for analysis if required.
Organotin Sample Preparation	ORG35	SOIL	In house. 20g sample is spiked with surrogate and leached in a methanol:acetic acid:UHP water mix and vacuum filtered. Reagents and solvents are added to the sample and the mixture tumbled. The butyltin compounds are simultaneously derivatised and extracted. The extract is further extracted with petroleum ether. The resultant extracts are combined and concentrated for analysis.
TKN/TP Digestion	EK061/EK067	WATER	APHA 21st ed., 4500 Norg - D; APHA 21st ed., 4500 P - H. This method is compliant with NEPM (2013) Schedule B(3)
Digestion for Total Recoverable Metals	EN25	WATER	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (2013) Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (2013) Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Organotin Sample Preparation	ORG34H	WATER	(IN HOUSE, ALS QWI-ORG/35) A specified volume (determined by the detection limit requirement) of sample is spiked with surrogate, acidified and vacuum filtered. Reagents and solvent are added to the sample and the mixture tumbled for 20 minutes. The butyltin compounds is derivitisated, extracted and the subtitution reaction is completed. The extracts is transferred to a separatory funnel and further extracted two times using petroleum ether. The resultant extracts are combined and concentrated to the desired volume for analysis.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW 846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG020-SD: Total Metals in Sediments by ICPMS	ES1504596-021	Anonymous	**Copper**	7440-50-8	30.6 %	0-20%	**RPD exceeds LOR based limits**
Matrix Spike (MS) Recoveries							
EP090: Organotin Compounds	ES1504426-002	EB1 0.5-1.0A	**Monobutyltin**	78763-54-9	18.3 %	35-130%	**Recovery less than lower data quality objective**

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP090: Organotin Compounds	4626825-002	----	**Dibutyltin**	1002-53-5	36.3 %	50-114%	**Recovery less than lower control limit**
EP090: Organotin Compounds	4626825-002	----	**Tributyltin**	56573-85-4	35.1 %	39-120%	**Recovery less than lower control limit**

- **For all matrices, no Method Blank value outliers occur.**

Regular Sample Surrogates

Sub-Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Samples Submitted							
EP090S: Organotin Surrogate	ES1504426-035	EB11 0.0-0.5A	**Tripropyltin**	----	26.5 %	35-130 %	**Recovery less than lower data quality objective**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- **No Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Frozen ice bricks present upon receipt?	Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: (1) 2 3 4 5 6 7	Random Sample Temperature on Receipt	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comment:	
SAMPLER: Georgina Kerr SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr DATE/TIME: 24-Feb-15	RECEIVED BY: Kelly Schafer DATE/TIME: 24-Feb-15 1815	RELINQUISHED BY: KSchafer DATE/TIME: 25.2.15 1600
COC emailed to ALS? (YES / NO) EDD FORMAT (or default):			RECEIVED BY: Dan. 1 DATE/TIME: 26/2 0900
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	BH5 0.0-0.5 A	24/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
2	BH5 0.0-0.5 B	24/02/2015	S	Bag (White label)	1		1							
3	BH5 0.3V	24/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

150ml A Jars and 500ml Amber sent direct to Brisbane for TOC/TBT

Subcon / Forward Lab / Split WO
Lab / Analysis: Newcastle / PSD
Organised By / Date:
Relinquished By / Date:
Connote / Courier:
WO No:
Attach By PO / Internal Sheet:

Environmental Division Sydney

Work Order

ES1504596

Telephone : +61-2-8784 8555

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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice/frozen ice brick present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 (2) 3 4 5 6 7	Random Sample Temperature on Receipt °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		24-Feb-15	24-Feb-15 1815

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 25.2.15 1600	DATE/TIME: 26/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
4	BH8 0.0-0.5 A	24/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
5	BH8 0.5-1.0 A	24/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
6	BH8 0.0-0.5 B	24/02/2015	S	Bag (White label)	1		1							
7	BH8 0.5-1.0 B	24/02/2015	S	Bag (White label)	1		1							
8	BH8 0.3V	24/02/2015	S	Glass Jar (150 ml)	1			1						
9	BH8 0.7V	24/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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ALS Laboratory: please tick →

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice/frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 (3) 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comments:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		24-Feb-15	24-Feb-15 1815	25-2-15 1600	26/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
10	BH60 0.0-0.3A	24/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1		1						PLEASE DO VOLATILES FIRST
11	BH60 0.0-0.3B	24/02/2015	S	Bag (White label)	1		1							
				TOTAL	1		1							

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No NA
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free Ice / Frozen Ice Bricks present upon receipt? Yes No NA
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 14	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		24-Feb-15	24-Feb-15 1815

RELINQUISHED BY:	RECEIVED BY:
XS	
DATE/TIME: 25-2-15 1600	DATE/TIME: 26/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
12	EB12 0.0-0.3A	24/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
13	EB12 0.0-0.3B	24/02/2015	S	Bag (White label)	1		1							
14	EB12 0.3V	24/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt		C	
Other comment:			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	Kelly Schafer	KS	Dal
DATE/TIME: 24-Feb-15	DATE/TIME: 24-Feb-15 1815	DATE/TIME: 25.2.15 1600	DATE/TIME: 26/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB, Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
15	EB16 0.0-0.4 A	24/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
16	EB16 0.0-0.4 B	24/02/2015	S	Bag (White label)	1		1							
17	EB16 0.3V	24/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Frozen Ice Bricks present upon receipt? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6	Other comments:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.feyland@aurecongroup.com		24-Feb-15	24-Feb-15 1815	25.2.15 1600

RECEIVED BY:	
	Paul
DATE/TIME:	26/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
18	EB17 0.0-0.5 A	24/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
19	EB17 0.0-0.5 B	24/02/2015	S	Bag (White label)	1		1							
20	EB17 0.3V	24/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 08 9209 7655 E: samples.perth@alsglobal.com
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Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice/frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		24-Feb-15	24-Feb-15 1815

RELINQUISHED BY:	RECEIVED BY:
KS	Daniel
DATE/TIME: 25-2-15 1600	DATE/TIME: 26/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
21	EB22 0.0-0.5 A	24/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
22	EB22 0.0-0.5 B	24/02/2015	S	Bag (White label)	1		1							
23	EB22 0.3V	24/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Frozen/Chilled Bottles present Upon receipt? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Random Sample Temperature on Receipt: °C
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6	Other comments:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6	

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		24-Feb-15	24-Feb-15 1815	25-2-15 1600

RECEIVED BY:
Dan
DATE/TIME: 26/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
24	EB27 0.0-0.7 A	24/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
25	EB27 0.0-0.7 B	24/02/2015	S	Bag (White label)	1		1							
26	EB27 0.3V	24/02/2015	S	Glass Jar (150 ml)	1			1						
27	EB27 0.7V	24/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice/ frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (9)	Random Sample Temperature on Receipt °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (11)	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 24-Feb-15	DATE/TIME: 24-Feb-15 1815
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: KS	RECEIVED BY: Dan
		DATE/TIME: 25.2.15 1600	DATE/TIME: 26/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
28	EB31 0.0-0.5 A	24/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
29	EB31 0.0-0.5 B	24/02/2015	S	Bag (White label)	1		1								
30	EB31 0.3V	24/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	4	1	1	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Frozen Ice/frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (10)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		24-Feb-15	24-Feb-15 1815

RELINQUISHED BY:	RECEIVED BY:
KS	Dan
DATE/TIME: 25-2-15 1600	DATE/TIME: 26/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		
31	EB32 0.0-0.5 A	24/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
32	EB32 0.5-1.0 A	24/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
33	EB32 0.0-0.5 B	24/02/2015	S	Bag (White label)	1		1							
34	EB32 0.5-1.0 B	24/02/2015	S	Bag (White label)	1		1							
35	EB32 0.3V	24/02/2015	S	Glass Jar (150 ml)	1			1						
36	EB32 0.7V	24/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	7	2	2	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A; Free ice / frozen ice bricks present upon receipt? Yes No N/A; Random Sample Temperature on Receipt: °C; Other comments:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (14); OF: 1 2 3 4 5 6	
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr DATE/TIME: 24-Feb-15	RECEIVED BY: Kelly Schafer DATE/TIME: 24-Feb-15 1815
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 25-2-15 1600	DATE/TIME: 26/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
37	EB33 0.0-0.5 A	24/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
38	EB33 0.5-1.0 A	24/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
39	EB33 0.0-0.5 B	24/02/2015	S	Bag (White label)	1		1								
40	EB33 0.5-1.0 B	24/02/2015	S	Bag (White label)	1		1								
41	EB33 0.3V	24/02/2015	S	Glass Jar (150 ml)	1			1							
42	EB33 0.7V	24/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	7	2	2	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: awnsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A Cooling Medium: Ice Free Ice / Frozen Ice bricks present upon arrival? Yes No N/A Random Sample Temperature on Receipt: C Other comments:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (12) OF: 1 2 3 4 5 6 (14)	
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer	RELINQUISHED BY: DS
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 24-Feb-15	DATE/TIME: 1815	DATE/TIME: 25-2-15 1600
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com				
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com				

RECEIVED BY:
Dan
DATE/TIME: 26/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
43	EB34 0.0-0.5 A	24/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
44	EB34 0.5-1.0 A	24/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
45	EB34 0.0-0.5 B	24/02/2015	S	Bag (White label)	1		1								
46	EB34 0.5-1.0 B	24/02/2015	S	Bag (White label)	1		1								
47	EB34 0.3V	24/02/2015	S	Glass Jar (150 ml)	1			1							
48	EB34 0.7V	24/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	7	2	2	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
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Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
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Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (13)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	DF: 1 2 3 4 5 6 (14)	Other comments:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer	RELINQUISHED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	DATE/TIME: 24-Feb-15	DATE/TIME: 24-Feb-15 1815	DATE/TIME: 25-2-15 1600
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com				
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com				

RECEIVED BY:	Additional Information
DATE/TIME: 26/2 0900	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
49	EB36 0.0-0.5 A	24/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
50	EB36 0.5-1.0 A	24/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
51	EB36 0.0-0.5 B	24/02/2015	S	Bag (White label)	1		1								
52	EB36 0.5-1.0 B	24/02/2015	S	Bag (White label)	1		1								
53	EB36 0.3V	24/02/2015	S	Glass Jar (150 ml)	1			1							
54	EB36 0.7V	24/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	7	2	2	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6	Other comments:

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		24-Feb-15	24-Feb-15 1815	25-2-15 1600	26/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	Rinsate Suite	Trip blank suite	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
55	Triplicate 14A	24/02/2015	S	Glass Jar (250 ml)	2	1								
56	Triplicate 14B	24/02/2015	S	Glass Jar (250 ml)	2	1								
57	Trip Blank 15	23/02/2015	S	Pre-filled glass jar	1								1	
58	Rinsate 15	24/02/2015	w	Bottle	8							1		
				TOTAL	9							1	1	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1504596**	Page	: 1 of 79
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553		
C-O-C number	: ----	Date Samples Received	: 26-FEB-2015
Sampler	: GK	Issue Date	: 19-MAR-2015
Site	: ----		
		No. of samples received	: 58
Quote number	: SY/1021/14 V2	No. of samples analysed	: 58

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.**
- **EG020T: Poor precision was obtained for some elements on sample ES1504596 # 021 due to sample heterogeneity. Results have been confirmed by re-extraction and reanalysis.**
- **EK067G: Poor duplicate precision due to sample heterogeneity. Confirmed by re-extraction and re-analysis.**
- **EK067G: Spike failed for Total P due to matrix interferences(Confirmed by re-digestion and re-analysis)**
- **EP090H: LCS shows poor recovery due to laboratory error. Insufficient sample for re-extraction and re-analysis.**

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Dianne Blane	Laboratory Coordinator (2IC)	Newcastle - Inorganics
Matt Frost	Senior Organic Chemist	Brisbane Organics
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
		Sydney Organics
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils
Shobhna Chandra	Metals Coordinator	Sydney Inorganics

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH5 0.0-0.5A	BH5 0.0-0.5B	BH5 0.3V	BH8 0.0-0.05A	BH8 0.5-1.0A
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-001	ES1504596-002	ES1504596-003	ES1504596-004	ES1504596-005
EA150: Particle Sizing									
+75µm	----	1	%		----	**60**	----	----	----
+150µm	----	1	%		----	**50**	----	----	----
+300µm	----	1	%		----	**23**	----	----	----
+425µm	----	1	%		----	**16**	----	----	----
+600µm	----	1	%		----	**13**	----	----	----
+1180µm	----	1	%		----	**10**	----	----	----
+2.36mm	----	1	%		----	**8**	----	----	----
+4.75mm	----	1	%		----	**6**	----	----	----
+9.5mm	----	1	%		----	**3**	----	----	----
+19.0mm	----	1	%		----	**3**	----	----	----
+37.5mm	----	1	%		----	<1	----	----	----
+75.0mm	----	1	%		----	<1	----	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**19.8**	----	**19.1**	**15.5**	**10.4**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	**26**	----	----	----
Silt (2-60 µm)	----	1	%		----	**12**	----	----	----
Sand (0.06-2.00 mm)	----	1	%		----	**54**	----	----	----
Gravel (>2mm)	----	1	%		----	**8**	----	----	----
Cobbles (>6cm)	----	1	%		----	<1	----	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	**2.65**	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**9050**	----	----	**7230**	**4220**
Iron	7439-89-6	50	mg/kg		**13600**	----	----	**15700**	**4360**
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	----	----	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		**4.26**	----	----	**16.0**	<1.00
Cadmium	7440-43-9	0.1	mg/kg		<0.1	----	----	<0.1	**0.6**
Chromium	7440-47-3	1.0	mg/kg		**15.2**	----	----	**10.0**	**4.8**
Copper	7440-50-8	1.0	mg/kg		**18.6**	----	----	**6.8**	**10.2**
Cobalt	7440-48-4	0.5	mg/kg		**4.3**	----	----	**8.6**	**2.7**
Lead	7439-92-1	1.0	mg/kg		**4.3**	----	----	**2.6**	**1.3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH5 0.0-0.5A	BH5 0.0-0.5B	BH5 0.3V	BH8 0.0-0.05A	BH8 0.5-1.0A
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-001	ES1504596-002	ES1504596-003	ES1504596-004	ES1504596-005
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		57	----	----	658	42
Nickel	7440-02-0	1.0	mg/kg		5.1	----	----	6.0	3.3
Selenium	7782-49-2	0.1	mg/kg		0.8	----	----	0.3	0.8
Silver	7440-22-4	0.1	mg/kg		<0.1	----	----	<0.1	0.1
Vanadium	7440-62-2	2.0	mg/kg		35.3	----	----	36.7	35.3
Zinc	7440-66-6	1.0	mg/kg		21.3	----	----	20.1	20.7
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		0.04	----	----	<0.01	<0.01
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	<0.1	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	<0.1	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	<0.1	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		100	----	----	150	<20
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		100	----	----	150	<20
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		133	----	----	136	92
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		0.8	----	----	1.7	0.6
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		0.07	----	----	0.10	0.02
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	----	----	<3	<3
>C16 - C34 Fraction	----	3	mg/kg		<3	----	----	5	<3
>C34 - C40 Fraction	----	5	mg/kg		<5	----	----	<5	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	----	----	5	<3
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	<3	----	----
C10 - C14 Fraction	----	3	mg/kg		<3	----	----	<3	<3
C15 - C28 Fraction	----	3	mg/kg		<3	----	----	<3	<3

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH5 0.0-0.5A	BH5 0.0-0.5B	BH5 0.3V	BH8 0.0-0.05A	BH8 0.5-1.0A
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-001	ES1504596-002	ES1504596-003	ES1504596-004	ES1504596-005
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	----	----	<5	<5
^ **C10 - C36 Fraction (sum)**	----	3	mg/kg		<3	----	----	<3	<3
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	<3	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	<0.2	----	----
Toluene	108-88-3	0.2	mg/kg		----	----	<0.2	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	<0.2	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	<0.2	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	<0.2	----	----
^ **Total Xylenes**	1330-20-7	0.5	mg/kg		----	----	<0.5	----	----
^ **Sum of BTEX**	----	0.2	mg/kg		----	----	<0.2	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	----	----	<1	<1
Dibutyltin	1002-53-5	1	µgSn/kg		<1	----	----	<1	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	----	----	<0.5	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	----	----	<10	<10
Carbophenothion	786-19-6	10	µg/kg		<10	----	----	<10	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	----	----	<10.0	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	----	----	<10	<10
Chlorpyrifos	2921-88-2	10	µg/kg		<10	----	----	<10	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	----	----	<10	<10
Demeton-S-methyl	919-86-8	10	µg/kg		<10	----	----	<10	<10
Diazinon	333-41-5	10	µg/kg		<10	----	----	<10	<10
Dichlorvos	62-73-7	10	µg/kg		<10	----	----	<10	<10
Dimethoate	60-51-5	10	µg/kg		<10	----	----	<10	<10
Ethion	563-12-2	10	µg/kg		<10	----	----	<10	<10
Fenamiphos	22224-92-6	10	µg/kg		<10	----	----	<10	<10
Fenthion	55-38-9	10	µg/kg		<10	----	----	<10	<10
Malathion	121-75-5	10	µg/kg		<10	----	----	<10	<10
Azinphos Methyl	86-50-0	10	µg/kg		<10	----	----	<10	<10
Monocrotophos	6923-22-4	10	µg/kg		<10	----	----	<10	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH5 0.0-0.5A	BH5 0.0-0.5B	BH5 0.3V	BH8 0.0-0.05A	BH8 0.5-1.0A
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-001	ES1504596-002	ES1504596-003	ES1504596-004	ES1504596-005
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	----	----	<10	<10
Parathion-methyl	298-00-0	10	µg/kg		<10	----	----	<10	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	----	----	<10	<10
Prothiofos	34643-46-4	10	µg/kg		<10	----	----	<10	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
beta-BHC	319-85-7	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
delta-BHC	319-86-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Dieldrin	60-57-1	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Endrin	72-20-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Heptachlor	76-44-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	----	----	<0.25	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	----	----	<0.25	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	----	----	<0.25	<0.25
^ **Total Chlordane (sum)**	----	0.25	µg/kg		<0.25	----	----	<0.25	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	----	----	<5.0	<5.0

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH5 0.0-0.5A	BH5 0.0-0.5B	BH5 0.3V	BH8 0.0-0.05A	BH8 0.5-1.0A
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-001	ES1504596-002	ES1504596-003	ES1504596-004	ES1504596-005
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	----	----	<5	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	----	----	<5	<5
Acenaphthylene	208-96-8	4	µg/kg		<4	----	----	<4	<4
Acenaphthene	83-32-9	4	µg/kg		<4	----	----	<4	<4
Fluorene	86-73-7	4	µg/kg		<4	----	----	<4	<4
Phenanthrene	85-01-8	4	µg/kg		<4	----	----	<4	<4
Anthracene	120-12-7	4	µg/kg		<4	----	----	<4	<4
Fluoranthene	206-44-0	4	µg/kg		<4	----	----	<4	<4
Pyrene	129-00-0	4	µg/kg		<4	----	----	<4	<4
Benz(a)anthracene	56-55-3	4	µg/kg		<4	----	----	<4	<4
Chrysene	218-01-9	4	µg/kg		<4	----	----	<4	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	----	----	<4	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	----	----	<4	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	----	----	<4	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	----	----	<4	<4
Perylene	198-55-0	4	µg/kg		<4	----	----	<4	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	----	----	<4	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	----	----	<4	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	----	----	<4	<4
Coronene	191-07-1	5	µg/kg		<5	----	----	<5	<5
^ **Sum of PAHs**	----	4	µg/kg		<4	----	----	<4	<4
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	**103**	----	----
Toluene-D8	2037-26-5	0.1	%		----	----	**108**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	**105**	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**85.6**	----	----	**95.0**	**92.6**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH5 0.0-0.5A	BH5 0.0-0.5B	BH5 0.3V	BH8 0.0-0.05A	BH8 0.5-1.0A
			Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504596-001	ES1504596-002	ES1504596-003	ES1504596-004	ES1504596-005
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	71.0	----	----	79.6	67.8
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	57.0	----	----	84.1	61.0
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	56.6	----	----	79.1	68.4
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	89.4	----	----	82.8	103
Anthracene-d10	1719-06-8	0.1	%	107	----	----	109	117
4-Terphenyl-d14	1718-51-0	0.1	%	95.6	----	----	104	122

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH8 0.0-0.5B	BH8 0.5-1.0B	BH8 0.3V	BH8 0.7V	BH60 0.0-0.3A
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-006	ES1504596-007	ES1504596-008	ES1504596-009	ES1504596-010
EA150: Particle Sizing									
+75µm	----	1	%		**91**	**93**	----	----	----
+150µm	----	1	%		**90**	**92**	----	----	----
+300µm	----	1	%		**88**	**90**	----	----	----
+425µm	----	1	%		**82**	**89**	----	----	----
+600µm	----	1	%		**59**	**85**	----	----	----
+1180µm	----	1	%		**19**	**68**	----	----	----
+2.36mm	----	1	%		**9**	**38**	----	----	----
+4.75mm	----	1	%		**4**	**9**	----	----	----
+9.5mm	----	1	%		<1	<1	----	----	----
+19.0mm	----	1	%		<1	<1	----	----	----
+37.5mm	----	1	%		<1	<1	----	----	----
+75.0mm	----	1	%		<1	<1	----	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	----	**17.5**	**7.7**	**24.3**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		**6**	**5**	----	----	----
Silt (2-60 µm)	----	1	%		**2**	**2**	----	----	----
Sand (0.06-2.00 mm)	----	1	%		**80**	**46**	----	----	----
Gravel (>2mm)	----	1	%		**12**	**47**	----	----	----
Cobbles (>6cm)	----	1	%		<1	<1	----	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		**2.64**	**2.68**	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	----	----	**21800**
Iron	7439-89-6	50	mg/kg		----	----	----	----	**39100**
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	----	----	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	----	----	----	**9.19**
Cadmium	7440-43-9	0.1	mg/kg		----	----	----	----	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	----	----	----	**34.1**
Copper	7440-50-8	1.0	mg/kg		----	----	----	----	**51.0**
Cobalt	7440-48-4	0.5	mg/kg		----	----	----	----	**16.0**
Lead	7439-92-1	1.0	mg/kg		----	----	----	----	**13.9**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH8 0.0-0.5B	BH8 0.5-1.0B	BH8 0.3V	BH8 0.7V	BH60 0.0-0.3A
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504596-006	ES1504596-007	ES1504596-008	ES1504596-009	ES1504596-010
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	----	----	**435**
Nickel	7440-02-0	1.0	mg/kg		----	----	----	----	**22.3**
Selenium	7782-49-2	0.1	mg/kg		----	----	----	----	**0.8**
Silver	7440-22-4	0.1	mg/kg		----	----	----	----	<0.1
Vanadium	7440-62-2	2.0	mg/kg		----	----	----	----	**84.7**
Zinc	7440-66-6	1.0	mg/kg		----	----	----	----	**69.4**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	----	----	**0.01**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	----	----	**220**
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	----	----	**220**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	----	----	**266**
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	----	----	**1.2**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	----	----	**0.23**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	----	----	<3
>C16 - C34 Fraction	----	3	mg/kg		----	----	----	----	<3
>C34 - C40 Fraction	----	5	mg/kg		----	----	----	----	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	----	----	<3
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	<3	<3	<3
C10 - C14 Fraction	----	3	mg/kg		----	----	----	----	<3
C15 - C28 Fraction	----	3	mg/kg		----	----	----	----	<3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH8 0.0-0.5B	BH8 0.5-1.0B	BH8 0.3V	BH8 0.7V	BH60 0.0-0.3A
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504596-006	ES1504596-007	ES1504596-008	ES1504596-009	ES1504596-010
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	----	----	<5
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	----	----	<3
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	<3	<3	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	<0.2	<0.2	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	<0.2	<0.2	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	<0.2	<0.2	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	<0.2	<0.2	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	<0.2	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	----	<0.2	<0.2	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	----	----	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	----	----	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	----	----	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	----	----	<10
Carbophenothion	786-19-6	10	µg/kg		----	----	----	----	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	----	----	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	----	----	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	----	----	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	----	----	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	----	----	<10
Diazinon	333-41-5	10	µg/kg		----	----	----	----	<10
Dichlorvos	62-73-7	10	µg/kg		----	----	----	----	<10
Dimethoate	60-51-5	10	µg/kg		----	----	----	----	<10
Ethion	563-12-2	10	µg/kg		----	----	----	----	<10
Fenamiphos	22224-92-6	10	µg/kg		----	----	----	----	<10
Fenthion	55-38-9	10	µg/kg		----	----	----	----	<10
Malathion	121-75-5	10	µg/kg		----	----	----	----	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	----	----	----	<10
Monocrotophos	6923-22-4	10	µg/kg		----	----	----	----	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH8 0.0-0.5B	BH8 0.5-1.0B	BH8 0.3V	BH8 0.7V	BH60 0.0-0.3A
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504596-006	ES1504596-007	ES1504596-008	ES1504596-009	ES1504596-010
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	----	----	<10
Parathion-methyl	298-00-0	10	µg/kg		----	----	----	----	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	----	----	<10
Prothiofos	34643-46-4	10	µg/kg		----	----	----	----	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	----	----	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	----	----	----	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	----	----	----	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	----	----	<0.50
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	----	----	----	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	----	----	----	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	----	----	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	----	----	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	----	----	<0.50
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	----	----	----	<0.50
Endrin	72-20-8	0.50	µg/kg		----	----	----	----	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	----	----	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	----	----	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	----	----	----	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	----	----	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	----	----	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	----	----	----	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	----	----	----	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	----	----	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	----	----	<0.25
^ Total Chlordane (sum)	----	0.25	µg/kg		----	----	----	----	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	----	----	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	----	----	<5.0

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH8 0.0-0.5B	BH8 0.5-1.0B	BH8 0.3V	BH8 0.7V	BH60 0.0-0.3A
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504596-006	ES1504596-007	ES1504596-008	ES1504596-009	ES1504596-010
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	----	----	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	----	----	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	----	----	<5
Acenaphthylene	208-96-8	4	µg/kg		----	----	----	----	<4
Acenaphthene	83-32-9	4	µg/kg		----	----	----	----	<4
Fluorene	86-73-7	4	µg/kg		----	----	----	----	<4
Phenanthrene	85-01-8	4	µg/kg		----	----	----	----	<4
Anthracene	120-12-7	4	µg/kg		----	----	----	----	<4
Fluoranthene	206-44-0	4	µg/kg		----	----	----	----	<4
Pyrene	129-00-0	4	µg/kg		----	----	----	----	<4
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	----	----	<4
Chrysene	218-01-9	4	µg/kg		----	----	----	----	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	----	----	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	----	----	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	----	----	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	----	----	<4
Perylene	198-55-0	4	µg/kg		----	----	----	----	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	----	----	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	----	----	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	----	----	<4
Coronene	191-07-1	5	µg/kg		----	----	----	----	<5
^ Sum of PAHs	----	4	µg/kg		----	----	----	----	<4
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	**99.2**	**99.4**	**97.5**
Toluene-D8	2037-26-5	0.1	%		----	----	**114**	**102**	**103**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	**95.5**	**98.4**	**98.3**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	----	----	**96.2**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH8 0.0-0.5B	BH8 0.5-1.0B	BH8 0.3V	BH8 0.7V	BH60 0.0-0.3A
			Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504596-006	ES1504596-007	ES1504596-008	ES1504596-009	ES1504596-010
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	----	----	74.7
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	----	----	63.4
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	----	74.8
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	----	105
Anthracene-d10	1719-06-8	0.1	%	----	----	----	----	112
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	----	89.3

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH60 0.0-0.3B	EB12 0.0-0.3A	EB12 0.0-0.3B	EB12 0.3V	EB16 0.0-0.04A
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-011	ES1504596-012	ES1504596-013	ES1504596-014	ES1504596-015
EA150: Particle Sizing									
+75µm	----	1	%		**3**	----	**4**	----	----
+150µm	----	1	%		**2**	----	**3**	----	----
+300µm	----	1	%		**1**	----	**3**	----	----
+425µm	----	1	%		<1	----	**2**	----	----
+600µm	----	1	%		<1	----	**2**	----	----
+1180µm	----	1	%		<1	----	**2**	----	----
+2.36mm	----	1	%		<1	----	**2**	----	----
+4.75mm	----	1	%		<1	----	<1	----	----
+9.5mm	----	1	%		<1	----	<1	----	----
+19.0mm	----	1	%		<1	----	<1	----	----
+37.5mm	----	1	%		<1	----	<1	----	----
+75.0mm	----	1	%		<1	----	<1	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	**22.2**	----	**21.5**	**20.8**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		**44**	----	**40**	----	----
Silt (2-60 µm)	----	1	%		**50**	----	**53**	----	----
Sand (0.06-2.00 mm)	----	1	%		**6**	----	**5**	----	----
Gravel (>2mm)	----	1	%		<1	----	**2**	----	----
Cobbles (>6cm)	----	1	%		<1	----	<1	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		**2.70**	----	**2.65**	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	**19400**	----	----	**16900**
Iron	7439-89-6	50	mg/kg		----	**37000**	----	----	**36400**
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	<0.50	----	----	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	**7.63**	----	----	**6.74**
Cadmium	7440-43-9	0.1	mg/kg		----	<0.1	----	----	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	**27.8**	----	----	**23.8**
Copper	7440-50-8	1.0	mg/kg		----	**35.8**	----	----	**29.0**
Cobalt	7440-48-4	0.5	mg/kg		----	**12.6**	----	----	**12.3**
Lead	7439-92-1	1.0	mg/kg		----	**11.8**	----	----	**11.2**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH60 0.0-0.3B	EB12 0.0-0.3A	EB12 0.0-0.3B	EB12 0.3V	EB16 0.0-0.04A
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-011	ES1504596-012	ES1504596-013	ES1504596-014	ES1504596-015
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	**309**	----	----	**186**
Nickel	7440-02-0	1.0	mg/kg		----	**19.0**	----	----	**15.2**
Selenium	7782-49-2	0.1	mg/kg		----	**0.8**	----	----	**0.7**
Silver	7440-22-4	0.1	mg/kg		----	<0.1	----	----	<0.1
Vanadium	7440-62-2	2.0	mg/kg		----	**64.6**	----	----	**81.2**
Zinc	7440-66-6	1.0	mg/kg		----	**71.7**	----	----	**53.4**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	**0.02**	----	----	<0.01
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	<0.1	----	----	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	**0.1**	----	----	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	**0.1**	----	----	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	**240**	----	----	**190**
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	**240**	----	----	**190**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	**318**	----	----	**824**
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	**1.4**	----	----	**2.2**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	**0.14**	----	----	**0.15**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	<3	----	----	<3
>C16 - C34 Fraction	----	3	mg/kg		----	<3	----	----	<3
>C34 - C40 Fraction	----	5	mg/kg		----	<5	----	----	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	<3	----	----	<3
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	<3	----
C10 - C14 Fraction	----	3	mg/kg		----	<3	----	----	<3
C15 - C28 Fraction	----	3	mg/kg		----	<3	----	----	<3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH60 0.0-0.3B	EB12 0.0-0.3A	EB12 0.0-0.3B	EB12 0.3V	EB16 0.0-0.04A
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504596-011	ES1504596-012	ES1504596-013	ES1504596-014	ES1504596-015
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	<5	----	----	<5
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	<3	----	----	<3
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	<3	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	<0.2	----
Toluene	108-88-3	0.2	mg/kg		----	----	----	<0.2	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	<0.2	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	<0.2	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	<0.2	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	----	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	<0.2	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	<1	----	----	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	<1	----	----	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	<0.5	----	----	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	<10	----	----	<10
Carbophenothion	786-19-6	10	µg/kg		----	<10	----	----	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	<10.0	----	----	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	<10	----	----	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	<10	----	----	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	<10	----	----	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	<10	----	----	<10
Diazinon	333-41-5	10	µg/kg		----	<10	----	----	<10
Dichlorvos	62-73-7	10	µg/kg		----	<10	----	----	<10
Dimethoate	60-51-5	10	µg/kg		----	<10	----	----	<10
Ethion	563-12-2	10	µg/kg		----	<10	----	----	<10
Fenamiphos	22224-92-6	10	µg/kg		----	<10	----	----	<10
Fenthion	55-38-9	10	µg/kg		----	<10	----	----	<10
Malathion	121-75-5	10	µg/kg		----	<10	----	----	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	<10	----	----	<10
Monocrotophos	6923-22-4	10	µg/kg		----	<10	----	----	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH60 0.0-0.3B	EB12 0.0-0.3A	EB12 0.0-0.3B	EB12 0.3V	EB16 0.0-0.04A
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504596-011	ES1504596-012	ES1504596-013	ES1504596-014	ES1504596-015
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	<10	----	----	<10
Parathion-methyl	298-00-0	10	µg/kg		----	<10	----	----	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	<10	----	----	<10
Prothiofos	34643-46-4	10	µg/kg		----	<10	----	----	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	<0.50	----	----	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	<0.50	----	----	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	<0.50	----	----	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	<0.50	----	----	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	<0.50	----	----	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	<0.50	----	----	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	<0.50	----	----	<0.50
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	<0.50	----	----	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	<0.50	----	----	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	<0.50	----	----	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	<0.50	----	----	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	<0.50	----	----	<0.50
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	<0.50	----	----	<0.50
Endrin	72-20-8	0.50	µg/kg		----	<0.50	----	----	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	<0.50	----	----	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	<0.50	----	----	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	<0.50	----	----	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	<0.50	----	----	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	<0.50	----	----	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	<0.25	----	----	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	<0.50	----	----	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	<0.25	----	----	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	<0.25	----	----	<0.25
^ Total Chlordane (sum)	----	0.25	µg/kg		----	<0.25	----	----	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	<0.50	----	----	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	<5.0	----	----	<5.0

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID: BH60 0.0-0.3B	EB12 0.0-0.3A	EB12 0.0-0.3B	EB12 0.3V	EB16 0.0-0.04A
			Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
				ES1504596-011	ES1504596-012	ES1504596-013	ES1504596-014	ES1504596-015
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued								
Aroclor 1232	11141-16-5	5.0	µg/kg	----	<5.0	----	----	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg	----	<5.0	----	----	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg	----	<5.0	----	----	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg	----	<5.0	----	----	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg	----	<5.0	----	----	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	5	µg/kg	----	<5	----	----	<5
2-Methylnaphthalene	91-57-6	5	µg/kg	----	<5	----	----	<5
Acenaphthylene	208-96-8	4	µg/kg	----	<4	----	----	<4
Acenaphthene	83-32-9	4	µg/kg	----	<4	----	----	<4
Fluorene	86-73-7	4	µg/kg	----	<4	----	----	<4
Phenanthrene	85-01-8	4	µg/kg	----	<4	----	----	<4
Anthracene	120-12-7	4	µg/kg	----	<4	----	----	<4
Fluoranthene	206-44-0	4	µg/kg	----	<4	----	----	<4
Pyrene	129-00-0	4	µg/kg	----	<4	----	----	<4
Benz(a)anthracene	56-55-3	4	µg/kg	----	<4	----	----	<4
Chrysene	218-01-9	4	µg/kg	----	<4	----	----	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	----	<4	----	----	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg	----	<4	----	----	<4
Benzo(e)pyrene	192-97-2	4	µg/kg	----	<4	----	----	<4
Benzo(a)pyrene	50-32-8	4	µg/kg	----	<4	----	----	<4
Perylene	198-55-0	4	µg/kg	----	<4	----	----	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg	----	<4	----	----	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg	----	<4	----	----	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	----	<4	----	----	<4
Coronene	191-07-1	5	µg/kg	----	<5	----	----	<5
^ **Sum of PAHs**	----	4	µg/kg	----	<4	----	----	<4
EP080-SD: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	----	----	**93.5**	----
Toluene-D8	2037-26-5	0.1	%	----	----	----	**96.0**	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	----	----	**91.9**	----
EP090S: Organotin Surrogate								
Tripropyltin	----	0.1	%	----	**85.1**	----	----	**85.0**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH60 0.0-0.3B	EB12 0.0-0.3A	EB12 0.0-0.3B	EB12 0.3V	EB16 0.0-0.04A
			Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504596-011	ES1504596-012	ES1504596-013	ES1504596-014	ES1504596-015
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	72.8	----	----	85.6
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	83.1	----	----	80.8
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	89.4	----	----	75.8
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	88.9	----	----	97.4
Anthracene-d10	1719-06-8	0.1	%	----	107	----	----	124
4-Terphenyl-d14	1718-51-0	0.1	%	----	95.3	----	----	114

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB16 0.0-0.4B	EB16 0.3V	EB17 0.0-0.5A	EB17 0.0-0.5B	EB17 0.3V
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-016	ES1504596-017	ES1504596-018	ES1504596-019	ES1504596-020
EA150: Particle Sizing									
+75µm	----	1	%		**25**	----	----	**6**	----
+150µm	----	1	%		**13**	----	----	**3**	----
+300µm	----	1	%		**4**	----	----	**2**	----
+425µm	----	1	%		**3**	----	----	**2**	----
+600µm	----	1	%		**2**	----	----	**1**	----
+1180µm	----	1	%		**1**	----	----	<1	----
+2.36mm	----	1	%		<1	----	----	<1	----
+4.75mm	----	1	%		<1	----	----	<1	----
+9.5mm	----	1	%		<1	----	----	<1	----
+19.0mm	----	1	%		<1	----	----	<1	----
+37.5mm	----	1	%		<1	----	----	<1	----
+75.0mm	----	1	%		<1	----	----	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	**20.4**	**23.7**	----	**24.3**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		**39**	----	----	**61**	----
Silt (2-60 µm)	----	1	%		**32**	----	----	**35**	----
Sand (0.06-2.00 mm)	----	1	%		**28**	----	----	**4**	----
Gravel (>2mm)	----	1	%		**1**	----	----	<1	----
Cobbles (>6cm)	----	1	%		<1	----	----	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		**2.66**	----	----	**2.63**	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	**22000**	----	----
Iron	7439-89-6	50	mg/kg		----	----	**36200**	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	<0.50	----	----
Arsenic	7440-38-2	1.00	mg/kg		----	----	**12.1**	----	----
Cadmium	7440-43-9	0.1	mg/kg		----	----	<0.1	----	----
Chromium	7440-47-3	1.0	mg/kg		----	----	**24.3**	----	----
Copper	7440-50-8	1.0	mg/kg		----	----	**39.0**	----	----
Cobalt	7440-48-4	0.5	mg/kg		----	----	**11.2**	----	----
Lead	7439-92-1	1.0	mg/kg		----	----	**12.7**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB16 0.0-0.4B	EB16 0.3V	EB17 0.0-0.5A	EB17 0.0-0.5B	EB17 0.3V
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504596-016	ES1504596-017	ES1504596-018	ES1504596-019	ES1504596-020
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	**223**	----	----
Nickel	7440-02-0	1.0	mg/kg		----	----	**15.2**	----	----
Selenium	7782-49-2	0.1	mg/kg		----	----	**0.8**	----	----
Silver	7440-22-4	0.1	mg/kg		----	----	<0.1	----	----
Vanadium	7440-62-2	2.0	mg/kg		----	----	**70.6**	----	----
Zinc	7440-66-6	1.0	mg/kg		----	----	**74.8**	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	**0.02**	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	**410**	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	**410**	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	**285**	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	**2.2**	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	**0.18**	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	<3	----	----
>C16 - C34 Fraction	----	3	mg/kg		----	----	<3	----	----
>C34 - C40 Fraction	----	5	mg/kg		----	----	<5	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	<3	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	<3	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		----	----	<3	----	----
C15 - C28 Fraction	----	3	mg/kg		----	----	<3	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB16 0.0-0.4B	EB16 0.3V	EB17 0.0-0.5A	EB17 0.0-0.5B	EB17 0.3V
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-016	ES1504596-017	ES1504596-018	ES1504596-019	ES1504596-020
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	<5	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	<3	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	<3	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	<0.2	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		----	<0.2	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	<0.2	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	<0.2	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	<0.2	----	----	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	<0.5	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	<0.2	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	<1	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	<1	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	<0.5	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	<10	----	----
Carbophenothion	786-19-6	10	µg/kg		----	----	<10	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	<10.0	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	<10	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	<10	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	<10	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	<10	----	----
Diazinon	333-41-5	10	µg/kg		----	----	<10	----	----
Dichlorvos	62-73-7	10	µg/kg		----	----	<10	----	----
Dimethoate	60-51-5	10	µg/kg		----	----	<10	----	----
Ethion	563-12-2	10	µg/kg		----	----	<10	----	----
Fenamiphos	22224-92-6	10	µg/kg		----	----	<10	----	----
Fenthion	55-38-9	10	µg/kg		----	----	<10	----	----
Malathion	121-75-5	10	µg/kg		----	----	<10	----	----
Azinphos Methyl	86-50-0	10	µg/kg		----	----	<10	----	----
Monocrotophos	6923-22-4	10	µg/kg		----	----	<10	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB16 0.0-0.4B	EB16 0.3V	EB17 0.0-0.5A	EB17 0.0-0.5B	EB17 0.3V
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-016	ES1504596-017	ES1504596-018	ES1504596-019	ES1504596-020
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	<10	----	----
Parathion-methyl	298-00-0	10	µg/kg		----	----	<10	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	<10	----	----
Prothiofos	34643-46-4	10	µg/kg		----	----	<10	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg		----	----	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg		----	----	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg		----	----	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	<0.50	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	<0.50	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	----	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		----	----	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	<0.50	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	----	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		----	----	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg		----	----	<0.50	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	<0.50	----	----
gamma-BHC	58-89-9	0.25	µg/kg		----	----	<0.25	----	----
Methoxychlor	72-43-5	0.50	µg/kg		----	----	<0.50	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	<0.25	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	<0.25	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		----	----	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	<5.0	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB16 0.0-0.4B	EB16 0.3V	EB17 0.0-0.5A	EB17 0.0-0.5B	EB17 0.3V
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-016	ES1504596-017	ES1504596-018	ES1504596-019	ES1504596-020
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	<5.0	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	<5	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	<5	----	----
Acenaphthylene	208-96-8	4	µg/kg		----	----	<4	----	----
Acenaphthene	83-32-9	4	µg/kg		----	----	<4	----	----
Fluorene	86-73-7	4	µg/kg		----	----	<4	----	----
Phenanthrene	85-01-8	4	µg/kg		----	----	<4	----	----
Anthracene	120-12-7	4	µg/kg		----	----	<4	----	----
Fluoranthene	206-44-0	4	µg/kg		----	----	<4	----	----
Pyrene	129-00-0	4	µg/kg		----	----	<4	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	<4	----	----
Chrysene	218-01-9	4	µg/kg		----	----	<4	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	<4	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	<4	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	<4	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	<4	----	----
Perylene	198-55-0	4	µg/kg		----	----	<4	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	<4	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	<4	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	<4	----	----
Coronene	191-07-1	5	µg/kg		----	----	<5	----	----
^ **Sum of PAHs**	----	4	µg/kg		----	----	<4	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	**94.2**	----	----	**103**
Toluene-D8	2037-26-5	0.1	%		----	**116**	----	----	**112**
4-Bromofluorobenzene	460-00-4	0.1	%		----	**101**	----	----	**104**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	**81.3**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB16 0.0-0.4B	EB16 0.3V	EB17 0.0-0.5A	EB17 0.0-0.5B	EB17 0.3V
			Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504596-016	ES1504596-017	ES1504596-018	ES1504596-019	ES1504596-020
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	**73.8**	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	**74.7**	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	**61.7**	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	**86.3**	----	----
Anthracene-d10	1719-06-8	0.1	%	----	----	**100**	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	**92.1**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB22 0.0-0.5A	EB22 0.0-0.5B	EB22 0.3V	EB27 0.0-0.7A	EB27 0.0-0.7B
			Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504596-021	ES1504596-022	ES1504596-023	ES1504596-024	ES1504596-025
EA150: Particle Sizing								
+75µm	----	1	%	----	11	----	----	11
+150µm	----	1	%	----	4	----	----	8
+300µm	----	1	%	----	2	----	----	6
+425µm	----	1	%	----	2	----	----	4
+600µm	----	1	%	----	1	----	----	3
+1180µm	----	1	%	----	<1	----	----	1
+2.36mm	----	1	%	----	<1	----	----	<1
+4.75mm	----	1	%	----	<1	----	----	<1
+9.5mm	----	1	%	----	<1	----	----	<1
+19.0mm	----	1	%	----	<1	----	----	<1
+37.5mm	----	1	%	----	<1	----	----	<1
+75.0mm	----	1	%	----	<1	----	----	<1
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	21.6	----	21.1	23.6	----
EA150: Soil Classification based on Particle Size								
Clay (<2 µm)	----	1	%	----	58	----	----	52
Silt (2-60 µm)	----	1	%	----	28	----	----	31
Sand (0.06-2.00 mm)	----	1	%	----	14	----	----	16
Gravel (>2mm)	----	1	%	----	<1	----	----	1
Cobbles (>6cm)	----	1	%	----	<1	----	----	<1
EA152: Soil Particle Density								
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3	----	2.70	----	----	2.71
EG005-SD: Total Metals in Sediments by ICP-AES								
Aluminium	7429-90-5	50	mg/kg	21400	----	----	18000	----
Iron	7439-89-6	50	mg/kg	32700	----	----	29600	----
EG020-SD: Total Metals in Sediments by ICPMS								
Antimony	7440-36-0	0.50	mg/kg	<0.50	----	----	<0.50	----
Arsenic	7440-38-2	1.00	mg/kg	5.88	----	----	19.9	----
Cadmium	7440-43-9	0.1	mg/kg	<0.1	----	----	<0.1	----
Chromium	7440-47-3	1.0	mg/kg	26.8	----	----	24.4	----
Copper	7440-50-8	1.0	mg/kg	79.5	----	----	31.8	----
Cobalt	7440-48-4	0.5	mg/kg	11.5	----	----	25.0	----
Lead	7439-92-1	1.0	mg/kg	10.0	----	----	9.5	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB22 0.0-0.5A	EB22 0.0-0.5B	EB22 0.3V	EB27 0.0-0.7A	EB27 0.0-0.7B
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-021	ES1504596-022	ES1504596-023	ES1504596-024	ES1504596-025
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		143	----	----	453	----
Nickel	7440-02-0	1.0	mg/kg		18.3	----	----	20.2	----
Selenium	7782-49-2	0.1	mg/kg		0.6	----	----	0.8	----
Silver	7440-22-4	0.1	mg/kg		0.3	----	----	<0.1	----
Vanadium	7440-62-2	2.0	mg/kg		93.7	----	----	67.1	----
Zinc	7440-66-6	1.0	mg/kg		56.3	----	----	44.1	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		0.02	----	----	0.02	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	<0.1	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	<0.1	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	<0.1	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		300	----	----	250	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		300	----	----	250	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		210	----	----	234	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		1.3	----	----	1.4	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		0.10	----	----	0.10	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	----	----	<3	----
>C16 - C34 Fraction	----	3	mg/kg		<3	----	----	4	----
>C34 - C40 Fraction	----	5	mg/kg		<5	----	----	<5	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	----	----	4	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	<3	----	----
C10 - C14 Fraction	----	3	mg/kg		<3	----	----	<3	----
C15 - C28 Fraction	----	3	mg/kg		<3	----	----	<3	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB22 0.0-0.5A	EB22 0.0-0.5B	EB22 0.3V	EB27 0.0-0.7A	EB27 0.0-0.7B
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-021	ES1504596-022	ES1504596-023	ES1504596-024	ES1504596-025
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	----	----	<5	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		<3	----	----	<3	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	<3	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	<0.2	----	----
Toluene	108-88-3	0.2	mg/kg		----	----	<0.2	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	<0.2	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	<0.2	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	<0.2	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	<0.5	----	----
^ Sum of BTEX	----	0.2	mg/kg		----	----	<0.2	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	----	----	<1	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	----	----	<1	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	----	----	<0.5	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	----	----	<10	----
Carbophenothion	786-19-6	10	µg/kg		<10	----	----	<10	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	----	----	<10.0	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	----	----	<10	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	----	----	<10	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	----	----	<10	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	----	----	<10	----
Diazinon	333-41-5	10	µg/kg		<10	----	----	<10	----
Dichlorvos	62-73-7	10	µg/kg		<10	----	----	<10	----
Dimethoate	60-51-5	10	µg/kg		<10	----	----	<10	----
Ethion	563-12-2	10	µg/kg		<10	----	----	<10	----
Fenamiphos	22224-92-6	10	µg/kg		<10	----	----	<10	----
Fenthion	55-38-9	10	µg/kg		<10	----	----	<10	----
Malathion	121-75-5	10	µg/kg		<10	----	----	<10	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	----	----	<10	----
Monocrotophos	6923-22-4	10	µg/kg		<10	----	----	<10	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB22 0.0-0.5A	EB22 0.0-0.5B	EB22 0.3V	EB27 0.0-0.7A	EB27 0.0-0.7B
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-021	ES1504596-022	ES1504596-023	ES1504596-024	ES1504596-025
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	----	----	<10	----
Parathion-methyl	298-00-0	10	µg/kg		<10	----	----	<10	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	----	----	<10	----
Prothiofos	34643-46-4	10	µg/kg		<10	----	----	<10	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	----	----	<0.50	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	----	----	<0.50	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	----	----	<0.50	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	----	----	<0.50	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	----	----	<0.50	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	----	----	<0.50	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	----	----	<0.50	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	----	----	<0.50	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	----	----	<0.50	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	----	----	<0.50	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	----	----	<0.50	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	----	----	<0.50	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	----	----	<0.50	----
Endrin	72-20-8	0.50	µg/kg		<0.50	----	----	<0.50	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	----	----	<0.50	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	----	----	<0.50	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	----	----	<0.50	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	----	----	<0.50	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	----	----	<0.50	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	----	----	<0.25	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	----	----	<0.50	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	----	----	<0.25	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	----	----	<0.25	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	----	----	<0.25	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	----	----	<0.50	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	----	----	<5.0	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB22 0.0-0.5A	EB22 0.0-0.5B	EB22 0.3V	EB27 0.0-0.7A	EB27 0.0-0.7B
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504596-021	ES1504596-022	ES1504596-023	ES1504596-024	ES1504596-025
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	----	----	<5.0	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	----	----	<5	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	----	----	<5	----
Acenaphthylene	208-96-8	4	µg/kg		<4	----	----	<4	----
Acenaphthene	83-32-9	4	µg/kg		<4	----	----	<4	----
Fluorene	86-73-7	4	µg/kg		<4	----	----	<4	----
Phenanthrene	85-01-8	4	µg/kg		<4	----	----	<4	----
Anthracene	120-12-7	4	µg/kg		<4	----	----	<4	----
Fluoranthene	206-44-0	4	µg/kg		<4	----	----	<4	----
Pyrene	129-00-0	4	µg/kg		<4	----	----	<4	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	----	----	<4	----
Chrysene	218-01-9	4	µg/kg		<4	----	----	<4	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	----	----	<4	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	----	----	<4	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	----	----	<4	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	----	----	<4	----
Perylene	198-55-0	4	µg/kg		<4	----	----	<4	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	----	----	<4	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	----	----	<4	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	----	----	<4	----
Coronene	191-07-1	5	µg/kg		<5	----	----	<5	----
^ **Sum of PAHs**	----	4	µg/kg		<4	----	----	<4	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	**98.7**	----	----
Toluene-D8	2037-26-5	0.1	%		----	----	**125**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	**106**	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**86.4**	----	----	**75.7**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB22 0.0-0.5A	EB22 0.0-0.5B	EB22 0.3V	EB27 0.0-0.7A	EB27 0.0-0.7B
			Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504596-021	ES1504596-022	ES1504596-023	ES1504596-024	ES1504596-025
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**80.0**	----	----	**73.2**	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**70.3**	----	----	**76.2**	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**71.2**	----	----	**92.8**	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**102**	----	----	**68.7**	----
Anthracene-d10	1719-06-8	0.1	%	**120**	----	----	**111**	----
4-Terphenyl-d14	1718-51-0	0.1	%	**122**	----	----	**106**	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB27 0.3V	EB27 0.7V	EB31 0.0-0.5A	EB31 0.0-0.5B	EB31 0.3V
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-026	ES1504596-027	ES1504596-028	ES1504596-029	ES1504596-030
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	**12**	----
+150µm	----	1	%		----	----	----	**8**	----
+300µm	----	1	%		----	----	----	**5**	----
+425µm	----	1	%		----	----	----	**4**	----
+600µm	----	1	%		----	----	----	**3**	----
+1180µm	----	1	%		----	----	----	**2**	----
+2.36mm	----	1	%		----	----	----	<1	----
+4.75mm	----	1	%		----	----	----	<1	----
+9.5mm	----	1	%		----	----	----	<1	----
+19.0mm	----	1	%		----	----	----	<1	----
+37.5mm	----	1	%		----	----	----	<1	----
+75.0mm	----	1	%		----	----	----	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**22.7**	**19.6**	**20.9**	----	**21.2**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	**51**	----
Silt (2-60 µm)	----	1	%		----	----	----	**38**	----
Sand (0.06-2.00 mm)	----	1	%		----	----	----	**10**	----
Gravel (>2mm)	----	1	%		----	----	----	**1**	----
Cobbles (>6cm)	----	1	%		----	----	----	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	**2.61**	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	**20500**	----	----
Iron	7439-89-6	50	mg/kg		----	----	**39600**	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	<0.50	----	----
Arsenic	7440-38-2	1.00	mg/kg		----	----	**11.4**	----	----
Cadmium	7440-43-9	0.1	mg/kg		----	----	<0.1	----	----
Chromium	7440-47-3	1.0	mg/kg		----	----	**28.3**	----	----
Copper	7440-50-8	1.0	mg/kg		----	----	**31.2**	----	----
Cobalt	7440-48-4	0.5	mg/kg		----	----	**22.1**	----	----
Lead	7439-92-1	1.0	mg/kg		----	----	**13.6**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB27 0.3V	EB27 0.7V	EB31 0.0-0.5A	EB31 0.0-0.5B	EB31 0.3V
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-026	ES1504596-027	ES1504596-028	ES1504596-029	ES1504596-030
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	**772**	----	----
Nickel	7440-02-0	1.0	mg/kg		----	----	**17.2**	----	----
Selenium	7782-49-2	0.1	mg/kg		----	----	**0.8**	----	----
Silver	7440-22-4	0.1	mg/kg		----	----	<0.1	----	----
Vanadium	7440-62-2	2.0	mg/kg		----	----	**84.2**	----	----
Zinc	7440-66-6	1.0	mg/kg		----	----	**60.5**	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	**0.02**	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	**0.3**	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	**0.3**	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	**240**	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	**240**	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	**318**	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	**1.7**	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	**0.18**	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	<3	----	----
>C16 - C34 Fraction	----	3	mg/kg		----	----	<3	----	----
>C34 - C40 Fraction	----	5	mg/kg		----	----	<5	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	<3	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	<3	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		----	----	<3	----	----
C15 - C28 Fraction	----	3	mg/kg		----	----	<3	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB27 0.3V	EB27 0.7V	EB31 0.0-0.5A	EB31 0.0-0.5B	EB31 0.3V
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-026	ES1504596-027	ES1504596-028	ES1504596-029	ES1504596-030
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	<5	----	----
^ **C10 - C36 Fraction (sum)**	----	3	mg/kg		----	----	<3	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	<3	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
^ **Total Xylenes**	1330-20-7	0.5	mg/kg		<0.5	<0.5	----	----	<0.5
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	<1	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	<1	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	<0.5	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	<10	----	----
Carbophenothion	786-19-6	10	µg/kg		----	----	<10	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	<10.0	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	<10	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	<10	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	<10	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	<10	----	----
Diazinon	333-41-5	10	µg/kg		----	----	<10	----	----
Dichlorvos	62-73-7	10	µg/kg		----	----	<10	----	----
Dimethoate	60-51-5	10	µg/kg		----	----	<10	----	----
Ethion	563-12-2	10	µg/kg		----	----	<10	----	----
Fenamiphos	22224-92-6	10	µg/kg		----	----	<10	----	----
Fenthion	55-38-9	10	µg/kg		----	----	<10	----	----
Malathion	121-75-5	10	µg/kg		----	----	<10	----	----
Azinphos Methyl	86-50-0	10	µg/kg		----	----	<10	----	----
Monocrotophos	6923-22-4	10	µg/kg		----	----	<10	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB27 0.3V	EB27 0.7V	EB31 0.0-0.5A	EB31 0.0-0.5B	EB31 0.3V
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-026	ES1504596-027	ES1504596-028	ES1504596-029	ES1504596-030
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	<10	----	----
Parathion-methyl	298-00-0	10	µg/kg		----	----	<10	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	<10	----	----
Prothiofos	34643-46-4	10	µg/kg		----	----	<10	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg		----	----	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg		----	----	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg		----	----	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	<0.50	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	<0.50	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	----	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		----	----	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	<0.50	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	----	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		----	----	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg		----	----	<0.50	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	<0.50	----	----
gamma-BHC	58-89-9	0.25	µg/kg		----	----	<0.25	----	----
Methoxychlor	72-43-5	0.50	µg/kg		----	----	<0.50	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	<0.25	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	<0.25	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		----	----	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	<5.0	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB27 0.3V	EB27 0.7V	EB31 0.0-0.5A	EB31 0.0-0.5B	EB31 0.3V
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-026	ES1504596-027	ES1504596-028	ES1504596-029	ES1504596-030
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	<5.0	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	<5	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	<5	----	----
Acenaphthylene	208-96-8	4	µg/kg		----	----	<4	----	----
Acenaphthene	83-32-9	4	µg/kg		----	----	<4	----	----
Fluorene	86-73-7	4	µg/kg		----	----	<4	----	----
Phenanthrene	85-01-8	4	µg/kg		----	----	<4	----	----
Anthracene	120-12-7	4	µg/kg		----	----	<4	----	----
Fluoranthene	206-44-0	4	µg/kg		----	----	<4	----	----
Pyrene	129-00-0	4	µg/kg		----	----	<4	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	<4	----	----
Chrysene	218-01-9	4	µg/kg		----	----	<4	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	<4	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	<4	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	<4	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	<4	----	----
Perylene	198-55-0	4	µg/kg		----	----	<4	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	<4	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	<4	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	<4	----	----
Coronene	191-07-1	5	µg/kg		----	----	<5	----	----
^ **Sum of PAHs**	----	4	µg/kg		----	----	<4	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**92.2**	**93.9**	----	----	**97.3**
Toluene-D8	2037-26-5	0.1	%		**93.5**	**98.6**	----	----	**115**
4-Bromofluorobenzene	460-00-4	0.1	%		**95.7**	**98.3**	----	----	**101**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	**100**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB27 0.3V	EB27 0.7V	EB31 0.0-0.5A	EB31 0.0-0.5B	EB31 0.3V
			Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504596-026	ES1504596-027	ES1504596-028	ES1504596-029	ES1504596-030
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	71.5	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	69.8	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	71.2	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	72.1	----	----
Anthracene-d10	1719-06-8	0.1	%	----	----	112	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	99.4	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB32 0.0-0.5A	EB32 0.5-1.0A	EB32 0.0-0.5B	EB32 0.5-1.0B	EB32 0.3V
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-031	ES1504596-032	ES1504596-033	ES1504596-034	ES1504596-035
EA150: Particle Sizing									
+75µm	----	1	%		----	----	**78**	**86**	----
+150µm	----	1	%		----	----	**47**	**62**	----
+300µm	----	1	%		----	----	**17**	**8**	----
+425µm	----	1	%		----	----	**11**	**2**	----
+600µm	----	1	%		----	----	**8**	<1	----
+1180µm	----	1	%		----	----	**4**	<1	----
+2.36mm	----	1	%		----	----	**2**	<1	----
+4.75mm	----	1	%		----	----	<1	<1	----
+9.5mm	----	1	%		----	----	<1	<1	----
+19.0mm	----	1	%		----	----	<1	<1	----
+37.5mm	----	1	%		----	----	<1	<1	----
+75.0mm	----	1	%		----	----	<1	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**21.6**	**17.2**	----	----	**17.8**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	**6**	**7**	----
Silt (2-60 µm)	----	1	%		----	----	**12**	**6**	----
Sand (0.06-2.00 mm)	----	1	%		----	----	**80**	**87**	----
Gravel (>2mm)	----	1	%		----	----	**2**	<1	----
Cobbles (>6cm)	----	1	%		----	----	<1	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	**2.67**	**2.67**	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**7090**	**6650**	----	----	----
Iron	7439-89-6	50	mg/kg		**24600**	**15800**	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		**9.23**	**2.42**	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	----	----	----
Chromium	7440-47-3	1.0	mg/kg		**19.9**	**15.4**	----	----	----
Copper	7440-50-8	1.0	mg/kg		**9.1**	**8.8**	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		**8.6**	**7.6**	----	----	----
Lead	7439-92-1	1.0	mg/kg		**10.1**	**4.1**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB32 0.0-0.5A	EB32 0.5-1.0A	EB32 0.0-0.5B	EB32 0.5-1.0B	EB32 0.3V
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-031	ES1504596-032	ES1504596-033	ES1504596-034	ES1504596-035
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		**301**	**106**	----	----	----
Nickel	7440-02-0	1.0	mg/kg		**8.2**	**7.0**	----	----	----
Selenium	7782-49-2	0.1	mg/kg		**0.5**	**0.3**	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.1	<0.1	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		**74.4**	**37.2**	----	----	----
Zinc	7440-66-6	1.0	mg/kg		**23.1**	**27.0**	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	<0.01	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		**180**	**70**	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		**180**	**70**	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		**161**	**233**	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		**0.9**	**0.7**	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		**0.08**	**0.04**	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	<3	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		<3	<3	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	<5	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	<3	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		<3	<3	----	----	----
C15 - C28 Fraction	----	3	mg/kg		<3	<3	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB32 0.0-0.5A	EB32 0.5-1.0A	EB32 0.0-0.5B	EB32 0.5-1.0B	EB32 0.3V
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-031	ES1504596-032	ES1504596-033	ES1504596-034	ES1504596-035
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	<5	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		<3	<3	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	----	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	<1	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	<1	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	<0.5	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	<10	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	<10	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	<10.0	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	<10	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	<10	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	<10	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	<10	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	<10	----	----	----
Ethion	563-12-2	10	µg/kg		<10	<10	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	<10	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	<10	----	----	----
Malathion	121-75-5	10	µg/kg		<10	<10	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	<10	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	<10	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB32 0.0-0.5A	EB32 0.5-1.0A	EB32 0.0-0.5B	EB32 0.5-1.0B	EB32 0.3V
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504596-031	ES1504596-032	ES1504596-033	ES1504596-034	ES1504596-035
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	<10	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	<10	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	<10	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	<10	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	<0.50	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	<0.50	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	<0.50	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	<0.50	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	<0.50	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	<0.25	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	<0.50	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	<0.25	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	<0.25	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	<0.25	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	<0.50	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	<5.0	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB32 0.0-0.5A	EB32 0.5-1.0A	EB32 0.0-0.5B	EB32 0.5-1.0B	EB32 0.3V
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-031	ES1504596-032	ES1504596-033	ES1504596-034	ES1504596-035
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	<5.0	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	<5	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	<5	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	<4	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	<4	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	<4	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	<4	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	<4	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	<4	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	<4	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	<4	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	<4	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	<4	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	<4	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	<4	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	<4	----	----	----
Perylene	198-55-0	4	µg/kg		<4	<4	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	<4	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	<4	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	<4	----	----	----
Coronene	191-07-1	5	µg/kg		<5	<5	----	----	----
^ **Sum of PAHs**	----	4	µg/kg		<4	<4	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	----	**97.7**
Toluene-D8	2037-26-5	0.1	%		----	----	----	----	**98.0**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	----	**92.4**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**109**	**74.6**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB32 0.0-0.5A	EB32 0.5-1.0A	EB32 0.0-0.5B	EB32 0.5-1.0B	EB32 0.3V
			Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504596-031	ES1504596-032	ES1504596-033	ES1504596-034	ES1504596-035
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	84.6	70.9	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	50.7	73.3	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	50.9	78.1	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	91.2	76.2	----	----	----
Anthracene-d10	1719-06-8	0.1	%	109	116	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	117	105	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB32 0.7V	EB33 0.0-0.5A	EB33 0.5-1.0A	EB33 0.0-0.5B	EB33 0.5-1.0B
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-036	ES1504596-037	ES1504596-038	ES1504596-039	ES1504596-040
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	**73**	**78**
+150µm	----	1	%		----	----	----	**61**	**51**
+300µm	----	1	%		----	----	----	**23**	**9**
+425µm	----	1	%		----	----	----	**14**	**4**
+600µm	----	1	%		----	----	----	**10**	**2**
+1180µm	----	1	%		----	----	----	**8**	**2**
+2.36mm	----	1	%		----	----	----	**7**	**1**
+4.75mm	----	1	%		----	----	----	**6**	**1**
+9.5mm	----	1	%		----	----	----	<1	<1
+19.0mm	----	1	%		----	----	----	<1	<1
+37.5mm	----	1	%		----	----	----	<1	<1
+75.0mm	----	1	%		----	----	----	<1	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**18.5**	**22.8**	**22.6**	----	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	**16**	**13**
Silt (2-60 µm)	----	1	%		----	----	----	**9**	**6**
Sand (0.06-2.00 mm)	----	1	%		----	----	----	**68**	**80**
Gravel (>2mm)	----	1	%		----	----	----	**7**	**1**
Cobbles (>6cm)	----	1	%		----	----	----	<1	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	**2.68**	**2.67**
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	**9420**	**6390**	----	----
Iron	7439-89-6	50	mg/kg		----	**16700**	**14800**	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	<0.50	<0.50	----	----
Arsenic	7440-38-2	1.00	mg/kg		----	**15.4**	**4.04**	----	----
Cadmium	7440-43-9	0.1	mg/kg		----	<0.1	<0.1	----	----
Chromium	7440-47-3	1.0	mg/kg		----	**18.3**	**14.8**	----	----
Copper	7440-50-8	1.0	mg/kg		----	**8.1**	**14.9**	----	----
Cobalt	7440-48-4	0.5	mg/kg		----	**8.8**	**11.6**	----	----
Lead	7439-92-1	1.0	mg/kg		----	**5.5**	**4.9**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB32 0.7V	EB33 0.0-0.5A	EB33 0.5-1.0A	EB33 0.0-0.5B	EB33 0.5-1.0B
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-036	ES1504596-037	ES1504596-038	ES1504596-039	ES1504596-040
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	472	108	----	----
Nickel	7440-02-0	1.0	mg/kg		----	8.4	9.0	----	----
Selenium	7782-49-2	0.1	mg/kg		----	0.5	2.0	----	----
Silver	7440-22-4	0.1	mg/kg		----	<0.1	<0.1	----	----
Vanadium	7440-62-2	2.0	mg/kg		----	38.7	41.4	----	----
Zinc	7440-66-6	1.0	mg/kg		----	21.7	32.4	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	<0.01	<0.01	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	120	90	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	120	90	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	215	176	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	1.3	1.4	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	0.14	0.05	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	<3	<3	----	----
>C16 - C34 Fraction	----	3	mg/kg		----	5	<3	----	----
>C34 - C40 Fraction	----	5	mg/kg		----	<5	<5	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	5	<3	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	----	----	----	----
C10 - C14 Fraction	----	3	mg/kg		----	<3	<3	----	----
C15 - C28 Fraction	----	3	mg/kg		----	<3	<3	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB32 0.7V	EB33 0.0-0.5A	EB33 0.5-1.0A	EB33 0.0-0.5B	EB33 0.5-1.0B
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-036	ES1504596-037	ES1504596-038	ES1504596-039	ES1504596-040
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	<5	<5	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	<3	<3	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	----	----	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.2	mg/kg		<0.2	----	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	----	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	----	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	<1	<1	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	<1	<1	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	<0.5	<0.5	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	<10	<10	----	----
Carbophenothion	786-19-6	10	µg/kg		----	<10	<10	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	<10.0	<10.0	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	<10	<10	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	<10	<10	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	<10	<10	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	<10	<10	----	----
Diazinon	333-41-5	10	µg/kg		----	<10	<10	----	----
Dichlorvos	62-73-7	10	µg/kg		----	<10	<10	----	----
Dimethoate	60-51-5	10	µg/kg		----	<10	<10	----	----
Ethion	563-12-2	10	µg/kg		----	<10	<10	----	----
Fenamiphos	22224-92-6	10	µg/kg		----	<10	<10	----	----
Fenthion	55-38-9	10	µg/kg		----	<10	<10	----	----
Malathion	121-75-5	10	µg/kg		----	<10	<10	----	----
Azinphos Methyl	86-50-0	10	µg/kg		----	<10	<10	----	----
Monocrotophos	6923-22-4	10	µg/kg		----	<10	<10	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB32 0.7V	EB33 0.0-0.5A	EB33 0.5-1.0A	EB33 0.0-0.5B	EB33 0.5-1.0B
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-036	ES1504596-037	ES1504596-038	ES1504596-039	ES1504596-040
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	<10	<10	----	----
Parathion-methyl	298-00-0	10	µg/kg		----	<10	<10	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	<10	<10	----	----
Prothiofos	34643-46-4	10	µg/kg		----	<10	<10	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg		----	<0.50	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	<0.50	<0.50	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	<0.50	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	<0.50	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	<0.50	<0.50	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	<0.50	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	<0.50	<0.50	----	----
gamma-BHC	58-89-9	0.25	µg/kg		----	<0.25	<0.25	----	----
Methoxychlor	72-43-5	0.50	µg/kg		----	<0.50	<0.50	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	<0.25	<0.25	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	<0.25	<0.25	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		----	<0.25	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	<0.50	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	<5.0	<5.0	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB32 0.7V	EB33 0.0-0.5A	EB33 0.5-1.0A	EB33 0.0-0.5B	EB33 0.5-1.0B
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-036	ES1504596-037	ES1504596-038	ES1504596-039	ES1504596-040
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	<5.0	<5.0	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	<5	<5	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	<5	<5	----	----
Acenaphthylene	208-96-8	4	µg/kg		----	<4	<4	----	----
Acenaphthene	83-32-9	4	µg/kg		----	<4	<4	----	----
Fluorene	86-73-7	4	µg/kg		----	<4	<4	----	----
Phenanthrene	85-01-8	4	µg/kg		----	**4**	<4	----	----
Anthracene	120-12-7	4	µg/kg		----	<4	<4	----	----
Fluoranthene	206-44-0	4	µg/kg		----	**6**	<4	----	----
Pyrene	129-00-0	4	µg/kg		----	**4**	<4	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	<4	<4	----	----
Chrysene	218-01-9	4	µg/kg		----	<4	<4	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	<4	<4	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	<4	<4	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	<4	<4	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	<4	<4	----	----
Perylene	198-55-0	4	µg/kg		----	<4	<4	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	<4	<4	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	<4	<4	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	<4	<4	----	----
Coronene	191-07-1	5	µg/kg		----	<5	<5	----	----
^ **Sum of PAHs**	----	4	µg/kg		----	**14**	<4	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**105**	----	----	----	----
Toluene-D8	2037-26-5	0.1	%		**128**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**100**	----	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	**76.5**	**89.4**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB32 0.7V	EB33 0.0-0.5A	EB33 0.5-1.0A	EB33 0.0-0.5B	EB33 0.5-1.0B
			Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504596-036	ES1504596-037	ES1504596-038	ES1504596-039	ES1504596-040
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	81.0	76.2	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	49.6	91.9	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	87.2	88.8	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	80.5	76.0	----	----
Anthracene-d10	1719-06-8	0.1	%	----	122	114	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	110	113	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB33 0.3V	EB33 0.7V	EB34 0.0-0.5A	EB34 0.5-1.0A	EB34 0.0-0.5B
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504596-041	ES1504596-042	ES1504596-043	ES1504596-044	ES1504596-045
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	----	84
+150µm	----	1	%		----	----	----	----	60
+300µm	----	1	%		----	----	----	----	47
+425µm	----	1	%		----	----	----	----	38
+600µm	----	1	%		----	----	----	----	29
+1180µm	----	1	%		----	----	----	----	15
+2.36mm	----	1	%		----	----	----	----	7
+4.75mm	----	1	%		----	----	----	----	3
+9.5mm	----	1	%		----	----	----	----	<1
+19.0mm	----	1	%		----	----	----	----	<1
+37.5mm	----	1	%		----	----	----	----	<1
+75.0mm	----	1	%		----	----	----	----	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		22.2	23.7	26.5	23.1	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	----	10
Silt (2-60 µm)	----	1	%		----	----	----	----	4
Sand (0.06-2.00 mm)	----	1	%		----	----	----	----	77
Gravel (>2mm)	----	1	%		----	----	----	----	9
Cobbles (>6cm)	----	1	%		----	----	----	----	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	----	2.62
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	4680	3080	----
Iron	7439-89-6	50	mg/kg		----	----	11300	8040	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	<0.50	<0.50	----
Arsenic	7440-38-2	1.00	mg/kg		----	----	18.2	11.7	----
Cadmium	7440-43-9	0.1	mg/kg		----	----	<0.1	<0.1	----
Chromium	7440-47-3	1.0	mg/kg		----	----	10.4	7.8	----
Copper	7440-50-8	1.0	mg/kg		----	----	3.3	1.9	----
Cobalt	7440-48-4	0.5	mg/kg		----	----	5.3	4.8	----
Lead	7439-92-1	1.0	mg/kg		----	----	3.3	2.6	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB33 0.3V	EB33 0.7V	EB34 0.0-0.5A	EB34 0.5-1.0A	EB34 0.0-0.5B
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504596-041	ES1504596-042	ES1504596-043	ES1504596-044	ES1504596-045
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	**258**	**224**	----
Nickel	7440-02-0	1.0	mg/kg		----	----	**4.8**	**3.4**	----
Selenium	7782-49-2	0.1	mg/kg		----	----	**2.7**	**1.8**	----
Silver	7440-22-4	0.1	mg/kg		----	----	<0.1	<0.1	----
Vanadium	7440-62-2	2.0	mg/kg		----	----	**22.0**	**14.3**	----
Zinc	7440-66-6	1.0	mg/kg		----	----	**13.3**	**9.5**	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	<0.01	<0.01	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	<0.1	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	<0.1	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	<0.1	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	**220**	**90**	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	**220**	**90**	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	**208**	**204**	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	**1.2**	**1.5**	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	**0.15**	**0.11**	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	<3	<3	----
>C16 - C34 Fraction	----	3	mg/kg		----	----	<3	<3	----
>C34 - C40 Fraction	----	5	mg/kg		----	----	<5	<5	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	<3	<3	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	<3	----	----	----
C10 - C14 Fraction	----	3	mg/kg		----	----	<3	<3	----
C15 - C28 Fraction	----	3	mg/kg		----	----	<3	<3	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB33 0.3V	EB33 0.7V	EB34 0.0-0.5A	EB34 0.5-1.0A	EB34 0.0-0.5B
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-041	ES1504596-042	ES1504596-043	ES1504596-044	ES1504596-045
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	<5	<5	----
^ **C10 - C36 Fraction (sum)**	----	3	mg/kg		----	----	<3	<3	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	<3	----	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	----	----
Toluene	108-88-3	0.2	mg/kg		<0.2	<0.2	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	<0.2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	<0.2	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	<0.2	----	----	----
^ **Total Xylenes**	1330-20-7	0.5	mg/kg		<0.5	<0.5	----	----	----
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	<0.2	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	<1	<1	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	<1	<1	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	<0.5	<0.5	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	<10	<10	----
Carbophenothion	786-19-6	10	µg/kg		----	----	<10	<10	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	<10.0	<10.0	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	<10	<10	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	<10	<10	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	<10	<10	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	<10	<10	----
Diazinon	333-41-5	10	µg/kg		----	----	<10	<10	----
Dichlorvos	62-73-7	10	µg/kg		----	----	<10	<10	----
Dimethoate	60-51-5	10	µg/kg		----	----	<10	<10	----
Ethion	563-12-2	10	µg/kg		----	----	<10	<10	----
Fenamiphos	22224-92-6	10	µg/kg		----	----	<10	<10	----
Fenthion	55-38-9	10	µg/kg		----	----	<10	<10	----
Malathion	121-75-5	10	µg/kg		----	----	<10	<10	----
Azinphos Methyl	86-50-0	10	µg/kg		----	----	<10	<10	----
Monocrotophos	6923-22-4	10	µg/kg		----	----	<10	<10	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB33 0.3V	EB33 0.7V	EB34 0.0-0.5A	EB34 0.5-1.0A	EB34 0.0-0.5B
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-041	ES1504596-042	ES1504596-043	ES1504596-044	ES1504596-045
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	<10	<10	----
Parathion-methyl	298-00-0	10	µg/kg		----	----	<10	<10	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	<10	<10	----
Prothiofos	34643-46-4	10	µg/kg		----	----	<10	<10	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	<0.50	<0.50	----
alpha-BHC	319-84-6	0.50	µg/kg		----	----	<0.50	<0.50	----
beta-BHC	319-85-7	0.50	µg/kg		----	----	<0.50	<0.50	----
delta-BHC	319-86-8	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	<0.50	<0.50	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	----	<0.50	<0.50	----
Dieldrin	60-57-1	0.50	µg/kg		----	----	<0.50	<0.50	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	<0.50	<0.50	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	<0.50	<0.50	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	<0.50	<0.50	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin	72-20-8	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	<0.50	<0.50	----
Heptachlor	76-44-8	0.50	µg/kg		----	----	<0.50	<0.50	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	<0.50	<0.50	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	<0.50	<0.50	----
gamma-BHC	58-89-9	0.25	µg/kg		----	----	<0.25	<0.25	----
Methoxychlor	72-43-5	0.50	µg/kg		----	----	<0.50	<0.50	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	<0.25	<0.25	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	<0.25	<0.25	----
^ Total Chlordane (sum)	----	0.25	µg/kg		----	----	<0.25	<0.25	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	<0.50	<0.50	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	<5.0	<5.0	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB33 0.3V	EB33 0.7V	EB34 0.0-0.5A	EB34 0.5-1.0A	EB34 0.0-0.5B
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-041	ES1504596-042	ES1504596-043	ES1504596-044	ES1504596-045
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	<5.0	<5.0	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	<5	<5	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	<5	<5	----
Acenaphthylene	208-96-8	4	µg/kg		----	----	<4	<4	----
Acenaphthene	83-32-9	4	µg/kg		----	----	<4	<4	----
Fluorene	86-73-7	4	µg/kg		----	----	<4	<4	----
Phenanthrene	85-01-8	4	µg/kg		----	----	<4	<4	----
Anthracene	120-12-7	4	µg/kg		----	----	<4	<4	----
Fluoranthene	206-44-0	4	µg/kg		----	----	<4	<4	----
Pyrene	129-00-0	4	µg/kg		----	----	<4	<4	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	<4	<4	----
Chrysene	218-01-9	4	µg/kg		----	----	<4	<4	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	<4	<4	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	<4	<4	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	<4	<4	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	<4	<4	----
Perylene	198-55-0	4	µg/kg		----	----	<4	<4	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	<4	<4	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	<4	<4	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	<4	<4	----
Coronene	191-07-1	5	µg/kg		----	----	<5	<5	----
^ **Sum of PAHs**	----	4	µg/kg		----	----	<4	<4	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**93.0**	**94.9**	----	----	----
Toluene-D8	2037-26-5	0.1	%		**89.7**	**98.2**	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**94.0**	**97.5**	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	**103**	**105**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB33 0.3V	EB33 0.7V	EB34 0.0-0.5A	EB34 0.5-1.0A	EB34 0.0-0.5B
			Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504596-041	ES1504596-042	ES1504596-043	ES1504596-044	ES1504596-045
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	74.6	84.5	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	65.9	55.0	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	64.2	51.2	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	84.0	84.9	----
Anthracene-d10	1719-06-8	0.1	%	----	----	115	109	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	121	102	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB34 0.5-1.0B	EB34 0.3V	EB34 0.7V	EB36 0.0-0.5A	EB36 0.5-1.0A
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-046	ES1504596-047	ES1504596-048	ES1504596-049	ES1504596-050
EA150: Particle Sizing									
+75µm	----	1	%		**94**	----	----	----	----
+150µm	----	1	%		**74**	----	----	----	----
+300µm	----	1	%		**54**	----	----	----	----
+425µm	----	1	%		**40**	----	----	----	----
+600µm	----	1	%		**30**	----	----	----	----
+1180µm	----	1	%		**15**	----	----	----	----
+2.36mm	----	1	%		**5**	----	----	----	----
+4.75mm	----	1	%		**1**	----	----	----	----
+9.5mm	----	1	%		<1	----	----	----	----
+19.0mm	----	1	%		<1	----	----	----	----
+37.5mm	----	1	%		<1	----	----	----	----
+75.0mm	----	1	%		<1	----	----	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	**30.6**	**27.7**	**24.6**	**19.4**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		**4**	----	----	----	----
Silt (2-60 µm)	----	1	%		**1**	----	----	----	----
Sand (0.06-2.00 mm)	----	1	%		**87**	----	----	----	----
Gravel (>2mm)	----	1	%		**8**	----	----	----	----
Cobbles (>6cm)	----	1	%		<1	----	----	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		**2.63**	----	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	----	**5610**	**8250**
Iron	7439-89-6	50	mg/kg		----	----	----	**11600**	**15100**
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	----	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	----	----	**10.2**	**8.19**
Cadmium	7440-43-9	0.1	mg/kg		----	----	----	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	----	----	**13.5**	**12.9**
Copper	7440-50-8	1.0	mg/kg		----	----	----	**3.4**	**12.2**
Cobalt	7440-48-4	0.5	mg/kg		----	----	----	**5.6**	**8.0**
Lead	7439-92-1	1.0	mg/kg		----	----	----	**3.7**	**6.5**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB34 0.5-1.0B	EB34 0.3V	EB34 0.7V	EB36 0.0-0.5A	EB36 0.5-1.0A
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-046	ES1504596-047	ES1504596-048	ES1504596-049	ES1504596-050
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	----	**206**	**328**
Nickel	7440-02-0	1.0	mg/kg		----	----	----	**5.7**	**7.4**
Selenium	7782-49-2	0.1	mg/kg		----	----	----	**2.4**	**2.7**
Silver	7440-22-4	0.1	mg/kg		----	----	----	<0.1	<0.1
Vanadium	7440-62-2	2.0	mg/kg		----	----	----	**17.7**	**37.4**
Zinc	7440-66-6	1.0	mg/kg		----	----	----	**14.9**	**16.9**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	----	<0.01	<0.01
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	----	<0.1	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	<0.1	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	<0.1	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	----	**200**	**20**
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	----	**200**	**20**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	----	**203**	**72**
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	----	**1.5**	**1.3**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	----	**0.22**	**0.12**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	----	<3	<3
>C16 - C34 Fraction	----	3	mg/kg		----	----	----	<3	<3
>C34 - C40 Fraction	----	5	mg/kg		----	----	----	<5	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	----	<3	<3
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	<3	<3	----	----
C10 - C14 Fraction	----	3	mg/kg		----	----	----	<3	<3
C15 - C28 Fraction	----	3	mg/kg		----	----	----	<3	<3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB34 0.5-1.0B	EB34 0.3V	EB34 0.7V	EB36 0.0-0.5A	EB36 0.5-1.0A
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-046	ES1504596-047	ES1504596-048	ES1504596-049	ES1504596-050
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	----	<5	<5
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	----	<3	<3
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	<3	<3	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	<0.2	<0.2	----	----
Toluene	108-88-3	0.2	mg/kg		----	<0.2	<0.2	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	<0.2	<0.2	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	<0.2	<0.2	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	<0.2	<0.2	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	<0.5	<0.5	----	----
^ Sum of BTEX	----	0.2	mg/kg		----	<0.2	<0.2	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	----	<1	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	----	<1	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	----	<0.5	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	----	<10	<10
Carbophenothion	786-19-6	10	µg/kg		----	----	----	<10	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	----	<10.0	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	----	<10	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	----	<10	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	----	<10	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	----	<10	<10
Diazinon	333-41-5	10	µg/kg		----	----	----	<10	<10
Dichlorvos	62-73-7	10	µg/kg		----	----	----	<10	<10
Dimethoate	60-51-5	10	µg/kg		----	----	----	<10	<10
Ethion	563-12-2	10	µg/kg		----	----	----	<10	<10
Fenamiphos	22224-92-6	10	µg/kg		----	----	----	<10	<10
Fenthion	55-38-9	10	µg/kg		----	----	----	<10	<10
Malathion	121-75-5	10	µg/kg		----	----	----	<10	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	----	----	<10	<10
Monocrotophos	6923-22-4	10	µg/kg		----	----	----	<10	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB34 0.5-1.0B	EB34 0.3V	EB34 0.7V	EB36 0.0-0.5A	EB36 0.5-1.0A
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-046	ES1504596-047	ES1504596-048	ES1504596-049	ES1504596-050
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	----	<10	<10
Parathion-methyl	298-00-0	10	µg/kg		----	----	----	<10	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	----	<10	<10
Prothiofos	34643-46-4	10	µg/kg		----	----	----	<10	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	----	<0.50	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	----	----	<0.50	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	----	----	<0.50	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	----	----	<0.50	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	----	<0.50	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	----	<0.50	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	----	<0.50	<0.50
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	----	----	<0.50	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	----	----	<0.50	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	----	<0.50	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	----	<0.50	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	----	<0.50	<0.50
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	----	----	<0.50	<0.50
Endrin	72-20-8	0.50	µg/kg		----	----	----	<0.50	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	----	<0.50	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	----	<0.50	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	----	----	<0.50	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	----	<0.50	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	----	<0.50	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	----	----	<0.25	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	----	----	<0.50	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	----	<0.25	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	----	<0.25	<0.25
^ Total Chlordane (sum)	----	0.25	µg/kg		----	----	----	<0.25	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	----	<0.50	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	----	<5.0	<5.0

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB34 0.5-1.0B	EB34 0.3V	EB34 0.7V	EB36 0.0-0.5A	EB36 0.5-1.0A
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504596-046	ES1504596-047	ES1504596-048	ES1504596-049	ES1504596-050
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	----	<5.0	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	----	<5	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	----	<5	<5
Acenaphthylene	208-96-8	4	µg/kg		----	----	----	<4	<4
Acenaphthene	83-32-9	4	µg/kg		----	----	----	<4	<4
Fluorene	86-73-7	4	µg/kg		----	----	----	<4	<4
Phenanthrene	85-01-8	4	µg/kg		----	----	----	<4	<4
Anthracene	120-12-7	4	µg/kg		----	----	----	<4	<4
Fluoranthene	206-44-0	4	µg/kg		----	----	----	<4	<4
Pyrene	129-00-0	4	µg/kg		----	----	----	<4	<4
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	----	<4	<4
Chrysene	218-01-9	4	µg/kg		----	----	----	<4	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	----	<4	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	----	<4	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	----	<4	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	----	<4	<4
Perylene	198-55-0	4	µg/kg		----	----	----	<4	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	----	<4	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	----	<4	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	----	<4	<4
Coronene	191-07-1	5	µg/kg		----	----	----	<5	<5
^ Sum of PAHs	----	4	µg/kg		----	----	----	<4	<4
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	93.9	107	----	----
Toluene-D8	2037-26-5	0.1	%		----	107	128	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	85.8	129	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	----	84.5	86.7

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB34 0.5-1.0B	EB34 0.3V	EB34 0.7V	EB36 0.0-0.5A	EB36 0.5-1.0A
			Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504596-046	ES1504596-047	ES1504596-048	ES1504596-049	ES1504596-050
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	----	80.8	87.0
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	----	67.0	83.9
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	76.6	83.0
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	86.3	83.6
Anthracene-d10	1719-06-8	0.1	%	----	----	----	122	108
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	102	115

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB36 0.0-0.5B	EB36 0.5-1.0B	EB36 0.3V	EB36 0.7V	TRIPLICATE 14A
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-051	ES1504596-052	ES1504596-053	ES1504596-054	ES1504596-055
EA150: Particle Sizing									
+75µm	----	1	%		**80**	**49**	----	----	----
+150µm	----	1	%		**46**	**34**	----	----	----
+300µm	----	1	%		**26**	**14**	----	----	----
+425µm	----	1	%		**21**	**8**	----	----	----
+600µm	----	1	%		**17**	**6**	----	----	----
+1180µm	----	1	%		**13**	**3**	----	----	----
+2.36mm	----	1	%		**10**	**2**	----	----	----
+4.75mm	----	1	%		**8**	**1**	----	----	----
+9.5mm	----	1	%		**6**	<1	----	----	----
+19.0mm	----	1	%		<1	<1	----	----	----
+37.5mm	----	1	%		<1	<1	----	----	----
+75.0mm	----	1	%		<1	<1	----	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	----	**22.1**	**19.8**	**23.7**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		**11**	**33**	----	----	----
Silt (2-60 µm)	----	1	%		**7**	**16**	----	----	----
Sand (0.06-2.00 mm)	----	1	%		**71**	**49**	----	----	----
Gravel (>2mm)	----	1	%		**11**	**2**	----	----	----
Cobbles (>6cm)	----	1	%		<1	<1	----	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		**2.63**	**2.68**	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	----	----	**5490**
Iron	7439-89-6	50	mg/kg		----	----	----	----	**12500**
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	----	----	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	----	----	----	**13.3**
Cadmium	7440-43-9	0.1	mg/kg		----	----	----	----	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	----	----	----	**14.0**
Copper	7440-50-8	1.0	mg/kg		----	----	----	----	**3.5**
Cobalt	7440-48-4	0.5	mg/kg		----	----	----	----	**6.0**
Lead	7439-92-1	1.0	mg/kg		----	----	----	----	**3.5**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB36 0.0-0.5B	EB36 0.5-1.0B	EB36 0.3V	EB36 0.7V	TRIPLICATE 14A
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-051	ES1504596-052	ES1504596-053	ES1504596-054	ES1504596-055
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	----	----	**324**
Nickel	7440-02-0	1.0	mg/kg		----	----	----	----	**6.2**
Selenium	7782-49-2	0.1	mg/kg		----	----	----	----	**1.9**
Silver	7440-22-4	0.1	mg/kg		----	----	----	----	<0.1
Vanadium	7440-62-2	2.0	mg/kg		----	----	----	----	**22.0**
Zinc	7440-66-6	1.0	mg/kg		----	----	----	----	**14.3**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	----	----	<0.01
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	----	----	**150**
EK062: Total Nitrogen as N (TKN + NOx)									
^ **Total Nitrogen as N**	----	20	mg/kg		----	----	----	----	**150**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	----	----	**186**
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	----	----	**1.0**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	----	----	**0.09**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	----	----	<3
>C16 - C34 Fraction	----	3	mg/kg		----	----	----	----	<3
>C34 - C40 Fraction	----	5	mg/kg		----	----	----	----	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	----	----	<3
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	<3	<3	----
C10 - C14 Fraction	----	3	mg/kg		----	----	----	----	<3
C15 - C28 Fraction	----	3	mg/kg		----	----	----	----	<3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB36 0.0-0.5B	EB36 0.5-1.0B	EB36 0.3V	EB36 0.7V	TRIPLICATE 14A
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-051	ES1504596-052	ES1504596-053	ES1504596-054	ES1504596-055
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	----	----	<5
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	----	----	<3
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	<3	<3	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	<0.2	<0.2	----
Toluene	108-88-3	0.2	mg/kg		----	----	<0.2	<0.2	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	<0.2	<0.2	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	<0.2	<0.2	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	<0.2	<0.2	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	<0.5	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg		----	----	<0.2	<0.2	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	----	----	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	----	----	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	----	----	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	----	----	<10
Carbophenothion	786-19-6	10	µg/kg		----	----	----	----	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	----	----	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	----	----	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	----	----	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	----	----	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	----	----	<10
Diazinon	333-41-5	10	µg/kg		----	----	----	----	<10
Dichlorvos	62-73-7	10	µg/kg		----	----	----	----	<10
Dimethoate	60-51-5	10	µg/kg		----	----	----	----	<10
Ethion	563-12-2	10	µg/kg		----	----	----	----	<10
Fenamiphos	22224-92-6	10	µg/kg		----	----	----	----	<10
Fenthion	55-38-9	10	µg/kg		----	----	----	----	<10
Malathion	121-75-5	10	µg/kg		----	----	----	----	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	----	----	----	<10
Monocrotophos	6923-22-4	10	µg/kg		----	----	----	----	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	EB36 0.0-0.5B	EB36 0.5-1.0B	EB36 0.3V	EB36 0.7V	TRIPLICATE 14A
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-051	ES1504596-052	ES1504596-053	ES1504596-054	ES1504596-055
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	----	----	<10
Parathion-methyl	298-00-0	10	µg/kg		----	----	----	----	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	----	----	<10
Prothiofos	34643-46-4	10	µg/kg		----	----	----	----	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	----	----	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	----	----	----	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	----	----	----	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	----	----	<0.50
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	----	----	----	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	----	----	----	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	----	----	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	----	----	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	----	----	<0.50
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	----	----	----	<0.50
Endrin	72-20-8	0.50	µg/kg		----	----	----	----	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	----	----	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	----	----	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	----	----	----	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	----	----	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	----	----	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	----	----	----	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	----	----	----	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	----	----	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	----	----	<0.25
^ Total Chlordane (sum)	----	0.25	µg/kg		----	----	----	----	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	----	----	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	----	----	<5.0

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	EB36 0.0-0.5B	EB36 0.5-1.0B	EB36 0.3V	EB36 0.7V	TRIPLICATE 14A
				Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
					ES1504596-051	ES1504596-052	ES1504596-053	ES1504596-054	ES1504596-055
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	----	----	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	----	----	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	----	----	<5
Acenaphthylene	208-96-8	4	µg/kg		----	----	----	----	<4
Acenaphthene	83-32-9	4	µg/kg		----	----	----	----	<4
Fluorene	86-73-7	4	µg/kg		----	----	----	----	<4
Phenanthrene	85-01-8	4	µg/kg		----	----	----	----	<4
Anthracene	120-12-7	4	µg/kg		----	----	----	----	<4
Fluoranthene	206-44-0	4	µg/kg		----	----	----	----	<4
Pyrene	129-00-0	4	µg/kg		----	----	----	----	<4
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	----	----	<4
Chrysene	218-01-9	4	µg/kg		----	----	----	----	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	----	----	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	----	----	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	----	----	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	----	----	<4
Perylene	198-55-0	4	µg/kg		----	----	----	----	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	----	----	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	----	----	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	----	----	<4
Coronene	191-07-1	5	µg/kg		----	----	----	----	<5
^ **Sum of PAHs**	----	4	µg/kg		----	----	----	----	<4
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	**87.8**	**95.0**	----
Toluene-D8	2037-26-5	0.1	%		----	----	**108**	**99.8**	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	**103**	**99.2**	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	----	----	**84.1**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB36 0.0-0.5B	EB36 0.5-1.0B	EB36 0.3V	EB36 0.7V	TRIPLICATE 14A
			Client sampling date / time	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00	24-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504596-051	ES1504596-052	ES1504596-053	ES1504596-054	ES1504596-055
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	----	----	**74.0**
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	----	----	**84.6**
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	----	**76.9**
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	----	**75.4**
Anthracene-d10	1719-06-8	0.1	%	----	----	----	----	**109**
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	----	**106**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TRIPLICATE 14B	TRIP BLANK 15	----	----	----
				Client sampling date / time	24-FEB-2015 15:00	23-FEB-2015 15:00	----	----	----
Compound	CAS Number	LOR	Unit		ES1504596-056	ES1504596-057	----	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**24.7**	----	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**6610**	----	----	----	----
Iron	7439-89-6	50	mg/kg		**15500**	----	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	----	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		**12.2**	----	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	----	----	----	----
Chromium	7440-47-3	1.0	mg/kg		**14.7**	----	----	----	----
Copper	7440-50-8	1.0	mg/kg		**7.6**	----	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		**7.8**	----	----	----	----
Lead	7439-92-1	1.0	mg/kg		**4.5**	----	----	----	----
Manganese	7439-96-5	10	mg/kg		**556**	----	----	----	----
Nickel	7440-02-0	1.0	mg/kg		**7.8**	----	----	----	----
Selenium	7782-49-2	0.1	mg/kg		**3.2**	----	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.1	----	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		**31.1**	----	----	----	----
Zinc	7440-66-6	1.0	mg/kg		**21.2**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		**100**	----	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		**100**	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		**242**	----	----	----	----
EK255A SD Ammonia in Sediment									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TRIPLICATE 14B	TRIP BLANK 15	----	----	----
			Client sampling date / time	24-FEB-2015 15:00	23-FEB-2015 15:00	----	----	----
Compound	CAS Number	LOR	Unit	ES1504596-056	ES1504596-057	----	----	----
EK255A SD Ammonia in Sediment - Continued								
Ammonia as N	7664-41-7	0.2	mg/kg	1.1	----	----	----	----
EP003: Total Organic Carbon (TOC) in Soil								
Total Organic Carbon	----	0.02	%	0.07	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013								
>C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	----	----	----
>C16 - C34 Fraction	----	3	mg/kg	<3	<3	----	----	----
>C34 - C40 Fraction	----	5	mg/kg	<5	<5	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg	<3	<3	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	3	mg/kg	----	<3	----	----	----
C10 - C14 Fraction	----	3	mg/kg	<3	<3	----	----	----
C15 - C28 Fraction	----	3	mg/kg	<3	<3	----	----	----
C29 - C36 Fraction	----	5	mg/kg	<5	<5	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg	<3	<3	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons								
C6 - C10 Fraction	C6_C10	3	mg/kg	----	<3	----	----	----
EP080-SD: BTEXN								
Benzene	71-43-2	0.2	mg/kg	----	<0.2	----	----	----
Toluene	108-88-3	0.2	mg/kg	----	<0.2	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg	----	<0.2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	----	<0.2	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg	----	<0.2	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg	----	<0.5	----	----	----
^ Sum of BTEX	----	0.2	mg/kg	----	<0.2	----	----	----
EP090: Organotin Compounds								
Monobutyltin	78763-54-9	1	µgSn/kg	<1	----	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg	<1	----	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	----	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)								
Bromophos-ethyl	4824-78-6	10	µg/kg	<10	----	----	----	----
Carbophenothion	786-19-6	10	µg/kg	<10	----	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	----	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TRIPLICATE 14B	TRIP BLANK 15	----	----	----
			Client sampling date / time	24-FEB-2015 15:00	23-FEB-2015 15:00	----	----	----
Compound	CAS Number	LOR	Unit	ES1504596-056	ES1504596-057	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued								
Chlorpyrifos	2921-88-2	10	µg/kg	<10	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	----	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg	<10	----	----	----	----
Diazinon	333-41-5	10	µg/kg	<10	----	----	----	----
Dichlorvos	62-73-7	10	µg/kg	<10	----	----	----	----
Dimethoate	60-51-5	10	µg/kg	<10	----	----	----	----
Ethion	563-12-2	10	µg/kg	<10	----	----	----	----
Fenamiphos	22224-92-6	10	µg/kg	<10	----	----	----	----
Fenthion	55-38-9	10	µg/kg	<10	----	----	----	----
Malathion	121-75-5	10	µg/kg	<10	----	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg	<10	----	----	----	----
Monocrotophos	6923-22-4	10	µg/kg	<10	----	----	----	----
Parathion	56-38-2	10	µg/kg	<10	----	----	----	----
Parathion-methyl	298-00-0	10	µg/kg	<10	----	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	----	----	----	----
Prothiofos	34643-46-4	10	µg/kg	<10	----	----	----	----
EP131A: Organochlorine Pesticides								
Aldrin	309-00-2	0.50	µg/kg	<0.50	----	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg	<0.50	----	----	----	----
beta-BHC	319-85-7	0.50	µg/kg	<0.50	----	----	----	----
delta-BHC	319-86-8	0.50	µg/kg	<0.50	----	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	----	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	----	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	----	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	----	----	----	----
Dieldrin	60-57-1	0.50	µg/kg	<0.50	----	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	----	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	----	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	----	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	----	----	----	----
Endrin	72-20-8	0.50	µg/kg	<0.50	----	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	----	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	----	----	----	----
Heptachlor	76-44-8	0.50	µg/kg	<0.50	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TRIPLICATE 14B	TRIP BLANK 15	----	----	----
			Client sampling date / time	24-FEB-2015 15:00	23-FEB-2015 15:00	----	----	----
Compound	CAS Number	LOR	Unit	ES1504596-056	ES1504596-057	----	----	----
EP131A: Organochlorine Pesticides - Continued								
Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	----	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg	<0.25	----	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg	<0.50	----	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	----	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	----	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg	<0.25	----	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg	<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)								
^ Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	----	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	----	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	----	----	----	----
Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	----	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	----	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	----	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	----	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	5	µg/kg	<5	----	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg	<5	----	----	----	----
Acenaphthylene	208-96-8	4	µg/kg	<4	----	----	----	----
Acenaphthene	83-32-9	4	µg/kg	<4	----	----	----	----
Fluorene	86-73-7	4	µg/kg	<4	----	----	----	----
Phenanthrene	85-01-8	4	µg/kg	<4	----	----	----	----
Anthracene	120-12-7	4	µg/kg	<4	----	----	----	----
Fluoranthene	206-44-0	4	µg/kg	<4	----	----	----	----
Pyrene	129-00-0	4	µg/kg	<4	----	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg	<4	----	----	----	----
Chrysene	218-01-9	4	µg/kg	<4	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	----	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	----	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg	<4	----	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg	<4	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TRIPLICATE 14B	TRIP BLANK 15	----	----	----
			Client sampling date / time	24-FEB-2015 15:00	23-FEB-2015 15:00	----	----	----
Compound	CAS Number	LOR	Unit	ES1504596-056	ES1504596-057	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons - Continued								
Perylene	198-55-0	4	µg/kg	<4	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	----	----	----	----
Coronene	191-07-1	5	µg/kg	<5	----	----	----	----
^ Sum of PAHs	----	4	µg/kg	<4	----	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	111	----	----	----
Toluene-D8	2037-26-5	0.1	%	----	102	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	105	----	----	----
EP090S: Organotin Surrogate								
Tripropyltin	----	0.1	%	96.6	----	----	----	----
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	74.2	----	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	54.5	----	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	54.5	----	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	76.3	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	110	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	99.3	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 15	----	----	----	----
				Client sampling date / time	24-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1504596-058	----	----	----	----
EG020T: Total Metals by ICP-MS									
Antimony	7440-36-0	0.001	mg/L		<0.001	----	----	----	----
Arsenic	7440-38-2	0.001	mg/L		<0.001	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	----	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	----	----	----	----
Manganese	7439-96-5	0.001	mg/L		<0.001	----	----	----	----
Nickel	7440-02-0	0.001	mg/L		<0.001	----	----	----	----
Silver	7440-22-4	0.001	mg/L		<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L		<0.005	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	----	----	----	----
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		<0.01	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	----	0.01	mg/L		<0.01	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		<0.01	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		<0.01	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L		<0.1	----	----	----	----
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser									
^ Total Nitrogen as N	----	0.1	mg/L		<0.1	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		<0.01	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	1	µg/L		<1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.5	µg/L		<0.5	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L		<0.5	----	----	----	----
beta-BHC	319-85-7	0.5	µg/L		<0.5	----	----	----	----
gamma-BHC	58-89-9	0.5	µg/L		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 15	----	----	----	----
				Client sampling date / time	24-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1504596-058	----	----	----	----
EP068A: Organochlorine Pesticides (OC) - Continued									
delta-BHC	319-86-8	0.5	µg/L		<0.5	----	----	----	----
Heptachlor	76-44-8	0.5	µg/L		<0.5	----	----	----	----
Aldrin	309-00-2	0.5	µg/L		<0.5	----	----	----	----
Heptachlor epoxide	1024-57-3	0.5	µg/L		<0.5	----	----	----	----
trans-Chlordane	5103-74-2	0.5	µg/L		<0.5	----	----	----	----
alpha-Endosulfan	959-98-8	0.5	µg/L		<0.5	----	----	----	----
cis-Chlordane	5103-71-9	0.5	µg/L		<0.5	----	----	----	----
Dieldrin	60-57-1	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDE	72-55-9	0.5	µg/L		<0.5	----	----	----	----
Endrin	72-20-8	0.5	µg/L		<0.5	----	----	----	----
beta-Endosulfan	33213-65-9	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDD	72-54-8	0.5	µg/L		<0.5	----	----	----	----
Endrin aldehyde	7421-93-4	0.5	µg/L		<0.5	----	----	----	----
Endosulfan sulfate	1031-07-8	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDT	50-29-3	2.0	µg/L		<2.0	----	----	----	----
Endrin ketone	53494-70-5	0.5	µg/L		<0.5	----	----	----	----
Methoxychlor	72-43-5	2.0	µg/L		<2.0	----	----	----	----
^ Total Chlordane (sum)	----	0.5	µg/L		<0.5	----	----	----	----
^ Sum of DDD + DDE + DDT	----	0.5	µg/L		<0.5	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L		<0.5	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.5	µg/L		<0.5	----	----	----	----
Demeton-S-methyl	919-86-8	0.5	µg/L		<0.5	----	----	----	----
Monocrotophos	6923-22-4	2.0	µg/L		<2.0	----	----	----	----
Dimethoate	60-51-5	0.5	µg/L		<0.5	----	----	----	----
Diazinon	333-41-5	0.5	µg/L		<0.5	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L		<0.5	----	----	----	----
Parathion-methyl	298-00-0	2.0	µg/L		<2.0	----	----	----	----
Malathion	121-75-5	0.5	µg/L		<0.5	----	----	----	----
Fenthion	55-38-9	0.5	µg/L		<0.5	----	----	----	----
Chlorpyrifos	2921-88-2	0.5	µg/L		<0.5	----	----	----	----
Parathion	56-38-2	2.0	µg/L		<2.0	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	µg/L		<0.5	----	----	----	----
Chlorfenvinphos	470-90-6	0.5	µg/L		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	RINSATE 15	----	----	----	----
			Client sampling date / time	24-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1504596-058	----	----	----	----
EP068B: Organophosphorus Pesticides (OP) - Continued								
Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	----	----	----	----
Fenamiphos	22224-92-6	0.5	µg/L	<0.5	----	----	----	----
Prothiofos	34643-46-4	0.5	µg/L	<0.5	----	----	----	----
Ethion	563-12-2	0.5	µg/L	<0.5	----	----	----	----
Carbophenothion	786-19-6	0.5	µg/L	<0.5	----	----	----	----
Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L	<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L	<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L	<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L	<1.0	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L	<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L	<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L	<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L	<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L	<50	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 15	----	----	----	----
				Client sampling date / time	24-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1504596-058	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L	<20	----	----	----	----
>C10 - C16 Fraction	>C10_C16	100	µg/L	<100	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L	<100	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L	<100	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L	<100	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L	<100	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L	<1	----	----	----	----
Toluene	108-88-3	2	µg/L	<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	----	----	----	----
^ **Total Xylenes**	1330-20-7	2	µg/L	<2	----	----	----	----
^ **Sum of BTEX**	----	1	µg/L	<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L	<5	----	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	5	ngSn/L	<5	----	----	----	----
Dibutyltin	1002-53-5	5	ngSn/L	<5	----	----	----	----
Tributyltin	56573-85-4	2	ngSn/L	<2	----	----	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	**63.1**	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.1	%	**76.3**	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%	**97.3**	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%	**35.1**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	**66.9**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	**61.7**	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%	**76.3**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**77.8**	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 15	----	----	----	----
				Client sampling date / time	24-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1504596-058	----	----	----	----
EP075(SIM)T: PAH Surrogates - Continued									
4-Terphenyl-d14	1718-51-0	0.1	%	78.2	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%	101	----	----	----	----
Toluene-D8	2037-26-5	0.1	%	84.1	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	91.3	----	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%	81.5	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
EP080-SD: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	67	137
Toluene-D8	2037-26-5	74	134
4-Bromofluorobenzene	460-00-4	73	137
EP090S: Organotin Surrogate			
Tripropyltin	----	35	130
EP130S: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	14.4	102
EP131S: OC Pesticide Surrogate			
Dibromo-DDE	21655-73-2	10	119
EP131T: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	10	106
EP132T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	55	135
Anthracene-d10	1719-06-8	70	136
4-Terphenyl-d14	1718-51-0	57	127

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	28.5	129
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	30	120
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	26.8	129
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10.0	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27.4	113
4-Terphenyl-d14	1718-51-0	32	112
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128
EP090S: Organotin Surrogate			
Tripropyltin	----	8.2	108

QUALITY CONTROL REPORT

Work Order	: **ES1504596**	Page	: 1 of 31
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 26-FEB-2015
Sampler	: GK	Issue Date	: 19-MAR-2015
Order number	: 245553		
		No. of samples received	: 58
Quote number	: SY/1021/14 V2	No. of samples analysed	: 58

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Dianne Blane	Laboratory Coordinator (2IC)	Newcastle - Inorganics
Matt Frost	Senior Organic Chemist	Brisbane Organics
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
		Sydney Organics
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils
Shobhna Chandra	Metals Coordinator	Sydney Inorganics

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA055: Moisture Content (QC Lot: 3845480)									
EM1502020-003	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	15.0	15.2	1.6	0% - 50%
ES1504849-001	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	11.8	12.3	4.7	0% - 50%
EA055: Moisture Content (QC Lot: 3851040)									
ES1504430-070	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	15.0	15.0	0.0	0% - 50%
ES1504596-017	EB16 0.3V	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	20.4	20.5	0.6	0% - 20%
EA055: Moisture Content (QC Lot: 3851041)									
ES1504596-031	EB32 0.0-0.5A	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	21.6	20.0	7.5	0% - 20%
ES1504596-048	EB34 0.7V	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	27.7	27.4	1.0	0% - 20%
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3852302)									
ES1504426-057	Anonymous	EG005-SD: Aluminium	7429-90-5	50	mg/kg	5130	4480	13.5	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	8860	10300	15.3	0% - 20%
ES1504596-021	EB22 0.0-0.5A	EG005-SD: Aluminium	7429-90-5	50	mg/kg	21400	21600	0.6	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	32700	33100	1.1	0% - 20%
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3853978)									
ES1504596-038	EB33 0.5-1.0A	EG005-SD: Aluminium	7429-90-5	50	mg/kg	6390	6860	7.1	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	14800	15900	7.2	0% - 20%
ES1504618-007	Anonymous	EG005-SD: Aluminium	7429-90-5	50	mg/kg	8540	8120	5.0	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	17100	16100	6.0	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3852301)									
ES1504426-057	Anonymous	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.2	0.2	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	6.3	5.7	10.4	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	8.1	7.8	3.9	No Limit
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	9.8	7.3	29.6	No Limit
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	2.5	2.4	0.0	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	6.9	5.4	24.7	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	16.2	14.2	13.2	0% - 50%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	8.16	9.93	19.6	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	176	200	12.9	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	32.2	27.1	17.4	0% - 50%
ES1504596-021	EB22 0.0-0.5A	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.6	0.6	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	0.3	<0.1	107	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3852301) - continued									
ES1504596-021	EB22 0.0-0.5A	EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	11.5	11.7	1.0	0% - 20%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	26.8	26.9	0.0	0% - 20%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	79.5	58.4	# 30.6	0% - 20%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	10.0	10.9	8.4	0% - 50%
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	18.3	18.6	1.7	0% - 50%
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	56.3	56.9	1.0	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	5.88	5.81	1.2	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	143	178	21.7	0% - 50%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	93.7	91.2	2.6	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3853977)									
ES1504596-038	EB33 0.5-1.0A	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	2.0	2.1	5.2	0% - 20%
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	11.6	10.2	12.2	0% - 20%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	14.8	14.4	3.0	0% - 50%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	14.9	15.9	6.9	0% - 50%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	4.9	5.2	6.8	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	9.0	8.4	6.1	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	32.4	32.4	0.0	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	4.04	3.41	16.8	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	108	118	9.3	0% - 50%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	41.4	41.8	1.0	0% - 20%
ES1504618-007	Anonymous	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	2.8	3.1	9.1	0% - 20%
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	10.8	9.8	9.4	0% - 20%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	15.0	14.0	7.2	0% - 50%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	14.3	13.8	3.4	0% - 50%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	6.2	5.7	8.5	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	9.1	8.2	10.3	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	25.5	25.3	0.6	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	10.6	9.82	7.5	0% - 50%
		EG020-SD: Manganese	7439-96-5	10	mg/kg	444	446	0.3	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	36.1	33.4	7.7	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3852300)									
ES1504426-057	Anonymous	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit
ES1504596-021	EB22 0.0-0.5A	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	0.02	0.03	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3853976)									
ES1504596-038	EB33 0.5-1.0A	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit
ES1504618-007	Anonymous	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3850769)									
ES1504596-001	BH5 0.0-0.5A	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1504596-028	EB31 0.0-0.5A	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3850770)									
ES1504596-001	BH5 0.0-0.5A	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1504596-028	EB31 0.0-0.5A	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	0.3	<0.1	100	No Limit
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3843006)									
ES1504426-029	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	130	130	0.0	No Limit
ES1504426-056	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	110	90	22.1	No Limit
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3843009)									
ES1504596-021	EB22 0.0-0.5A	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	300	290	0.0	0% - 50%
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3846123)									
ES1504596-043	EB34 0.0-0.5A	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	220	200	10.3	0% - 50%
ES1504618-007	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	240	180	31.7	0% - 50%
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3843007)									
ES1504426-029	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	395	370	6.4	0% - 20%
ES1504426-056	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	176	208	16.4	0% - 20%
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3843008)									
ES1504596-021	EB22 0.0-0.5A	EK067G: Total Phosphorus as P	----	2	mg/kg	210	231	9.5	0% - 20%
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3846125)									
ES1504596-043	EB34 0.0-0.5A	EK067G: Total Phosphorus as P	----	2	mg/kg	208	244	15.9	0% - 20%
ES1504618-007	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	223	290	# 25.9	0% - 20%
EK255A SD: Ammonia in Sediment (QC Lot: 3841398)									
ES1504596-001	BH5 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	0.8	0.8	0.0	No Limit
ES1504596-031	EB32 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	0.9	0.9	0.0	No Limit
EP003: Total Organic Carbon (TOC) in Soil (QC Lot: 3851094)									
ES1504596-001	BH5 0.0-0.5A	EP003: Total Organic Carbon	----	0.02	%	0.07	0.07	0.0	No Limit
ES1504596-031	EB32 0.0-0.5A	EP003: Total Organic Carbon	----	0.02	%	0.08	0.08	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3839967)									
ES1504596-001	BH5 0.0-0.5A	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
ES1504596-031	EB32 0.0-0.5A	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3839967) - continued									
ES1504596-031	EB32 0.0-0.5A	EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3839967)									
ES1504596-001	BH5 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
ES1504596-031	EB32 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3840274)									
ES1504596-003	BH5 0.3V	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
ES1504596-030	EB31 0.3V	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
EP080-SD: BTEXN (QC Lot: 3840274)									
ES1504596-003	BH5 0.3V	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
ES1504596-030	EB31 0.3V	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP090: Organotin Compounds (QC Lot: 3839924)									
ES1504596-001	BH5 0.0-0.5A	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	0.7	31.8	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
ES1504596-031	EB32 0.0-0.5A	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3839961)									
ES1504596-001	BH5 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3839961) - continued									
ES1504596-001	BH5 0.0-0.5A	EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
ES1504596-031	EB32 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
EP131A: Organochlorine Pesticides (QC Lot: 3839962)									
ES1504596-001	BH5 0.0-0.5A	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP131A: Organochlorine Pesticides (QC Lot: 3839962) - continued									
ES1504596-001	BH5 0.0-0.5A	EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
ES1504596-031	EB32 0.0-0.5A	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP131A: Organochlorine Pesticides (QC Lot: 3839962) - continued									
ES1504596-031	EB32 0.0-0.5A	EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 3839963)									
ES1504596-001	BH5 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
ES1504596-031	EB32 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3839966)									
ES1504596-001	BH5 0.0-0.5A	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3839966) - continued									
ES1504596-001	BH5 0.0-0.5A	EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit
ES1504596-031	EB32 0.0-0.5A	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020T: Total Metals by ICP-MS (QC Lot: 3844857)									
ES1504301-069	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Manganese	7439-96-5	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.0	No Limit
EG020T: Total Metals by ICP-MS (QC Lot: 3844858)									
ES1504301-069	Anonymous	EG020B-T: Silver	7440-22-4	0.001	mg/L	<0.001	<0.001	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3852039)									
ES1504596-058	RINSATE 15	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3852039) - continued									
ES1505149-009	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EK055G: Ammonia as N by Discrete Analyser (QC Lot: 3843017)									
ES1504596-058	RINSATE 15	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3838858)									
ES1504687-001	Anonymous	EK057G: Nitrite as N	----	0.01	mg/L	0.03	0.03	0.0	No Limit
ES1504695-001	Anonymous	EK057G: Nitrite as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3843016)									
ES1504596-058	RINSATE 15	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1504966-005	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	0.10	0.10	0.0	0% - 50%
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3843002)									
ES1504596-058	RINSATE 15	EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	<0.1	<0.1	0.0	No Limit
ES1504966-006	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	0.9	0.9	0.0	No Limit
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3843003)									
ES1504596-058	RINSATE 15	EK067G: Total Phosphorus as P	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1504966-006	Anonymous	EK067G: Total Phosphorus as P	----	0.01	mg/L	0.08	0.08	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3846887)									
ES1504592-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
ES1504716-002	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3846887)									
ES1504592-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
ES1504716-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 3846887)									
ES1504592-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
ES1504716-002	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3852302)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	130	86	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	86.6	70	130
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3853978)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	103	86	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	80.8	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3852301)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	4.6 mg/kg	110	70	130
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	101	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	98.2	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	108	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	106	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	103	84	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	94.7	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	106	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	106	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	121	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	2.10 mg/kg	102	64	148
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	109	87	131
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	108	83	137
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3853977)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	4.6 mg/kg	126	70	130
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	114	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	103	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	96.3	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	108	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	113	84	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3853977) - continued								
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	99.6	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	99.3	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	112	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	121	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	2.10 mg/kg	101	64	148
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	106	87	131
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	119	83	137
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3852300)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.090 mg/kg	84.1	72	116
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3853976)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.090 mg/kg	82.8	72	116
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3850769)								
EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	102	82	120
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3850770)								
EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	92.4	89	115
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3843006)								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	<20	1000 mg/kg	86.9	64	114
				----	500 mg/kg	110	70	122
				----	100 mg/kg	109	70	127
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3843009)								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	<20	1000 mg/kg	88.5	64	114
				----	100 mg/kg	100	70	127
				----	500 mg/kg	104	70	122
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3846123)								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	<20	1000 mg/kg	85.9	64	114
				----	100 mg/kg	92.4	70	127
				----	500 mg/kg	108	70	122
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3843007)								
EK067G: Total Phosphorus as P	----	2	mg/kg	<2	442 mg/kg	90.5	68	116
				----	100 mg/kg	112	69	123
				----	44.2 mg/kg	102	64	124

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3843008)								
EK067G: Total Phosphorus as P	----	2	mg/kg	----	44.2 mg/kg	95.0	64	124
				----	100 mg/kg	100	69	123
				<2	442 mg/kg	90.5	68	116
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3846125)								
EK067G: Total Phosphorus as P	----	2	mg/kg	----	44.2 mg/kg	87.9	64	124
				----	100 mg/kg	108	69	123
				<2	442 mg/kg	85.9	68	116
EK255A SD: Ammonia in Sediment (QCLot: 3841398)								
EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	<0.2	0.1 mg/kg	114	70	130
EP003: Total Organic Carbon (TOC) in Soil (QCLot: 3851094)								
EP003: Total Organic Carbon	----	0.02	%	<0.02	0.11 %	104	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3839967)								
EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	6.25 mg/kg	96.0	70	130
EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	8.75 mg/kg	90.3	74	138
EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	3.75 mg/kg	92.0	63	131
EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3839968)								
EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	6.25 mg/kg	102	70	130
EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	8.75 mg/kg	93.2	74	138
EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	3.75 mg/kg	91.5	63	131
EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3839967)								
EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	5 mg/kg	99.0	78	118
EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	7.5 mg/kg	92.7	84	118
EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	5 mg/kg	98.0	73	119
EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3839968)								
EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	5 mg/kg	99.6	78	118
EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	7.5 mg/kg	93.5	84	118
EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	5 mg/kg	102	73	119

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3839968) - continued								
EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3840274)								
EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	6.2 mg/kg	76.4	61	133
EP080-SD: BTEXN (QCLot: 3840274)								
EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	0.2 mg/kg	95.9	66	122
EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	0.2 mg/kg	97.2	69	122
EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.2 mg/kg	96.0	66	126
EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	0.4 mg/kg	96.0	59	129
EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.2 mg/kg	93.3	66	126
EP090: Organotin Compounds (QCLot: 3839924)								
EP090: Monobutyltin	78763-54-9	1.0	µgSn/kg	<1	1.25 µgSn/kg	104	36	128
EP090: Dibutyltin	1002-53-5	1.0	µgSn/kg	<1	1.25 µgSn/kg	88.5	42	132
EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	1.25 µgSn/kg	95.7	52	139
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3839961)								
EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	50 µg/kg	73.3	45	139
EP130: Carbophenothion	786-19-6	10	µg/kg	<10	50 µg/kg	90.8	47	117
EP130: Chlorfenvinphos (E)	18708-86-6	10	µg/kg	<10.0	5 µg/kg	74.7	48	156
EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	50 µg/kg	84.3	62	136
EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	50 µg/kg	75.8	57	137
EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	50 µg/kg	86.1	57	121
EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	50 µg/kg	88.5	20.4	142
EP130: Diazinon	333-41-5	10	µg/kg	<10	50 µg/kg	79.6	57	121
EP130: Dichlorvos	62-73-7	10	µg/kg	<10	50 µg/kg	76.7	47	115
EP130: Dimethoate	60-51-5	10	µg/kg	<10	50 µg/kg	93.0	55	133
EP130: Ethion	563-12-2	10	µg/kg	<10	50 µg/kg	79.6	54	130
EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	50 µg/kg	79.9	57	131
EP130: Fenthion	55-38-9	10	µg/kg	<10	50 µg/kg	72.6	38	130
EP130: Malathion	121-75-5	10	µg/kg	<10	50 µg/kg	74.4	62	138
EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	50 µg/kg	85.2	33	137

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3839961) - continued								
EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	50 µg/kg	85.0	50	148
EP130: Parathion	56-38-2	10	µg/kg	<10	50 µg/kg	75.0	64	140
EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	50 µg/kg	79.8	56	136
EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	50 µg/kg	70.8	50	132
EP130: Prothiofos	34643-46-4	10	µg/kg	<10	50 µg/kg	73.7	55	135
EP131A: Organochlorine Pesticides (QCLot: 3839962)								
EP131A: Aldrin	309-00-2	0.5	µg/kg	<0.50	5 µg/kg	64.6	38	150
EP131A: alpha-BHC	319-84-6	0.5	µg/kg	<0.50	5 µg/kg	81.7	17.6	156
EP131A: beta-BHC	319-85-7	0.5	µg/kg	<0.50	5 µg/kg	84.2	30.5	152
EP131A: delta-BHC	319-86-8	0.5	µg/kg	<0.50	5 µg/kg	83.3	37	151
EP131A: 4.4`-DDD	72-54-8	0.5	µg/kg	<0.50	5 µg/kg	90.6	25.9	150
EP131A: 4.4`-DDE	72-55-9	0.5	µg/kg	<0.50	5 µg/kg	67.3	35	129
EP131A: 4.4`-DDT	50-29-3	0.5	µg/kg	<0.50	5 µg/kg	89.7	23.4	163
EP131A: Sum of DDD + DDE + DDT	----	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Dieldrin	60-57-1	0.5	µg/kg	<0.50	5 µg/kg	104	30.2	140
EP131A: alpha-Endosulfan	959-98-8	0.5	µg/kg	<0.50	5 µg/kg	67.2	38	140
EP131A: beta-Endosulfan	33213-65-9	0.5	µg/kg	<0.50	5 µg/kg	92.4	32	152
EP131A: Endosulfan sulfate	1031-07-8	0.5	µg/kg	<0.50	5 µg/kg	133	36	162
EP131A: Endosulfan (sum)	115-29-7	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Endrin	72-20-8	0.5	µg/kg	<0.50	5 µg/kg	109	25.8	166
EP131A: Endrin aldehyde	7421-93-4	0.5	µg/kg	<0.50	5 µg/kg	100	20.1	116
EP131A: Endrin ketone	53494-70-5	0.5	µg/kg	<0.50	5 µg/kg	91.3	13.4	151
EP131A: Heptachlor	76-44-8	0.5	µg/kg	<0.50	5 µg/kg	92.1	39	173
EP131A: Heptachlor epoxide	1024-57-3	0.5	µg/kg	<0.50	5 µg/kg	61.2	34	148
EP131A: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/kg	<0.50	5 µg/kg	98.7	26.1	152
EP131A: gamma-BHC	58-89-9	0.5	µg/kg	<0.50	5 µg/kg	118	31.2	159
EP131A: Methoxychlor	72-43-5	0.5	µg/kg	<0.50	5 µg/kg	101	36	160
EP131A: cis-Chlordane	5103-71-9	0.5	µg/kg	<0.50	5 µg/kg	67.5	36	142
EP131A: trans-Chlordane	5103-74-2	0.5	µg/kg	<0.50	5 µg/kg	87.4	29.5	138

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP131A: Organochlorine Pesticides (QCLot: 3839962) - continued								
EP131A: Total Chlordane (sum)	----	0.5	µg/kg	<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3839963)								
EP131B: Total Polychlorinated biphenyls	----	5	µg/kg	<5.0	50 µg/kg	82.0	44	136
EP131B: Aroclor 1016	12674-11-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1221	11104-28-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1232	11141-16-5	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1242	53469-21-9	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1248	12672-29-6	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1254	11097-69-1	5	µg/kg	<5.0	50 µg/kg	82.0	44	136
EP131B: Aroclor 1260	11096-82-5	5	µg/kg	<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3839966)								
EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	25 µg/kg	91.8	67	133
EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	25 µg/kg	87.3	63	135
EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	25 µg/kg	95.9	68	132
EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	25 µg/kg	98.8	67	133
EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	25 µg/kg	95.4	69	131
EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	25 µg/kg	92.8	66	138
EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	25 µg/kg	100	67	133
EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	25 µg/kg	104	64	130
EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	25 µg/kg	108	67	133
EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	25 µg/kg	95.8	65	133
EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	25 µg/kg	101	70	134
EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	25 µg/kg	93.0	63	133
EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	25 µg/kg	93.2	67	133
EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	25 µg/kg	91.5	64	130
EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	25 µg/kg	89.2	72	130
EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	25 µg/kg	94.8	70	132
EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	25 µg/kg	90.1	65	127
EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	25 µg/kg	88.1	67	135

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3839966) - continued								
EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	25 µg/kg	88.9	62	126
EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	25 µg/kg	98.9	66	134
EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 3844857)								
EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	----	----	----	----
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	96.1	79	121
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	103	83	113
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	105	84	116
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	105	83	117
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	102	84	116
EG020A-T: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	100	85	115
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	104	84	116
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	98.1	77	117
EG020T: Total Metals by ICP-MS (QCLot: 3844858)								
EG020B-T: Silver	7440-22-4	0.001	mg/L	<0.001	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3852039)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	91.5	77	115
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3843017)								
EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	1.0 mg/L	99.2	86	112
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3838858)								
EK057G: Nitrite as N	----	0.01	mg/L	<0.01	0.5 mg/L	98.0	83	119
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3843016)								
EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	0.5 mg/L	101	87	119
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3843002)								
EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	<0.1	10 mg/L	89.2	66	114
				----	5 mg/L	104	66	119
				----	1.0 mg/L	102	66	126
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3843003)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3843003) - continued								
EK067G: Total Phosphorus as P	----	0.01	mg/L	----	1.0 mg/L	105	66	124
				----	0.442 mg/L	95.5	63	123
				<0.01	4.42 mg/L	91.5	67	117
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3839946)								
EP066: Total Polychlorinated biphenyls	----	1	µg/L	<1	10 µg/L	77.2	61.6	107
EP068A: Organochlorine Pesticides (OC) (QCLot: 3839947)								
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	5 µg/L	104	65	107
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	5 µg/L	105	51	119
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	5 µg/L	97.6	63	113
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	5 µg/L	91.8	62	112
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	5 µg/L	104	60	106
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	5 µg/L	100	58	108
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	5 µg/L	99.2	58	114
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	5 µg/L	97.3	59	111
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	5 µg/L	108	62	114
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	5 µg/L	106	64	114
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	5 µg/L	108	62	114
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	5 µg/L	105	59	111
EP068: 4.4`-DDE	72-55-9	0.5	µg/L	<0.5	5 µg/L	102	63	111
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	5 µg/L	113	61	119
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	5 µg/L	109	71	119
EP068: 4.4`-DDD	72-54-8	0.5	µg/L	<0.5	5 µg/L	113	70	118
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	5 µg/L	96.8	62	112
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	5 µg/L	70.0	53	113
EP068: 4.4`-DDT	50-29-3	2.0	µg/L	<2.0	5 µg/L	111	52	120
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	5 µg/L	111	51	117
EP068: Methoxychlor	72-43-5	2.0	µg/L	<2.0	5 µg/L	109	53	127
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3839947)								
EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	5 µg/L	101	52	122
EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	5 µg/L	72.0	51	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3839947) - continued								
EP068: Monocrotophos	6923-22-4	0.5	µg/L	<2.0	5 µg/L	37.1	10	89.1
EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	5 µg/L	105	61	119
EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	5 µg/L	76.2	67	113
EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	5 µg/L	101	60	116
EP068: Parathion-methyl	298-00-0	2.0	µg/L	<2.0	5 µg/L	108	64	120
EP068: Malathion	121-75-5	0.5	µg/L	<0.5	5 µg/L	87.2	67	115
EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	5 µg/L	109	64	110
EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	5 µg/L	105	63	109
EP068: Parathion	56-38-2	2.0	µg/L	<2.0	5 µg/L	110	63	121
EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	5 µg/L	106	60	110
EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	5 µg/L	110	68	114
EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	5 µg/L	105	61	109
EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	5 µg/L	72.2	63	117
EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	5 µg/L	96.6	63	111
EP068: Ethion	563-12-2	0.5	µg/L	<0.5	5 µg/L	102	65	115
EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	5 µg/L	109	55	115
EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	5 µg/L	66.9	44	124
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3839944)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	<1.0	5 µg/L	68.3	58.6	119
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	<1.0	5 µg/L	79.3	63.6	114
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	<1.0	5 µg/L	71.4	62.2	113
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	<1.0	5 µg/L	78.3	63.9	115
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	<1.0	5 µg/L	76.1	62.6	116
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	<1.0	5 µg/L	72.4	64.3	116
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	<1.0	5 µg/L	79.4	63.6	118
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	<1.0	5 µg/L	80.8	63.1	118
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	<1.0	5 µg/L	80.2	64.1	117
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	<1.0	5 µg/L	79.1	62.5	116
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.2	µg/L	<1.0	5 µg/L	79.6	61.7	119

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3839944) - continued								
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	<1.0	5 µg/L	76.6	61.7	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	<0.5	5 µg/L	64.3	63.3	117
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.2	µg/L	<1.0	5 µg/L	68.5	59.9	118
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.2	µg/L	<1.0	5 µg/L	69.6	61.2	117
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.2	µg/L	<1.0	5 µg/L	69.3	59.1	118
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3839943)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	2000 µg/L	93.1	59	129
EP071: C15 - C28 Fraction	----	100	µg/L	<100	3000 µg/L	93.8	71	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	2000 µg/L	95.6	62	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3846887)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	81.8	75	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3839943)								
EP071: >C10 - C16 Fraction	>C10_C16	100	µg/L	<100	2500 µg/L	90.4	58.9	131
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	3500 µg/L	91.0	73.9	138
EP071: >C34 - C40 Fraction	----	50	µg/L	<100	1500 µg/L	100	67	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3846887)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	81.1	75	127
EP080: BTEXN (QCLot: 3846887)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	93.8	70	124
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	82.8	65	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	85.6	70	120
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	83.1	69	121
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	87.7	72	122
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	94.8	70	124
EP090: Organotin Compounds (QCLot: 3839472)								
EP090H: Monobutyltin	78763-54-9	2	ngSn/L	<5	50 ngSn/L	70.0	25	139
EP090H: Dibutyltin	1002-53-5	2	ngSn/L	<5	50 ngSn/L	# 36.3	50	114
EP090H: Tributyltin	56573-85-4	1	ngSn/L	<2	50 ngSn/L	# 35.1	39	120

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3852301)							
ES1504426-058	Anonymous	EG020-SD: Arsenic	7440-38-2	50 mg/kg	100	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	100	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	107	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	106	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	95.5	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	103	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	103	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3853977)							
ES1504596-043	EB34 0.0-0.5A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	105	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	102	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	100	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	104	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	94.4	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	104	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	103	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3852300)							
ES1504426-057	Anonymous	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	120	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3853976)							
ES1504596-038	EB33 0.5-1.0A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	124	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3850769)							
ES1504596-001	BH5 0.0-0.5A	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	97.1	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3850770)							
ES1504596-001	BH5 0.0-0.5A	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	112	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3843006)							
ES1504426-029	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	84.4	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3843009)							
ES1504596-021	EB22 0.0-0.5A	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	82.7	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3846123)							
ES1504596-043	EB34 0.0-0.5A	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	83.8	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3843007)							
ES1504426-029	Anonymous	EK067G: Total Phosphorus as P	----	100 mg/kg	112	70	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3843008)							
ES1504596-021	EB22 0.0-0.5A	EK067G: Total Phosphorus as P	----	100 mg/kg	# 62.6	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3846125)							
ES1504596-043	EB34 0.0-0.5A	EK067G: Total Phosphorus as P	----	100 mg/kg	85.7	70	130
EK255A SD: Ammonia in Sediment (QCLot: 3841398)							
ES1504596-001	BH5 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	100	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3839967)							
ES1504596-001	BH5 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	86.8	70	130
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	85.7	70	130
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	108	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3840274)							
ES1504596-003	BH5 0.3V	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	84.2	70	130
EP080-SD: BTEXN (QCLot: 3840274)							
ES1504596-003	BH5 0.3V	EP080-SD: Benzene	71-43-2	0.5 mg/kg	72.2	70	130
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	73.1	70	130
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	75.9	70	130
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	75.0	70	130
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	77.9	70	130
EP090: Organotin Compounds (QCLot: 3839924)							
ES1504596-004	BH8 0.0-0.05A	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	41.8	35	130
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	91.7	20	130
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	90.3	20	130
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3839961)							
ES1504596-001	BH5 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	82.4	36	144
		EP130: Carbophenothion	786-19-6	50 µg/kg	77.0	38	120
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	59.0	49	157
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	81.8	53	145
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	82.7	60	140
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	79.6	56	126
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	90.0	9.7	148
		EP130: Diazinon	333-41-5	50 µg/kg	74.9	60	122
		EP130: Dichlorvos	62-73-7	50 µg/kg	79.4	33	123
		EP130: Dimethoate	60-51-5	50 µg/kg	83.8	36	142
		EP130: Ethion	563-12-2	50 µg/kg	84.4	48	136
		EP130: Fenamiphos	22224-92-6	50 µg/kg	79.3	42	136

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3839961) - continued							
ES1504596-001	BH5 0.0-0.5A	EP130: Fenthion	55-38-9	50 µg/kg	69.6	35	131
		EP130: Malathion	121-75-5	50 µg/kg	72.4	55	141
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	80.1	23.5	132
		EP130: Monocrotophos	6923-22-4	50 µg/kg	71.4	35	153
		EP130: Parathion	56-38-2	50 µg/kg	73.5	57	147
		EP130: Parathion-methyl	298-00-0	50 µg/kg	83.1	48	140
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	92.9	45	137
		EP130: Prothiofos	34643-46-4	50 µg/kg	72.6	51	137
EP131A: Organochlorine Pesticides (QCLot: 3839962)							
ES1504596-001	BH5 0.0-0.5A	EP131A: Aldrin	309-00-2	5 µg/kg	120	23.4	153
		EP131A: alpha-BHC	319-84-6	5 µg/kg	46.8	17.6	156
		EP131A: beta-BHC	319-85-7	5 µg/kg	54.4	24.9	153
		EP131A: delta-BHC	319-86-8	5 µg/kg	76.3	25.2	147
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	64.9	25.9	150
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	40.0	31.2	125
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	79.0	23.4	163
		EP131A: Dieldrin	60-57-1	5 µg/kg	129	30.2	140
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	54.4	28.8	135
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	82.3	22.6	141
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	90.6	16.1	156
		EP131A: Endrin	72-20-8	5 µg/kg	85.3	17.7	162
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	69.1	20.1	116
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	55.8	13.4	151
		EP131A: Heptachlor	76-44-8	5 µg/kg	85.4	23.8	170
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	44.4	28.3	140
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	17.8	17.7	144
		EP131A: gamma-BHC	58-89-9	5 µg/kg	30.0	21.8	158
		EP131A: Methoxychlor	72-43-5	5 µg/kg	112	24.4	158
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	50.8	27.3	139
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	70.3	29.5	138
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3839963)							
ES1504596-001	BH5 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	75.0	44	136
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	75.0	44	136
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3839966)							
ES1504596-001	BH5 0.0-0.5A	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	86.8	70	130
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	101	70	130

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Recovery Limits (%): Low	Recovery Limits (%): High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3839966) - continued							
ES1504596-001	BH5 0.0-0.5A	EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	97.2	70	130
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	95.3	70	130
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	91.1	70	130
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	87.9	70	130
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	87.5	70	130
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	82.8	70	130
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	82.0	70	130
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	85.5	70	130
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	88.6	70	130
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	95.9	70	130
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	80.2	70	130
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	84.7	70	130
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	85.6	70	130
		EP132B-SD: Perylene	198-55-0	25 µg/kg	84.6	70	130
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	89.6	70	130
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	91.2	70	130
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	88.6	70	130
		EP132B-SD: Coronene	191-07-1	25 µg/kg	105	70	130

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 3844857)							
ES1504426-061	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	104	70	130
		EG020A-T: Cadmium	7440-43-9	0.250 mg/L	104	70	130
		EG020A-T: Chromium	7440-47-3	1 mg/L	104	70	130
		EG020A-T: Copper	7440-50-8	1 mg/L	104	70	130
		EG020A-T: Lead	7439-92-1	1 mg/L	104	70	130
		EG020A-T: Manganese	7439-96-5	1 mg/L	110	70	130
		EG020A-T: Nickel	7440-02-0	1 mg/L	104	70	130
		EG020A-T: Zinc	7440-66-6	1 mg/L	107	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3852039)							
ES1504757-027	Anonymous	EG035T: Mercury	7439-97-6	0.010 mg/L	85.3	70	130
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3843017)							
ES1504596-058	RINSATE 15	EK055G: Ammonia as N	7664-41-7	1 mg/L	103	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3838858)							

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3838858) - continued							
ES1504687-001	Anonymous	EK057G: Nitrite as N	----	0.5 mg/L	101	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3843016)							
ES1504596-058	RINSATE 15	EK059G: Nitrite + Nitrate as N	----	0.5 mg/L	98.8	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3843002)							
ES1504618-037	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	5 mg/L	103	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3843003)							
ES1504618-037	Anonymous	EK067G: Total Phosphorus as P	----	1.0 mg/L	104	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3846887)							
ES1504592-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	98.4	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3846887)							
ES1504592-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	95.3	70	130
EP080: BTEXN (QCLot: 3846887)							
ES1504592-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	86.6	70	130
		EP080: Toluene	108-88-3	25 µg/L	96.1	70	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	96.7	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	94.5	70	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	101	70	130
		EP080: Naphthalene	91-20-3	25 µg/L	110	70	130

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

The quality control term Matrix Spike (MS) and Matrix Spike Duplicate (MSD) refers to intralaboratory split samples spiked with a representative set of target analytes. The purpose of these QC parameters are to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP090: Organotin Compounds (QCLot: 3839924)										
ES1504596-004	BH8 0.0-0.05A	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	41.8	----	35	130	----	----
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	91.7	----	20	130	----	----
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	90.3	----	20	130	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3839961)										
ES1504596-001	BH5 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	82.4	----	36	144	----	----
		EP130: Carbophenothion	786-19-6	50 µg/kg	77.0	----	38	120	----	----
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	59.0	----	49	157	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3839961) - continued										
ES1504596-001	BH5 0.0-0.5A	EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	81.8	----	53	145	----	----
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	82.7	----	60	140	----	----
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	79.6	----	56	126	----	----
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	90.0	----	9.7	148	----	----
		EP130: Diazinon	333-41-5	50 µg/kg	74.9	----	60	122	----	----
		EP130: Dichlorvos	62-73-7	50 µg/kg	79.4	----	33	123	----	----
		EP130: Dimethoate	60-51-5	50 µg/kg	83.8	----	36	142	----	----
		EP130: Ethion	563-12-2	50 µg/kg	84.4	----	48	136	----	----
		EP130: Fenamiphos	22224-92-6	50 µg/kg	79.3	----	42	136	----	----
		EP130: Fenthion	55-38-9	50 µg/kg	69.6	----	35	131	----	----
		EP130: Malathion	121-75-5	50 µg/kg	72.4	----	55	141	----	----
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	80.1	----	23.5	132	----	----
		EP130: Monocrotophos	6923-22-4	50 µg/kg	71.4	----	35	153	----	----
		EP130: Parathion	56-38-2	50 µg/kg	73.5	----	57	147	----	----
		EP130: Parathion-methyl	298-00-0	50 µg/kg	83.1	----	48	140	----	----
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	92.9	----	45	137	----	----
		EP130: Prothiofos	34643-46-4	50 µg/kg	72.6	----	51	137	----	----
EP131A: Organochlorine Pesticides (QCLot: 3839962)										
ES1504596-001	BH5 0.0-0.5A	EP131A: Aldrin	309-00-2	5 µg/kg	120	----	23.4	153	----	----
		EP131A: alpha-BHC	319-84-6	5 µg/kg	46.8	----	17.6	156	----	----
		EP131A: beta-BHC	319-85-7	5 µg/kg	54.4	----	24.9	153	----	----
		EP131A: delta-BHC	319-86-8	5 µg/kg	76.3	----	25.2	147	----	----
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	64.9	----	25.9	150	----	----
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	40.0	----	31.2	125	----	----
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	79.0	----	23.4	163	----	----
		EP131A: Dieldrin	60-57-1	5 µg/kg	129	----	30.2	140	----	----
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	54.4	----	28.8	135	----	----
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	82.3	----	22.6	141	----	----
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	90.6	----	16.1	156	----	----
		EP131A: Endrin	72-20-8	5 µg/kg	85.3	----	17.7	162	----	----
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	69.1	----	20.1	116	----	----
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	55.8	----	13.4	151	----	----
		EP131A: Heptachlor	76-44-8	5 µg/kg	85.4	----	23.8	170	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP131A: Organochlorine Pesticides (QCLot: 3839962) - continued										
ES1504596-001	BH5 0.0-0.5A	EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	44.4	----	28.3	140	----	----
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	17.8	----	17.7	144	----	----
		EP131A: gamma-BHC	58-89-9	5 µg/kg	30.0	----	21.8	158	----	----
		EP131A: Methoxychlor	72-43-5	5 µg/kg	112	----	24.4	158	----	----
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	50.8	----	27.3	139	----	----
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	70.3	----	29.5	138	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3839963)										
ES1504596-001	BH5 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	75.0	----	44	136	----	----
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	75.0	----	44	136	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3839966)										
ES1504596-001	BH5 0.0-0.5A	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	86.8	----	70	130	----	----
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	101	----	70	130	----	----
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	97.2	----	70	130	----	----
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	95.3	----	70	130	----	----
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	91.1	----	70	130	----	----
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	87.9	----	70	130	----	----
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	87.5	----	70	130	----	----
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	82.8	----	70	130	----	----
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	82.0	----	70	130	----	----
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	85.5	----	70	130	----	----
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	88.6	----	70	130	----	----
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	95.9	----	70	130	----	----
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	80.2	----	70	130	----	----
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	84.7	----	70	130	----	----
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	85.6	----	70	130	----	----
		EP132B-SD: Perylene	198-55-0	25 µg/kg	84.6	----	70	130	----	----
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	89.6	----	70	130	----	----
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	91.2	----	70	130	----	----
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	88.6	----	70	130	----	----
		EP132B-SD: Coronene	191-07-1	25 µg/kg	105	----	70	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3839967)										
ES1504596-001	BH5 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	86.8	----	70	130	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3839967) - continued										
ES1504596-001	BH5 0.0-0.5A	EP071-SD: C15 - C28 Fraction	----	59 mg/kg	85.7	----	70	130	----	----
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	108	----	70	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3840274)										
ES1504596-003	BH5 0.3V	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	84.2	----	70	130	----	----
EP080-SD: BTEXN (QCLot: 3840274)										
ES1504596-003	BH5 0.3V	EP080-SD: Benzene	71-43-2	0.5 mg/kg	72.2	----	70	130	----	----
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	73.1	----	70	130	----	----
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	75.9	----	70	130	----	----
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	75.0	----	70	130	----	----
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	77.9	----	70	130	----	----
EK255A SD: Ammonia in Sediment (QCLot: 3841398)										
ES1504596-001	BH5 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	100	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3843006)										
ES1504426-029	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	84.4	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3843007)										
ES1504426-029	Anonymous	EK067G: Total Phosphorus as P	----	100 mg/kg	112	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3843008)										
ES1504596-021	EB22 0.0-0.5A	EK067G: Total Phosphorus as P	----	100 mg/kg	# 62.6	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3843009)										
ES1504596-021	EB22 0.0-0.5A	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	82.7	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3846123)										
ES1504596-043	EB34 0.0-0.5A	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	83.8	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3846125)										
ES1504596-043	EB34 0.0-0.5A	EK067G: Total Phosphorus as P	----	100 mg/kg	85.7	----	70	130	----	----
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3850769)										
ES1504596-001	BH5 0.0-0.5A	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	97.1	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3850770)										
ES1504596-001	BH5 0.0-0.5A	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	112	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3852300)										
ES1504426-057	Anonymous	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	120	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3852301)										
ES1504426-058	Anonymous	EG020-SD: Arsenic	7440-38-2	50 mg/kg	100	----	70	130	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3852301) - continued										
ES1504426-058	Anonymous	EG020-SD: Cadmium	7440-43-9	50 mg/kg	100	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	107	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	106	----	70	130	----	----
		EG020-SD: Lead	7439-92-1	250 mg/kg	95.5	----	70	130	----	----
		EG020-SD: Nickel	7440-02-0	50 mg/kg	103	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	103	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3853976)										
ES1504596-038	EB33 0.5-1.0A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	124	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3853977)										
ES1504596-043	EB34 0.0-0.5A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	105	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	102	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	100	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	104	----	70	130	----	----
		EG020-SD: Lead	7439-92-1	250 mg/kg	94.4	----	70	130	----	----
		EG020-SD: Nickel	7440-02-0	50 mg/kg	104	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	103	----	70	130	----	----

Sub-Matrix: **WATER**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3838858)										
ES1504687-001	Anonymous	EK057G: Nitrite as N	----	0.5 mg/L	101	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3843002)										
ES1504618-037	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	5 mg/L	103	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3843003)										
ES1504618-037	Anonymous	EK067G: Total Phosphorus as P	----	1.0 mg/L	104	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3843016)										
ES1504596-058	RINSATE 15	EK059G: Nitrite + Nitrate as N	----	0.5 mg/L	98.8	----	70	130	----	----
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3843017)										
ES1504596-058	RINSATE 15	EK055G: Ammonia as N	7664-41-7	1 mg/L	103	----	70	130	----	----
EG020T: Total Metals by ICP-MS (QCLot: 3844857)										
ES1504426-061	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	104	----	70	130	----	----
		EG020A-T: Cadmium	7440-43-9	0.250 mg/L	104	----	70	130	----	----
		EG020A-T: Chromium	7440-47-3	1 mg/L	104	----	70	130	----	----

Sub-Matrix: **WATER**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EG020T: Total Metals by ICP-MS (QCLot: 3844857) - continued										
ES1504426-061	Anonymous	EG020A-T: Copper	7440-50-8	1 mg/L	104	----	70	130	----	----
		EG020A-T: Lead	7439-92-1	1 mg/L	104	----	70	130	----	----
		EG020A-T: Manganese	7439-96-5	1 mg/L	110	----	70	130	----	----
		EG020A-T: Nickel	7440-02-0	1 mg/L	104	----	70	130	----	----
		EG020A-T: Zinc	7440-66-6	1 mg/L	107	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3846887)										
ES1504592-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	98.4	----	70	130	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3846887)										
ES1504592-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	95.3	----	70	130	----	----
EP080: BTEXN (QCLot: 3846887)										
ES1504592-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	86.6	----	70	130	----	----
		EP080: Toluene	108-88-3	25 µg/L	96.1	----	70	130	----	----
		EP080: Ethylbenzene	100-41-4	25 µg/L	96.7	----	70	130	----	----
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	94.5	----	70	130	----	----
		EP080: ortho-Xylene	95-47-6	25 µg/L	101	----	70	130	----	----
		EP080: Naphthalene	91-20-3	25 µg/L	110	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3852039)										
ES1504757-027	Anonymous	EG035T: Mercury	7439-97-6	0.010 mg/L	85.3	----	70	130	----	----

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1504596**	Page	: 1 of 19
Client	: AURECON AUSTRALASIA PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 26-FEB-2015
Sampler	: GK	Issue Date	: 19-MAR-2015
Order number	: 245553		
		No. of samples received	: 58
Quote number	: SY/1021/14 V2	No. of samples analysed	: 58

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with recommended holding times (USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content							
Soil Glass Jar - Unpreserved (EA055-103)							
EB22 0.0-0.5A	**24-FEB-2015**	**----**	----	----	**04-MAR-2015**	10-MAR-2015	✓
Soil Glass Jar - Unpreserved (EA055-103)							
BH5 0.0-0.5A, BH5 0.3V, BH8 0.0-0.05A, BH8 0.5-1.0A, BH8 0.3V, BH8 0.7V, BH60 0.0-0.3A, EB12 0.0-0.3A, EB12 0.3V, EB16 0.0-0.04A, EB16 0.3V, EB17 0.0-0.5A, EB17 0.3V, EB22 0.3V, EB27 0.0-0.7A, EB27 0.3V, EB27 0.7V, EB31 0.0-0.5A, EB31 0.3V, EB32 0.3V, EB32 0.0-0.5A, EB32 0.5-1.0A, EB32 0.7V, EB33 0.0-0.5A, EB33 0.5-1.0A, EB33 0.3V, EB33 0.7V, EB34 0.0-0.5A, EB34 0.5-1.0A, EB34 0.3V, EB34 0.7V, EB36 0.0-0.5A, EB36 0.5-1.0A, EB36 0.3V, EB36 0.7V, TRIPLICATE 14A, TRIPLICATE 14B	**24-FEB-2015**	**----**	----	----	**09-MAR-2015**	10-MAR-2015	✓
EA150: Particle Sizing							
Snap Lock Bag (EA150H)							
BH5 0.0-0.5B, BH8 0.0-0.5B, BH8 0.5-1.0B, BH60 0.0-0.3B, EB12 0.0-0.3B, EB16 0.0-0.4B, EB17 0.0-0.5B, EB22 0.0-0.5B, EB27 0.0-0.7B, EB31 0.0-0.5B, EB32 0.0-0.5B, EB32 0.5-1.0B, EB33 0.0-0.5B, EB33 0.5-1.0B, EB34 0.0-0.5B, EB34 0.5-1.0B, EB36 0.0-0.5B, EB36 0.5-1.0B	**24-FEB-2015**	**---**	23-AUG-2015	----	**17-MAR-2015**	23-AUG-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA150: Soil Classification based on Particle Size							
Snap Lock Bag (EA150H)							
BH5 0.0-0.5B, BH8 0.0-0.5B, BH8 0.5-1.0B, BH60 0.0-0.3B, EB12 0.0-0.3B, EB16 0.0-0.4B, EB17 0.0-0.5B, EB22 0.0-0.5B, EB27 0.0-0.7B, EB31 0.0-0.5B, EB32 0.0-0.5B, EB32 0.5-1.0B, EB33 0.0-0.5B, EB33 0.5-1.0B, EB34 0.0-0.5B, EB34 0.5-1.0B, EB36 0.0-0.5B, EB36 0.5-1.0B	**24-FEB-2015**	**---**	23-AUG-2015	----	**17-MAR-2015**	23-AUG-2015	✓
EA152: Soil Particle Density							
Snap Lock Bag (EA152)							
BH5 0.0-0.5B, BH8 0.0-0.5B, BH8 0.5-1.0B, BH60 0.0-0.3B, EB12 0.0-0.3B, EB16 0.0-0.4B, EB17 0.0-0.5B, EB22 0.0-0.5B, EB27 0.0-0.7B, EB31 0.0-0.5B, EB32 0.0-0.5B, EB32 0.5-1.0B, EB33 0.0-0.5B, EB33 0.5-1.0B, EB34 0.0-0.5B, EB34 0.5-1.0B, EB36 0.0-0.5B, EB36 0.5-1.0B	**24-FEB-2015**	**---**	23-AUG-2015	----	**18-MAR-2015**	23-AUG-2015	✓
EG005-SD: Total Metals in Sediments by ICP-AES							
Soil Glass Jar - Unpreserved (EG005-SD)							
BH5 0.0-0.5A, BH8 0.0-0.05A, BH8 0.5-1.0A, BH60 0.0-0.3A, EB12 0.0-0.3A, EB16 0.0-0.04A, EB17 0.0-0.5A, EB22 0.0-0.5A, EB27 0.0-0.7A, EB31 0.0-0.5A, EB32 0.0-0.5A, EB32 0.5-1.0A, EB33 0.0-0.5A	**24-FEB-2015**	**10-MAR-2015**	23-AUG-2015	✓	**11-MAR-2015**	23-AUG-2015	✓
Soil Glass Jar - Unpreserved (EG005-SD)							
EB33 0.5-1.0A, EB34 0.0-0.5A, EB34 0.5-1.0A, EB36 0.0-0.5A, EB36 0.5-1.0A, TRIPLICATE 14A, TRIPLICATE 14B	**24-FEB-2015**	**11-MAR-2015**	23-AUG-2015	✓	**12-MAR-2015**	23-AUG-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020-SD: Total Metals in Sediments by ICPMS							
Soil Glass Jar - Unpreserved (EG020-SD)							
BH5 0.0-0.5A, BH8 0.0-0.05A, BH8 0.5-1.0A, BH60 0.0-0.3A, EB12 0.0-0.3A, EB16 0.0-0.04A, EB17 0.0-0.5A, EB22 0.0-0.5A, EB27 0.0-0.7A, EB31 0.0-0.5A, EB32 0.0-0.5A, EB32 0.5-1.0A, EB33 0.0-0.5A	**24-FEB-2015**	**10-MAR-2015**	23-AUG-2015	✓	**11-MAR-2015**	23-AUG-2015	✓
Soil Glass Jar - Unpreserved (EG020-SD)							
EB33 0.5-1.0A, EB34 0.0-0.5A, EB34 0.5-1.0A, EB36 0.0-0.5A, EB36 0.5-1.0A, TRIPLICATE 14A, TRIPLICATE 14B	**24-FEB-2015**	**11-MAR-2015**	23-AUG-2015	✓	**11-MAR-2015**	23-AUG-2015	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T-LL)							
BH5 0.0-0.5A, BH8 0.0-0.05A, BH8 0.5-1.0A, BH60 0.0-0.3A, EB12 0.0-0.3A, EB16 0.0-0.04A, EB17 0.0-0.5A, EB22 0.0-0.5A, EB27 0.0-0.7A, EB31 0.0-0.5A, EB32 0.0-0.5A, EB32 0.5-1.0A, EB33 0.0-0.5A	**24-FEB-2015**	**10-MAR-2015**	24-MAR-2015	✓	**11-MAR-2015**	24-MAR-2015	✓
Soil Glass Jar - Unpreserved (EG035T-LL)							
EB33 0.5-1.0A, EB34 0.0-0.5A, EB34 0.5-1.0A, EB36 0.0-0.5A, EB36 0.5-1.0A, TRIPLICATE 14A, TRIPLICATE 14B	**24-FEB-2015**	**11-MAR-2015**	24-MAR-2015	✓	**11-MAR-2015**	24-MAR-2015	✓
EK057G: Nitrite as N by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK057G)							
BH5 0.0-0.5A, BH8 0.0-0.05A, BH8 0.5-1.0A, BH60 0.0-0.3A, EB12 0.0-0.3A, EB16 0.0-0.04A, EB17 0.0-0.5A, EB22 0.0-0.5A, EB27 0.0-0.7A, EB31 0.0-0.5A, EB32 0.0-0.5A, EB32 0.5-1.0A, EB33 0.0-0.5A, EB33 0.5-1.0A, EB34 0.0-0.5A, EB34 0.5-1.0A, EB36 0.0-0.5A, EB36 0.5-1.0A, TRIPLICATE 14A, TRIPLICATE 14B	**24-FEB-2015**	**10-MAR-2015**	23-AUG-2015	✓	**10-MAR-2015**	23-AUG-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK059G)							
BH5 0.0-0.5A, BH8 0.0-0.05A, BH8 0.5-1.0A, BH60 0.0-0.3A, EB12 0.0-0.3A, EB16 0.0-0.04A, EB17 0.0-0.5A, EB22 0.0-0.5A, EB27 0.0-0.7A, EB31 0.0-0.5A, EB32 0.0-0.5A, EB32 0.5-1.0A, EB33 0.0-0.5A, EB33 0.5-1.0A, EB34 0.0-0.5A, EB34 0.5-1.0A, EB36 0.0-0.5A, EB36 0.5-1.0A, TRIPLICATE 14A, TRIPLICATE 14B	**24-FEB-2015**	**10-MAR-2015**	23-AUG-2015	✓	**10-MAR-2015**	23-AUG-2015	✓
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser							
Soil Glass Jar - Unpreserved (EK061G)							
BH5 0.0-0.5A, BH8 0.0-0.05A, BH8 0.5-1.0A, BH60 0.0-0.3A, EB12 0.0-0.3A, EB16 0.0-0.04A, EB17 0.0-0.5A, EB22 0.0-0.5A, EB27 0.0-0.7A, EB31 0.0-0.5A, EB32 0.0-0.5A, EB32 0.5-1.0A, EB33 0.0-0.5A, EB33 0.5-1.0A	**24-FEB-2015**	**03-MAR-2015**	23-AUG-2015	✓	**03-MAR-2015**	23-AUG-2015	✓
Soil Glass Jar - Unpreserved (EK061G)							
EB34 0.0-0.5A, EB34 0.5-1.0A, EB36 0.0-0.5A, EB36 0.5-1.0A, TRIPLICATE 14A, TRIPLICATE 14B	**24-FEB-2015**	**04-MAR-2015**	23-AUG-2015	✓	**04-MAR-2015**	23-AUG-2015	✓
EK067G: Total Phosphorus as P by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK067G)							
BH5 0.0-0.5A, BH8 0.0-0.05A, BH8 0.5-1.0A, BH60 0.0-0.3A, EB12 0.0-0.3A, EB16 0.0-0.04A, EB17 0.0-0.5A, EB22 0.0-0.5A, EB27 0.0-0.7A, EB31 0.0-0.5A, EB32 0.0-0.5A, EB32 0.5-1.0A, EB33 0.0-0.5A, EB33 0.5-1.0A	**24-FEB-2015**	**03-MAR-2015**	23-AUG-2015	✓	**03-MAR-2015**	23-AUG-2015	✓
Soil Glass Jar - Unpreserved (EK067G)							
EB34 0.0-0.5A, EB34 0.5-1.0A, EB36 0.0-0.5A, EB36 0.5-1.0A, TRIPLICATE 14A, TRIPLICATE 14B	**24-FEB-2015**	**04-MAR-2015**	23-AUG-2015	✓	**04-MAR-2015**	23-AUG-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK255A SD Ammonia in Sediment								
Soil Glass Jar - Unpreserved (EK255A SD)								
BH5 0.0-0.5A,	BH8 0.0-0.05A,	**24-FEB-2015**	**----**	----	----	**02-MAR-2015**	23-AUG-2015	✓
BH8 0.5-1.0A,	BH60 0.0-0.3A,							
EB12 0.0-0.3A,	EB16 0.0-0.04A,							
EB17 0.0-0.5A,	EB22 0.0-0.5A,							
EB27 0.0-0.7A,	EB31 0.0-0.5A,							
EB32 0.0-0.5A,	EB32 0.5-1.0A,							
EB33 0.0-0.5A,	EB33 0.5-1.0A,							
EB34 0.0-0.5A,	EB34 0.5-1.0A,							
EB36 0.0-0.5A,	EB36 0.5-1.0A,							
TRIPLICATE 14A,	TRIPLICATE 14B							
EP003: Total Organic Carbon (TOC) in Soil								
Pulp Bag (EP003)								
BH5 0.0-0.5A,	BH8 0.0-0.05A,	**24-FEB-2015**	**09-MAR-2015**	24-MAR-2015	✓	**09-MAR-2015**	24-MAR-2015	✓
BH8 0.5-1.0A,	BH60 0.0-0.3A,							
EB12 0.0-0.3A,	EB16 0.0-0.04A,							
EB17 0.0-0.5A,	EB22 0.0-0.5A,							
EB27 0.0-0.7A,	EB31 0.0-0.5A,							
EB32 0.0-0.5A,	EB32 0.5-1.0A,							
EB33 0.0-0.5A,	EB33 0.5-1.0A,							
EB34 0.0-0.5A,	EB34 0.5-1.0A,							
EB36 0.0-0.5A,	EB36 0.5-1.0A,							
TRIPLICATE 14A,	TRIPLICATE 14B							
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP071-SD)								
TRIP BLANK 15		**23-FEB-2015**	**07-MAR-2015**	09-MAR-2015	✓	**11-MAR-2015**	19-APR-2015	✓
Soil Glass Jar - Unpreserved (EP071-SD)								
BH5 0.0-0.5A,	BH8 0.0-0.05A,	**24-FEB-2015**	**09-MAR-2015**	10-MAR-2015	✓	**10-MAR-2015**	18-APR-2015	✓
BH8 0.5-1.0A,	BH60 0.0-0.3A,							
EB12 0.0-0.3A,	EB16 0.0-0.04A,							
EB17 0.0-0.5A,	EB22 0.0-0.5A,							
EB27 0.0-0.7A,	EB31 0.0-0.5A,							
EB32 0.0-0.5A,	EB32 0.5-1.0A,							
EB33 0.0-0.5A,	EB33 0.5-1.0A,							
EB34 0.0-0.5A,	EB34 0.5-1.0A,							
EB36 0.0-0.5A,	EB36 0.5-1.0A,							
TRIPLICATE 14A,	TRIPLICATE 14B							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080-SD: BTEXN								
Soil Glass Jar - Unpreserved (EP080-SD)								
TRIP BLANK 15		**23-FEB-2015**	**28-FEB-2015**	09-MAR-2015	✓	**09-MAR-2015**	09-MAR-2015	✓
Soil Glass Jar - Unpreserved (EP080-SD)								
BH5 0.3V,	BH8 0.3V,	**24-FEB-2015**	**28-FEB-2015**	10-MAR-2015	✓	**09-MAR-2015**	10-MAR-2015	✓
BH8 0.7V,	BH60 0.0-0.3A,							
EB12 0.3V,	EB16 0.3V,							
EB17 0.3V,	EB22 0.3V,							
EB27 0.3V,	EB27 0.7V,							
EB31 0.3V,	EB32 0.3V,							
EB32 0.7V,	EB33 0.3V,							
EB33 0.7V,	EB34 0.3V,							
EB34 0.7V,	EB36 0.3V,							
EB36 0.7V								
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080-SD)								
TRIP BLANK 15		**23-FEB-2015**	**28-FEB-2015**	09-MAR-2015	✓	**09-MAR-2015**	09-MAR-2015	✓
Soil Glass Jar - Unpreserved (EP080-SD)								
BH5 0.3V,	BH8 0.3V,	**24-FEB-2015**	**28-FEB-2015**	10-MAR-2015	✓	**09-MAR-2015**	10-MAR-2015	✓
BH8 0.7V,	BH60 0.0-0.3A,							
EB12 0.3V,	EB16 0.3V,							
EB17 0.3V,	EB22 0.3V,							
EB27 0.3V,	EB27 0.7V,							
EB31 0.3V,	EB32 0.3V,							
EB32 0.7V,	EB33 0.3V,							
EB33 0.7V,	EB34 0.3V,							
EB34 0.7V,	EB36 0.3V,							
EB36 0.7V								
EP090: Organotin Compounds								
Soil Glass Jar - Unpreserved (EP090)								
BH5 0.0-0.5A,	BH8 0.0-0.05A,	**24-FEB-2015**	**05-MAR-2015**	10-MAR-2015	✓	**12-MAR-2015**	14-APR-2015	✓
BH8 0.5-1.0A,	BH60 0.0-0.3A,							
EB12 0.0-0.3A,	EB16 0.0-0.04A,							
EB17 0.0-0.5A,	EB22 0.0-0.5A,							
EB27 0.0-0.7A,	EB31 0.0-0.5A,							
EB32 0.0-0.5A,	EB32 0.5-1.0A,							
EB33 0.0-0.5A,	EB33 0.5-1.0A,							
EB34 0.0-0.5A,	EB34 0.5-1.0A,							
EB36 0.0-0.5A,	EB36 0.5-1.0A,							
TRIPLICATE 14A,	TRIPLICATE 14B							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP130A: Organophosphorus Pesticides (Ultra-trace)								
Soil Glass Jar - Unpreserved (EP130)								
BH5 0.0-0.5A,	BH8 0.0-0.05A,	**24-FEB-2015**	**09-MAR-2015**	10-MAR-2015	✓	**11-MAR-2015**	18-APR-2015	✓
BH8 0.5-1.0A,	BH60 0.0-0.3A,							
EB12 0.0-0.3A,	EB16 0.0-0.04A,							
EB17 0.0-0.5A,	EB22 0.0-0.5A,							
EB27 0.0-0.7A,	EB31 0.0-0.5A,							
EB32 0.0-0.5A,	EB32 0.5-1.0A,							
EB33 0.0-0.5A,	EB33 0.5-1.0A,							
EB34 0.0-0.5A,	EB34 0.5-1.0A,							
EB36 0.0-0.5A,	EB36 0.5-1.0A,							
TRIPLICATE 14A,	TRIPLICATE 14B							
EP131A: Organochlorine Pesticides								
Soil Glass Jar - Unpreserved (EP131A)								
BH5 0.0-0.5A,	BH8 0.0-0.05A,	**24-FEB-2015**	**09-MAR-2015**	10-MAR-2015	✓	**11-MAR-2015**	18-APR-2015	✓
BH8 0.5-1.0A,	BH60 0.0-0.3A,							
EB12 0.0-0.3A,	EB16 0.0-0.04A,							
EB17 0.0-0.5A,	EB22 0.0-0.5A,							
EB27 0.0-0.7A,	EB31 0.0-0.5A,							
EB32 0.0-0.5A,	EB32 0.5-1.0A,							
EB33 0.0-0.5A,	EB33 0.5-1.0A,							
EB34 0.0-0.5A,	EB34 0.5-1.0A,							
EB36 0.0-0.5A,	EB36 0.5-1.0A,							
TRIPLICATE 14A,	TRIPLICATE 14B							
EP131B: Polychlorinated Biphenyls (as Aroclors)								
Soil Glass Jar - Unpreserved (EP131B)								
BH5 0.0-0.5A,	BH8 0.0-0.05A,	**24-FEB-2015**	**09-MAR-2015**	10-MAR-2015	✓	**11-MAR-2015**	18-APR-2015	✓
BH8 0.5-1.0A,	BH60 0.0-0.3A,							
EB12 0.0-0.3A,	EB16 0.0-0.04A,							
EB17 0.0-0.5A,	EB22 0.0-0.5A,							
EB27 0.0-0.7A,	EB31 0.0-0.5A,							
EB32 0.0-0.5A,	EB32 0.5-1.0A,							
EB33 0.0-0.5A,	EB33 0.5-1.0A,							
EB34 0.0-0.5A,	EB34 0.5-1.0A,							
EB36 0.0-0.5A,	EB36 0.5-1.0A,							
TRIPLICATE 14A,	TRIPLICATE 14B							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP132B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP132B-SD)							
BH5 0.0-0.5A, BH8 0.0-0.05A, BH8 0.5-1.0A, BH60 0.0-0.3A, EB12 0.0-0.3A, EB16 0.0-0.04A, EB17 0.0-0.5A, EB22 0.0-0.5A, EB27 0.0-0.7A, EB31 0.0-0.5A, EB32 0.0-0.5A, EB32 0.5-1.0A, EB33 0.0-0.5A, EB33 0.5-1.0A, EB34 0.0-0.5A, EB34 0.5-1.0A, EB36 0.0-0.5A, EB36 0.5-1.0A, TRIPLICATE 14A, TRIPLICATE 14B	**24-FEB-2015**	**09-MAR-2015**	10-MAR-2015	✓	**10-MAR-2015**	18-APR-2015	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG020A-T)							
RINSATE 15	**24-FEB-2015**	**04-MAR-2015**	23-AUG-2015	✓	**05-MAR-2015**	23-AUG-2015	✓
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG020B-T)							
RINSATE 15	**24-FEB-2015**	**04-MAR-2015**	23-AUG-2015	✓	**05-MAR-2015**	23-AUG-2015	✓
EG035T: Total Recoverable Mercury by FIMS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG035T)							
RINSATE 15	**24-FEB-2015**	**----**	----	----	**11-MAR-2015**	24-MAR-2015	✓
EK055G: Ammonia as N by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK055G)							
RINSATE 15	**24-FEB-2015**	**---**	24-MAR-2015	----	**03-MAR-2015**	24-MAR-2015	✓
EK057G: Nitrite as N by Discrete Analyser							
Clear Plastic Bottle - Natural (EK057G)							
RINSATE 15	**24-FEB-2015**	**---**	26-FEB-2015	----	**26-FEB-2015**	26-FEB-2015	✓
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK059G)							
RINSATE 15	**24-FEB-2015**	**---**	24-MAR-2015	----	**03-MAR-2015**	24-MAR-2015	✓
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK061G)							
RINSATE 15	**24-FEB-2015**	**03-MAR-2015**	24-MAR-2015	✓	**03-MAR-2015**	24-MAR-2015	✓
EK067G: Total Phosphorus as P by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK067G)							
RINSATE 15	**24-FEB-2015**	**03-MAR-2015**	24-MAR-2015	✓	**03-MAR-2015**	24-MAR-2015	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP066: Polychlorinated Biphenyls (PCB)							
Amber Glass Bottle - Unpreserved (EP066)							
RINSATE 15	**24-FEB-2015**	**27-FEB-2015**	03-MAR-2015	✓	**05-MAR-2015**	08-APR-2015	✓
EP068A: Organochlorine Pesticides (OC)							
Amber Glass Bottle - Unpreserved (EP068)							
RINSATE 15	**24-FEB-2015**	**27-FEB-2015**	03-MAR-2015	✓	**05-MAR-2015**	08-APR-2015	✓
EP068B: Organophosphorus Pesticides (OP)							
Amber Glass Bottle - Unpreserved (EP068)							
RINSATE 15	**24-FEB-2015**	**27-FEB-2015**	03-MAR-2015	✓	**05-MAR-2015**	08-APR-2015	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
RINSATE 15	**24-FEB-2015**	**27-FEB-2015**	03-MAR-2015	✓	**04-MAR-2015**	08-APR-2015	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
RINSATE 15	**24-FEB-2015**	**27-FEB-2015**	03-MAR-2015	✓	**05-MAR-2015**	08-APR-2015	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
RINSATE 15	**24-FEB-2015**	**05-MAR-2015**	10-MAR-2015	✓	**05-MAR-2015**	10-MAR-2015	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber VOC Vial - Sulfuric Acid (EP080)							
RINSATE 15	**24-FEB-2015**	**05-MAR-2015**	10-MAR-2015	✓	**05-MAR-2015**	10-MAR-2015	✓
EP090: Organotin Compounds							
Amber Glass Bottle - Unpreserved (EP090H)							
RINSATE 15	**24-FEB-2015**	**27-FEB-2015**	03-MAR-2015	✓	**27-FEB-2015**	08-APR-2015	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Ammonia in Sediments	EK255A SD	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Moisture Content	EA055-103	6	58	**10.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	5	49	**10.2**	**9.5**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	4	36	**11.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	4	36	**11.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	4	36	**11.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	5	49	**10.2**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Ammonia in Sediments	EK255A SD	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	9	49	**18.4**	**14.3**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	36	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	36	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	36	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	9	49	**18.4**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	2	21	**9.5**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Method Blanks (MB)							
Ammonia in Sediments	EK255A SD	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	3	49	6.1	4.8	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	36	5.6	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	36	5.6	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	36	5.6	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	3	49	6.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	2	21	9.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia in Sediments	EK255A SD	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	3	49	6.1	4.8	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	36	5.6	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	36	5.6	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	3	49	6.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Ammonia as N by Discrete analyser	EK055G	1	7	14.3	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	2	15	13.3	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	2	16	12.5	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP) - Continued							
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	2	14	**14.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	8	**12.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	5	**20.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	2	15	**13.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Ammonia as N by Discrete analyser	EK055G	1	7	**14.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	16	**6.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Compounds (Soluble)	EP090H	1	3	**33.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	16	**6.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	4	**25.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	5	**20.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	3	14	**21.4**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	8	**12.5**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	5	**20.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	3	15	**20.0**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Ammonia as N by Discrete analyser	EK055G	1	7	**14.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	16	**6.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Compounds (Soluble)	EP090H	1	3	**33.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	16	**6.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	4	**25.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	5	**20.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	14	**7.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	8	**12.5**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	5	**20.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia as N by Discrete analyser	EK055G	1	7	**14.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	16	**6.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Matrix Spikes (MS) - Continued							
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	14	**7.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	8	**12.5**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055-103	SOIL	In-house. A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Particle Size Analysis by Hydrometer	EA150H	SOIL	Particle Size Analysis by Hydrometer according to AS1289.3.6.3 - 2003
Soil Particle Density	* EA152	SOIL	Soil Particle Density by AS 1289.3.5.1-2006 : Methods of testing soils for engineering purposes - Soil classification tests - Determination of the soil particle density of a soil - Standard method A modification of the AS 1289.3.5.1 method may apply when testing dispersed soils also tested by AS1289.3.6.3. This modification uses the dispersion solution from AS1289.3.6.3 in place of water for density determinations
Total Fe and Al in Sediments by ICPAES	EG005-SD	SOIL	In house: Referenced to APHA 21st ed., 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3). LORs per NODG
Total Metals in Sediments by ICPMS	EG020-SD	SOIL	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector. Analyte list and LORs per NODG.
Total Mercury by FIMS (Low Level)	EG035T-LL	SOIL	In house: Referenced to AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Nitrite as N - Soluble by Discrete Analyser	EK057G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3- B. Nitrite in a water extract is determined by direct colourimetry by Discrete Analyser.
Nitrate as N - Soluble by Discrete Analyser	EK058G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3--F. Nitrate in the 1:5 soil:water extract is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results.
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3- F. Combined oxidised Nitrogen (NO2+NO3) in a water extract is determined by Chemical Reduction, and direct colourimetry by Discrete Analyser.
TKN as N By Discrete Analyser	EK061G	SOIL	In house: Referenced to APHA 21st ed., 4500-Norg-D Soil samples are digested using Kjeldahl digestion followed by determination by Discrete Analyser.
Total Nitrogen as N (TKN + NOx) By Discrete Analyser	EK062G	SOIL	In house: Referenced to APHA 21st ed., 4500 Norg/NO3- Total Nitrogen is determined as the sum of TKN and Oxidised Nitrrogen, each determined seperately as N.
Total Phosporus By Discrete Analyser	EK067G	SOIL	In house: Referenced to APHA 21st ed., 4500 P-B&F This procedure involves sulfuric acid digestion and quantification using Discrete Analyser.
Ammonia in Sediments	EK255A SD	SOIL	Rayment and Higginson (1992) Method 7C1 and 7C2. This method measures exchangeable ammonium which is defined by the amount of ammonium released by shaking sediment with an un-buffered 2M potassium chloride solution.

Analytical Methods	Method	Matrix	Method Descriptions
Total Organic Carbon	EP003	SOIL	In-house C-IR17. Dried and pulverised sample is reacted with acid to remove inorganic Carbonates, then combusted in a LECO furnace in the presence of strong oxidants / catalysts. The evolved (Organic) Carbon (as CO2) is automaticaly measured by infra-red detector.
TPH - Semivolatile Fraction	EP071-SD	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 504)
TRH Volatiles/BTEX in Sediments	EP080-SD	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve.
Organotin Analysis	EP090	SOIL	(USEPA SW 846 - 8270D) Prepared sample extracts are analysed by GC/MS coupled with high volume injection, and quanitified against an established calibration curve.
Organophosphorus Pesticides (Ultra-trace)	EP130	SOIL	USEPA Method 3640 (GPC cleanup), 8141 (GC/FPD - Capillary Column) This technique is compliant with NEPM (2013) Schedule B(3) (Method 505)
Organochlorine Pesticides (Ultra-trace)	EP131A	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (2013) Schedule B(3) (Method 504)
PCB's (Ultra-trace)	EP131B	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (2013) Schedule B(3) (Method 504)
PAHs in Sediments by GCMS(SIM)	EP132B-SD	SOIL	USEPA 8270 GCMS Capillary column, SIM mode using large volume programmed temperature vaporisation injection.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Metals by ICP-MS - Suite B	EG020B-T	WATER	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Mercury by FIMS	EG035T	WATER	In house: Referenced to AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Ammonia as N by Discrete analyser	EK055G	WATER	In house: Referenced to APHA 21st ed., 4500-NH3 G Ammonia is determined by direct colorimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Nitrite as N by Discrete Analyser	EK057G	WATER	In house: Referenced to APHA 21st ed., 4500-NO2- B. Nitrite is determined by direct colourimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Nitrate as N by Discrete Analyser	EK058G	WATER	In house: Referenced to APHA 21st ed., 4500-NO3- F. Nitrate is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results. This method is compliant with NEPM (2013) Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	WATER	In house: Referenced to APHA 21st ed., 4500-NO3- F. Combined oxidised Nitrogen (NO2+NO3) is determined by Chemical Reduction and direct colourimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	WATER	In house: Referenced to APHA 21st ed., 4500-Norg D (In house). An aliquot of sample is digested using a high temperature Kjeldahl digestion to convert nitrogenous compounds to ammonia. Ammonia is determined colorimetrically by discrete analyser. This method is compliant with NEPM (2013) Schedule B(3)
Total Nitrogen as N (TKN + Nox) By Discrete Analyser	EK062G	WATER	In house: Referenced to APHA 21st ed., 4500-Norg / 4500-NO3-. This method is compliant with NEPM (2013) Schedule B(3)
Total Phosphorus as P By Discrete Analyser	EK067G	WATER	In house: Referenced to APHA 21st ed., 4500-P H, Jirka et al (1976), Zhang et al (2006). This procedure involves sulphuric acid digestion of a sample aliquot to break phosphorus down to orthophosphate. The orthophosphate reacts with ammonium molybdate and antimony potassium tartrate to form a complex which is then reduced and its concentration measured at 880nm using discrete analyser. This method is compliant with NEPM (2013) Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Pesticides by GCMS	EP068	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
Organotin Compounds (Soluble)	EP090H	WATER	(USEPA SW 846 - 8270D, ALS QWI-ORG/EP090) Sample extracts (ALS QWI-ORG/035) are analysed by GC/MS coupled with high volume injection (10-50µL). Quantitation is achieved using internal standard and average response factor quantitation techniques against an established five-point curve. Butyltin results are reported in either "as tin" units eg. ng Sn/L or "ng TBT+/L". The analytical standards are prepared in "as tin" units. Sample results are converted to TBT+ results as required.

Preparation Methods	Method	Matrix	Method Descriptions
TKN/TP Digestion	EK061/EK067	SOIL	APHA 21st ed., 4500 Norg- D; APHA 21st ed., 4500 P - H. Macro Kjeldahl digestion.
1:5 solid / water leach for soluble analytes	EN34	SOIL	10 g of soil is mixed with 50 mL of distilled water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids/ Sample Cleanup	ORG17A-UTP	SOIL	In-house, Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. Samples are extracted, concentrated (by KD) and exchanged into an appropriate solvent for GPC and florisil cleanup as required.

Preparation Methods	Method	Matrix	Method Descriptions
Tumbler Extraction of Solids for LVI (Non-concentrating)	ORG17D	SOIL	In house: 10g of sample, Na2SO4 and surrogate are extracted with 50mL 1:1 DCM/Acetone by end over end tumbling. An aliquot is concentrated by nitrogen blowdown to a reduced volume for analysis if required.
Organotin Sample Preparation	ORG35	SOIL	In house. 20g sample is spiked with surrogate and leached in a methanol:acetic acid:UHP water mix and vacuum filtered. Reagents and solvents are added to the sample and the mixture tumbled. The butyltin compounds are simultaneously derivatised and extracted. The extract is further extracted with petroleum ether. The resultant extracts are combined and concentrated for analysis.
TKN/TP Digestion	EK061/EK067	WATER	APHA 21st ed., 4500 Norg - D; APHA 21st ed., 4500 P - H. This method is compliant with NEPM (2013) Schedule B(3)
Digestion for Total Recoverable Metals	EN25	WATER	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (2013) Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (2013) Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Organotin Sample Preparation	ORG34H	WATER	(IN HOUSE, ALS QWI-ORG/35) A specified volume (determined by the detection limit requirement) of sample is spiked with surrogate, acidified and vacuum filtered. Reagents and solvent are added to the sample and the mixture tumbled for 20 minutes. The butyltin compounds is derivitisated, extracted and the subtitution reaction is completed. The extracts is transferred to a separatory funnel and further extracted two times using petroleum ether. The resultant extracts are combined and concentrated to the desired volume for analysis.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW 846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG020-SD: Total Metals in Sediments by ICPMS	ES1504596-021	EB22 0.0-0.5A	**Copper**	7440-50-8	30.6 %	0-20%	**RPD exceeds LOR based limits**
EK067G: Total Phosphorus as P by Discrete Analyser	ES1504618-007	Anonymous	**Total Phosphorus as P**	----	25.9 %	0-20%	**RPD exceeds LOR based limits**
Matrix Spike (MS) Recoveries							
EK067G: Total Phosphorus as P by Discrete Analyser	ES1504596-021	EB22 0.0-0.5A	**Total Phosphorus as P**	----	62.6 %	70-130%	**Recovery less than lower data quality objective**

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP090: Organotin Compounds	4626825-002	----	**Dibutyltin**	1002-53-5	36.3 %	50-114%	**Recovery less than lower control limit**
EP090: Organotin Compounds	4626825-002	----	**Tributyltin**	56573-85-4	35.1 %	39-120%	**Recovery less than lower control limit**

- **For all matrices, no Method Blank value outliers occur.**

Regular Sample Surrogates

- **For all regular sample matrices, no surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- **No Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

ALS Environmental

ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5890 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
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TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville enviromail@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2
ORDER NUMBER: 245553	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com	
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com	
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:	

COC SEQUENCE NUMBER (Circle)
COC: (1) 2 3 4 5 6 7
OF: 1 2 3 4 5 6 (10)

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	Kelly Schafer	Kschafer	
DATE/TIME: 16-Feb-15	DATE/TIME: 16-Feb-15 1730	DATE/TIME: 26-2-15 1600	DATE/TIME: 27/2/15 9am

FOR LABORATORY USE ONLY (Circle)
Custody Seal Intact? Yes No N/A
Free Ice / frozen Ice Packs present upon receipt? Yes No N/A
Random Sample Temperature on Receipt: °C
Other comment:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		
1	BH2 0.0-0.6 A	25/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
2	BH2 0.0-0.6 B	25/02/2015	S	Bag (White label)	1		1							
3	BH2 0.3V	25/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F =
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

150ml A Jars and 500ml Amber sent direct to Brisbane for TOC/TBT

Environmental Division
Sydney
Work Order
ES1504618

Telephone : +61-2-8784 8555

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1504618**	Page	: 1 of 50
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553		
C-O-C number	: ----	Date Samples Received	: 27-FEB-2015
Sampler	: GK	Issue Date	: 23-MAR-2015
Site	: ----		
		No. of samples received	: 37
Quote number	: SY/1021/14 V2	No. of samples analysed	: 37

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.**
- **EK067G: Poor duplicate precision due to sample heterogeneity. Confirmed by re-extraction and re-analysis.**
- **EP090: High failing LCS deemed acceptable as all associated analyte results are less than LOR.**

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Dianne Blane	Laboratory Coordinator (2IC)	Newcastle - Inorganics
Matt Frost	Senior Organic Chemist	Brisbane Organics
Pabi Subba	Senior Organic Chemist	Sydney Organics
Phalak Inthakesone	Laboratory Manager - Organics	Sydney Inorganics Sydney Organics
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils
Shobhna Chandra	Metals Coordinator	Sydney Inorganics
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH2 0.0-0.6AA	BH2 0.0-0.6B	BH2 0.3V	BH7 0.0-0.4A	BH7 0.3V
				Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
					ES1504618-001	ES1504618-002	ES1504618-003	ES1504618-004	ES1504618-005
EA150: Particle Sizing									
+75µm	----	1	%		----	**75**	----	----	----
+150µm	----	1	%		----	**63**	----	----	----
+300µm	----	1	%		----	**44**	----	----	----
+425µm	----	1	%		----	**40**	----	----	----
+600µm	----	1	%		----	**36**	----	----	----
+1180µm	----	1	%		----	**29**	----	----	----
+2.36mm	----	1	%		----	**22**	----	----	----
+4.75mm	----	1	%		----	**18**	----	----	----
+9.5mm	----	1	%		----	**14**	----	----	----
+19.0mm	----	1	%		----	**12**	----	----	----
+37.5mm	----	1	%		----	<1	----	----	----
+75.0mm	----	1	%		----	<1	----	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**26.5**	----	**23.4**	**25.4**	**23.4**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	**16**	----	----	----
Silt (2-60 µm)	----	1	%		----	**8**	----	----	----
Sand (0.06-2.00 mm)	----	1	%		----	**52**	----	----	----
Gravel (>2mm)	----	1	%		----	**24**	----	----	----
Cobbles (>6cm)	----	1	%		----	<1	----	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	**2.65**	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**7220**	----	----	**4910**	----
Iron	7439-89-6	50	mg/kg		**17900**	----	----	**13000**	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	----	----	<0.50	----
Arsenic	7440-38-2	1.00	mg/kg		**16.6**	----	----	**10.6**	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	----	----	<0.1	----
Chromium	7440-47-3	1.0	mg/kg		**14.0**	----	----	**10.4**	----
Copper	7440-50-8	1.0	mg/kg		**9.8**	----	----	**9.2**	----
Cobalt	7440-48-4	0.5	mg/kg		**10.3**	----	----	**9.1**	----
Lead	7439-92-1	1.0	mg/kg		**4.8**	----	----	**3.6**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH2 0.0-0.6AA	BH2 0.0-0.6B	BH2 0.3V	BH7 0.0-0.4A	BH7 0.3V
				Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
					ES1504618-001	ES1504618-002	ES1504618-003	ES1504618-004	ES1504618-005
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		**294**	----	----	**220**	----
Nickel	7440-02-0	1.0	mg/kg		**8.6**	----	----	**5.7**	----
Selenium	7782-49-2	0.1	mg/kg		**2.1**	----	----	**1.8**	----
Silver	7440-22-4	0.1	mg/kg		<0.1	----	----	<0.1	----
Vanadium	7440-62-2	2.0	mg/kg		**40.6**	----	----	**34.6**	----
Zinc	7440-66-6	1.0	mg/kg		**24.2**	----	----	**20.6**	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		**0.01**	----	----	<0.01	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	<0.1	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	<0.1	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	<0.1	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		**210**	----	----	**210**	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		**210**	----	----	**210**	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		**242**	----	----	**209**	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		**1.2**	----	----	**2.8**	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		**0.13**	----	----	**0.18**	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	----	----	<3	----
>C16 - C34 Fraction	----	3	mg/kg		<3	----	----	**4**	----
>C34 - C40 Fraction	----	5	mg/kg		<5	----	----	<5	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	----	----	**4**	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	<3	----	<3
C10 - C14 Fraction	----	3	mg/kg		<3	----	----	<3	----
C15 - C28 Fraction	----	3	mg/kg		<3	----	----	<3	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH2 0.0-0.6AA	BH2 0.0-0.6B	BH2 0.3V	BH7 0.0-0.4A	BH7 0.3V
				Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
					ES1504618-001	ES1504618-002	ES1504618-003	ES1504618-004	ES1504618-005
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	----	----	<5	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		<3	----	----	<3	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	<3	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	<0.2	----	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	<0.2	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	<0.2	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	<0.2	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	<0.2	----	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	<0.5	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	----	<0.2	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	----	----	<1	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	----	----	<1	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	----	----	<0.5	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	----	----	<10	----
Carbophenothion	786-19-6	10	µg/kg		<10	----	----	<10	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	----	----	<10.0	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	----	----	<10	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	----	----	<10	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	----	----	<10	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	----	----	<10	----
Diazinon	333-41-5	10	µg/kg		<10	----	----	<10	----
Dichlorvos	62-73-7	10	µg/kg		<10	----	----	<10	----
Dimethoate	60-51-5	10	µg/kg		<10	----	----	<10	----
Ethion	563-12-2	10	µg/kg		<10	----	----	<10	----
Fenamiphos	22224-92-6	10	µg/kg		<10	----	----	<10	----
Fenthion	55-38-9	10	µg/kg		<10	----	----	<10	----
Malathion	121-75-5	10	µg/kg		<10	----	----	<10	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	----	----	<10	----
Monocrotophos	6923-22-4	10	µg/kg		<10	----	----	<10	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH2 0.0-0.6AA	BH2 0.0-0.6B	BH2 0.3V	BH7 0.0-0.4A	BH7 0.3V
				Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
					ES1504618-001	ES1504618-002	ES1504618-003	ES1504618-004	ES1504618-005
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	----	----	<10	----
Parathion-methyl	298-00-0	10	µg/kg		<10	----	----	<10	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	----	----	<10	----
Prothiofos	34643-46-4	10	µg/kg		<10	----	----	<10	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	----	----	<0.50	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	----	----	<0.50	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	----	----	<0.50	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	----	----	<0.50	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	----	----	<0.50	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	----	----	<0.50	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	----	----	<0.50	----
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		<0.50	----	----	<0.50	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	----	----	<0.50	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	----	----	<0.50	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	----	----	<0.50	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	----	----	<0.50	----
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		<0.50	----	----	<0.50	----
Endrin	72-20-8	0.50	µg/kg		<0.50	----	----	<0.50	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	----	----	<0.50	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	----	----	<0.50	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	----	----	<0.50	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	----	----	<0.50	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	----	----	<0.50	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	----	----	<0.25	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	----	----	<0.50	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	----	----	<0.25	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	----	----	<0.25	----
^ **Total Chlordane (sum)**	----	0.25	µg/kg		<0.25	----	----	<0.25	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	----	----	<0.50	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	----	----	<5.0	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH2 0.0-0.6AA	BH2 0.0-0.6B	BH2 0.3V	BH7 0.0-0.4A	BH7 0.3V
				Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
					ES1504618-001	ES1504618-002	ES1504618-003	ES1504618-004	ES1504618-005
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	----	----	<5.0	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	----	----	<5	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	----	----	<5	----
Acenaphthylene	208-96-8	4	µg/kg		<4	----	----	<4	----
Acenaphthene	83-32-9	4	µg/kg		<4	----	----	<4	----
Fluorene	86-73-7	4	µg/kg		<4	----	----	<4	----
Phenanthrene	85-01-8	4	µg/kg		<4	----	----	<4	----
Anthracene	120-12-7	4	µg/kg		<4	----	----	<4	----
Fluoranthene	206-44-0	4	µg/kg		<4	----	----	<4	----
Pyrene	129-00-0	4	µg/kg		<4	----	----	<4	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	----	----	<4	----
Chrysene	218-01-9	4	µg/kg		<4	----	----	<4	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	----	----	<4	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	----	----	<4	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	----	----	<4	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	----	----	<4	----
Perylene	198-55-0	4	µg/kg		<4	----	----	<4	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	----	----	<4	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	----	----	<4	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	----	----	<4	----
Coronene	191-07-1	5	µg/kg		<5	----	----	<5	----
^ **Sum of PAHs**	----	4	µg/kg		<4	----	----	<4	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	**95.0**	----	**78.4**
Toluene-D8	2037-26-5	0.1	%		----	----	**95.8**	----	**88.5**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	**94.0**	----	**83.7**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**80.1**	----	----	**88.6**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH2 0.0-0.6AA	BH2 0.0-0.6B	BH2 0.3V	BH7 0.0-0.4A	BH7 0.3V
			Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504618-001	ES1504618-002	ES1504618-003	ES1504618-004	ES1504618-005
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**72.8**	----	----	**69.2**	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**65.8**	----	----	**56.0**	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**62.5**	----	----	**62.5**	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**100**	----	----	**96.1**	----
Anthracene-d10	1719-06-8	0.1	%	**98.5**	----	----	**95.0**	----
4-Terphenyl-d14	1718-51-0	0.1	%	**106**	----	----	**99.4**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH13 0.0-0.5A	BH13 0.5-1.0A	BH13 0.0-0.5B	BH13 0.5-1.0B	BH13 0.3V
				Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504618-006	ES1504618-007	ES1504618-008	ES1504618-009	ES1504618-010
EA150: Particle Sizing									
+75µm	----	1	%		----	----	78	76	----
+150µm	----	1	%		----	----	74	72	----
+300µm	----	1	%		----	----	63	64	----
+425µm	----	1	%		----	----	56	60	----
+600µm	----	1	%		----	----	50	58	----
+1180µm	----	1	%		----	----	42	54	----
+2.36mm	----	1	%		----	----	36	51	----
+4.75mm	----	1	%		----	----	31	46	----
+9.5mm	----	1	%		----	----	28	39	----
+19.0mm	----	1	%		----	----	12	22	----
+37.5mm	----	1	%		----	----	<1	<1	----
+75.0mm	----	1	%		----	----	<1	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		25.3	19.3	----	----	17.4
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	14	15	----
Silt (2-60 µm)	----	1	%		----	----	9	7	----
Sand (0.06-2.00 mm)	----	1	%		----	----	39	26	----
Gravel (>2mm)	----	1	%		----	----	38	52	----
Cobbles (>6cm)	----	1	%		----	----	<1	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	2.65	2.68	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		9420	8540	----	----	----
Iron	7439-89-6	50	mg/kg		21400	17100	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		16.4	10.6	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	----	----	----
Chromium	7440-47-3	1.0	mg/kg		16.3	15.0	----	----	----
Copper	7440-50-8	1.0	mg/kg		15.5	14.3	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		13.4	10.8	----	----	----
Lead	7439-92-1	1.0	mg/kg		6.5	6.2	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH13 0.0-0.5A	BH13 0.5-1.0A	BH13 0.0-0.5B	BH13 0.5-1.0B	BH13 0.3V
				Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
					ES1504618-006	ES1504618-007	ES1504618-008	ES1504618-009	ES1504618-010
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		711	444	----	----	----
Nickel	7440-02-0	1.0	mg/kg		10.0	9.1	----	----	----
Selenium	7782-49-2	0.1	mg/kg		3.4	2.8	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.1	<0.1	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		45.8	36.1	----	----	----
Zinc	7440-66-6	1.0	mg/kg		28.0	25.5	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	<0.01	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		310	240	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		310	240	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		217	223	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		1.2	1.4	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		0.27	0.27	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	<3	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		4	6	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	<5	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		4	6	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		<3	<3	----	----	----
C15 - C28 Fraction	----	3	mg/kg		<3	<3	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH13 0.0-0.5A	BH13 0.5-1.0A	BH13 0.0-0.5B	BH13 0.5-1.0B	BH13 0.3V
				Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504618-006	ES1504618-007	ES1504618-008	ES1504618-009	ES1504618-010
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	<5	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		<3	<3	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	----	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	<1	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	<1	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	<0.5	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	<10	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	<10	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	<10.0	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	<10	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	<10	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	<10	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	<10	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	<10	----	----	----
Ethion	563-12-2	10	µg/kg		<10	<10	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	<10	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	<10	----	----	----
Malathion	121-75-5	10	µg/kg		<10	<10	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	<10	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	<10	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH13 0.0-0.5A	BH13 0.5-1.0A	BH13 0.0-0.5B	BH13 0.5-1.0B	BH13 0.3V
				Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504618-006	ES1504618-007	ES1504618-008	ES1504618-009	ES1504618-010
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	<10	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	<10	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	<10	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	<10	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	<0.50	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	<0.50	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	<0.50	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	<0.50	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	<0.50	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	<0.25	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	<0.50	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	<0.25	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	<0.25	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	<0.25	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	<0.50	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	<5.0	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH13 0.0-0.5A	BH13 0.5-1.0A	BH13 0.0-0.5B	BH13 0.5-1.0B	BH13 0.3V
				Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
					ES1504618-006	ES1504618-007	ES1504618-008	ES1504618-009	ES1504618-010
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	<5.0	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	<5	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	<5	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	<4	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	<4	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	<4	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	<4	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	<4	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	<4	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	<4	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	<4	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	<4	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	<4	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	<4	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	<4	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	<4	----	----	----
Perylene	198-55-0	4	µg/kg		<4	<4	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	<4	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	<4	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	<4	----	----	----
Coronene	191-07-1	5	µg/kg		<5	<5	----	----	----
^ **Sum of PAHs**	----	4	µg/kg		<4	<4	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	----	**84.8**
Toluene-D8	2037-26-5	0.1	%		----	----	----	----	**93.9**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	----	**91.6**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**76.0**	**90.8**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH13 0.0-0.5A	BH13 0.5-1.0A	BH13 0.0-0.5B	BH13 0.5-1.0B	BH13 0.3V
			Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504618-006	ES1504618-007	ES1504618-008	ES1504618-009	ES1504618-010
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	67.4	66.2	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	76.2	57.2	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	62.5	50.0	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	98.5	96.4	----	----	----
Anthracene-d10	1719-06-8	0.1	%	90.6	81.6	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	91.7	83.6	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH13 0.7V	BH32 0.0-0.4A	BH32 0.0-0.4B	BH32 0.3V	BH57 0.0-0.4A
				Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
					ES1504618-011	ES1504618-012	ES1504618-013	ES1504618-014	ES1504618-015
EA150: Particle Sizing									
+75µm	----	1	%		----	----	**56**	----	----
+150µm	----	1	%		----	----	**52**	----	----
+300µm	----	1	%		----	----	**50**	----	----
+425µm	----	1	%		----	----	**48**	----	----
+600µm	----	1	%		----	----	**46**	----	----
+1180µm	----	1	%		----	----	**43**	----	----
+2.36mm	----	1	%		----	----	**41**	----	----
+4.75mm	----	1	%		----	----	**40**	----	----
+9.5mm	----	1	%		----	----	**35**	----	----
+19.0mm	----	1	%		----	----	**35**	----	----
+37.5mm	----	1	%		----	----	<1	----	----
+75.0mm	----	1	%		----	----	<1	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**22.8**	**22.2**	----	**19.4**	**23.1**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	**18**	----	----
Silt (2-60 µm)	----	1	%		----	----	**20**	----	----
Sand (0.06-2.00 mm)	----	1	%		----	----	**20**	----	----
Gravel (>2mm)	----	1	%		----	----	**42**	----	----
Cobbles (>6cm)	----	1	%		----	----	<1	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	**2.68**	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	**12000**	----	----	**5440**
Iron	7439-89-6	50	mg/kg		----	**21500**	----	----	**14200**
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	<0.50	----	----	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	**5.63**	----	----	**20.3**
Cadmium	7440-43-9	0.1	mg/kg		----	**0.2**	----	----	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	**17.1**	----	----	**12.3**
Copper	7440-50-8	1.0	mg/kg		----	**31.2**	----	----	**6.4**
Cobalt	7440-48-4	0.5	mg/kg		----	**10.6**	----	----	**8.3**
Lead	7439-92-1	1.0	mg/kg		----	**9.0**	----	----	**3.8**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH13 0.7V	BH32 0.0-0.4A	BH32 0.0-0.4B	BH32 0.3V	BH57 0.0-0.4A
				Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
					ES1504618-011	ES1504618-012	ES1504618-013	ES1504618-014	ES1504618-015
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	**209**	----	----	**710**
Nickel	7440-02-0	1.0	mg/kg		----	**12.5**	----	----	**6.9**
Selenium	7782-49-2	0.1	mg/kg		----	**3.8**	----	----	**1.2**
Silver	7440-22-4	0.1	mg/kg		----	<0.1	----	----	<0.1
Vanadium	7440-62-2	2.0	mg/kg		----	**60.5**	----	----	**31.0**
Zinc	7440-66-6	1.0	mg/kg		----	**45.5**	----	----	**20.1**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	**0.03**	----	----	<0.01
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	<0.1	----	----	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	----	----	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	----	----	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	**180**	----	----	**200**
EK062: Total Nitrogen as N (TKN + NOx)									
^ **Total Nitrogen as N**	----	20	mg/kg		----	**180**	----	----	**200**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	**251**	----	----	**213**
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	**1.3**	----	----	**1.4**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	**0.09**	----	----	**0.19**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	<3	----	----	<3
>C16 - C34 Fraction	----	3	mg/kg		----	<3	----	----	**4**
>C34 - C40 Fraction	----	5	mg/kg		----	<5	----	----	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	<3	----	----	**4**
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	----	----	<3	----
C10 - C14 Fraction	----	3	mg/kg		----	<3	----	----	<3
C15 - C28 Fraction	----	3	mg/kg		----	<3	----	----	<3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH13 0.7V	BH32 0.0-0.4A	BH32 0.0-0.4B	BH32 0.3V	BH57 0.0-0.4A
				Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504618-011	ES1504618-012	ES1504618-013	ES1504618-014	ES1504618-015
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	<5	----	----	<5
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	<3	----	----	<3
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	----	----	<3	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	<0.2	----
Toluene	108-88-3	0.2	mg/kg		<0.2	----	----	<0.2	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	----	----	<0.2	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	----	----	<0.2	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	----	----	<0.2	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	----	----	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	<0.2	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	<1	----	----	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	<1	----	----	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	<0.5	----	----	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	<10	----	----	<10
Carbophenothion	786-19-6	10	µg/kg		----	<10	----	----	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	<10.0	----	----	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	<10	----	----	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	<10	----	----	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	<10	----	----	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	<10	----	----	<10
Diazinon	333-41-5	10	µg/kg		----	<10	----	----	<10
Dichlorvos	62-73-7	10	µg/kg		----	<10	----	----	<10
Dimethoate	60-51-5	10	µg/kg		----	<10	----	----	<10
Ethion	563-12-2	10	µg/kg		----	<10	----	----	<10
Fenamiphos	22224-92-6	10	µg/kg		----	<10	----	----	<10
Fenthion	55-38-9	10	µg/kg		----	<10	----	----	<10
Malathion	121-75-5	10	µg/kg		----	<10	----	----	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	<10	----	----	<10
Monocrotophos	6923-22-4	10	µg/kg		----	<10	----	----	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH13 0.7V	BH32 0.0-0.4A	BH32 0.0-0.4B	BH32 0.3V	BH57 0.0-0.4A
				Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
					ES1504618-011	ES1504618-012	ES1504618-013	ES1504618-014	ES1504618-015
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	<10	----	----	<10
Parathion-methyl	298-00-0	10	µg/kg		----	<10	----	----	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	<10	----	----	<10
Prothiofos	34643-46-4	10	µg/kg		----	<10	----	----	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	<0.50	----	----	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	<0.50	----	----	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	<0.50	----	----	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	<0.50	----	----	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	<0.50	----	----	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	<0.50	----	----	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	<0.50	----	----	<0.50
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	<0.50	----	----	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	<0.50	----	----	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	<0.50	----	----	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	<0.50	----	----	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	<0.50	----	----	<0.50
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	<0.50	----	----	<0.50
Endrin	72-20-8	0.50	µg/kg		----	<0.50	----	----	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	<0.50	----	----	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	<0.50	----	----	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	<0.50	----	----	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	<0.50	----	----	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	<0.50	----	----	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	<0.25	----	----	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	<0.50	----	----	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	<0.25	----	----	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	<0.25	----	----	<0.25
^ Total Chlordane (sum)	----	0.25	µg/kg		----	<0.25	----	----	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	<0.50	----	----	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	<5.0	----	----	<5.0

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH13 0.7V	BH32 0.0-0.4A	BH32 0.0-0.4B	BH32 0.3V	BH57 0.0-0.4A
				Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
					ES1504618-011	ES1504618-012	ES1504618-013	ES1504618-014	ES1504618-015
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	<5.0	----	----	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	<5.0	----	----	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	<5	----	----	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	<5	----	----	<5
Acenaphthylene	208-96-8	4	µg/kg		----	<4	----	----	<4
Acenaphthene	83-32-9	4	µg/kg		----	<4	----	----	<4
Fluorene	86-73-7	4	µg/kg		----	<4	----	----	<4
Phenanthrene	85-01-8	4	µg/kg		----	<4	----	----	<4
Anthracene	120-12-7	4	µg/kg		----	<4	----	----	<4
Fluoranthene	206-44-0	4	µg/kg		----	<4	----	----	<4
Pyrene	129-00-0	4	µg/kg		----	<4	----	----	<4
Benz(a)anthracene	56-55-3	4	µg/kg		----	<4	----	----	<4
Chrysene	218-01-9	4	µg/kg		----	<4	----	----	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	<4	----	----	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	<4	----	----	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		----	<4	----	----	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		----	<4	----	----	<4
Perylene	198-55-0	4	µg/kg		----	<4	----	----	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	<4	----	----	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	<4	----	----	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	<4	----	----	<4
Coronene	191-07-1	5	µg/kg		----	<5	----	----	<5
^ **Sum of PAHs**	----	4	µg/kg		----	<4	----	----	<4
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**82.9**	----	----	**72.9**	----
Toluene-D8	2037-26-5	0.1	%		**95.4**	----	----	**83.4**	----
4-Bromofluorobenzene	460-00-4	0.1	%		**88.5**	----	----	**81.6**	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	**88.9**	----	----	**88.7**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH13 0.7V	BH32 0.0-0.4A	BH32 0.0-0.4B	BH32 0.3V	BH57 0.0-0.4A
			Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504618-011	ES1504618-012	ES1504618-013	ES1504618-014	ES1504618-015
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	72.6	----	----	76.2
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	50.7	----	----	85.3
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	75.0	----	----	50.0
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	102	----	----	109
Anthracene-d10	1719-06-8	0.1	%	----	93.2	----	----	97.1
4-Terphenyl-d14	1718-51-0	0.1	%	----	94.0	----	----	101

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH57 0.0-0.4B	BH57 0.3V	BH58 0.0-0.5A	BH58 0.5-1.0A	BH58 1.0-1.25A
				Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504618-016	ES1504618-017	ES1504618-018	ES1504618-019	ES1504618-020
EA150: Particle Sizing									
+75µm	----	1	%		89	----	----	----	----
+150µm	----	1	%		80	----	----	----	----
+300µm	----	1	%		58	----	----	----	----
+425µm	----	1	%		30	----	----	----	----
+600µm	----	1	%		9	----	----	----	----
+1180µm	----	1	%		2	----	----	----	----
+2.36mm	----	1	%		1	----	----	----	----
+4.75mm	----	1	%		<1	----	----	----	----
+9.5mm	----	1	%		<1	----	----	----	----
+19.0mm	----	1	%		<1	----	----	----	----
+37.5mm	----	1	%		<1	----	----	----	----
+75.0mm	----	1	%		<1	----	----	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	20.5	20.8	23.2	19.7
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		7	----	----	----	----
Silt (2-60 µm)	----	1	%		1	----	----	----	----
Sand (0.06-2.00 mm)	----	1	%		90	----	----	----	----
Gravel (>2mm)	----	1	%		2	----	----	----	----
Cobbles (>6cm)	----	1	%		<1	----	----	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		2.65	----	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	4140	4530	5950
Iron	7439-89-6	50	mg/kg		----	----	11600	11500	13800
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	<0.50	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	----	17.7	14.0	13.4
Cadmium	7440-43-9	0.1	mg/kg		----	----	<0.1	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	----	9.5	10.4	12.3
Copper	7440-50-8	1.0	mg/kg		----	----	4.5	5.1	6.8
Cobalt	7440-48-4	0.5	mg/kg		----	----	7.0	7.2	7.3
Lead	7439-92-1	1.0	mg/kg		----	----	2.8	3.1	3.8

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH57 0.0-0.4B	BH57 0.3V	BH58 0.0-0.5A	BH58 0.5-1.0A	BH58 1.0-1.25A
				Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
					ES1504618-016	ES1504618-017	ES1504618-018	ES1504618-019	ES1504618-020
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	692	736	595
Nickel	7440-02-0	1.0	mg/kg		----	----	5.6	5.7	6.5
Selenium	7782-49-2	0.1	mg/kg		----	----	1.8	2.0	1.6
Silver	7440-22-4	0.1	mg/kg		----	----	<0.1	<0.1	<0.1
Vanadium	7440-62-2	2.0	mg/kg		----	----	27.6	26.9	29.4
Zinc	7440-66-6	1.0	mg/kg		----	----	15.7	15.9	20.4
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	<0.01	<0.01	<0.01
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	<0.1	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	<0.1	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	<0.1	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	40	100	120
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	40	100	120
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	205	276	199
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	0.8	1.4	2.1
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	0.11	0.27	0.23
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	<3	<3	<3
>C16 - C34 Fraction	----	3	mg/kg		----	----	<3	4	5
>C34 - C40 Fraction	----	5	mg/kg		----	----	<5	<5	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	<3	4	5
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	<3	----	----	----
C10 - C14 Fraction	----	3	mg/kg		----	----	<3	<3	<3
C15 - C28 Fraction	----	3	mg/kg		----	----	<3	<3	3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH57 0.0-0.4B	BH57 0.3V	BH58 0.0-0.5A	BH58 0.5-1.0A	BH58 1.0-1.25A
				Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
					ES1504618-016	ES1504618-017	ES1504618-018	ES1504618-019	ES1504618-020
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	<5	<5	<5
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	<3	<3	3
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	<3	----	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	<0.2	----	----	----
Toluene	108-88-3	0.2	mg/kg		----	<0.2	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	<0.2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	<0.2	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	<0.2	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	<0.5	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		----	<0.2	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	<1	<1	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	<1	<1	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	<0.5	<0.5	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	<10	<10	<10
Carbophenothion	786-19-6	10	µg/kg		----	----	<10	<10	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	<10.0	<10.0	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	<10	<10	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	<10	<10	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	<10	<10	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	<10	<10	<10
Diazinon	333-41-5	10	µg/kg		----	----	<10	<10	<10
Dichlorvos	62-73-7	10	µg/kg		----	----	<10	<10	<10
Dimethoate	60-51-5	10	µg/kg		----	----	<10	<10	<10
Ethion	563-12-2	10	µg/kg		----	----	<10	<10	<10
Fenamiphos	22224-92-6	10	µg/kg		----	----	<10	<10	<10
Fenthion	55-38-9	10	µg/kg		----	----	<10	<10	<10
Malathion	121-75-5	10	µg/kg		----	----	<10	<10	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	----	<10	<10	<10
Monocrotophos	6923-22-4	10	µg/kg		----	----	<10	<10	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH57 0.0-0.4B	BH57 0.3V	BH58 0.0-0.5A	BH58 0.5-1.0A	BH58 1.0-1.25A
				Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
					ES1504618-016	ES1504618-017	ES1504618-018	ES1504618-019	ES1504618-020
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	<10	<10	<10
Parathion-methyl	298-00-0	10	µg/kg		----	----	<10	<10	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	<10	<10	<10
Prothiofos	34643-46-4	10	µg/kg		----	----	<10	<10	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
Endrin	72-20-8	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	----	<0.25	<0.25	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	<0.25	<0.25	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	<0.25	<0.25	<0.25
^ Total Chlordane (sum)	----	0.25	µg/kg		----	----	<0.25	<0.25	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	----	<5.0	<5.0	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	<5.0	<5.0	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	<5.0	<5.0	<5.0

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH57 0.0-0.4B	BH57 0.3V	BH58 0.0-0.5A	BH58 0.5-1.0A	BH58 1.0-1.25A
				Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
					ES1504618-016	ES1504618-017	ES1504618-018	ES1504618-019	ES1504618-020
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	<5.0	<5.0	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	<5.0	<5.0	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	<5.0	<5.0	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	<5.0	<5.0	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	<5.0	<5.0	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	**5**	<5	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	<5	<5	<5
Acenaphthylene	208-96-8	4	µg/kg		----	----	<4	<4	<4
Acenaphthene	83-32-9	4	µg/kg		----	----	<4	<4	<4
Fluorene	86-73-7	4	µg/kg		----	----	<4	<4	<4
Phenanthrene	85-01-8	4	µg/kg		----	----	**10**	<4	<4
Anthracene	120-12-7	4	µg/kg		----	----	<4	<4	<4
Fluoranthene	206-44-0	4	µg/kg		----	----	**6**	<4	<4
Pyrene	129-00-0	4	µg/kg		----	----	**7**	<4	<4
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	<4	<4	<4
Chrysene	218-01-9	4	µg/kg		----	----	<4	<4	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	<4	<4	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	<4	<4	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	<4	<4	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	<4	<4	<4
Perylene	198-55-0	4	µg/kg		----	----	<4	<4	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	<4	<4	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	<4	<4	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	<4	<4	<4
Coronene	191-07-1	5	µg/kg		----	----	<5	<5	<5
^ **Sum of PAHs**	----	4	µg/kg		----	----	**28**	<4	<4
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	**72.0**	----	----	----
Toluene-D8	2037-26-5	0.1	%		----	**80.6**	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	**76.0**	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	**92.2**	**90.5**	**71.2**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH57 0.0-0.4B	BH57 0.3V	BH58 0.0-0.5A	BH58 0.5-1.0A	BH58 1.0-1.25A
			Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504618-016	ES1504618-017	ES1504618-018	ES1504618-019	ES1504618-020
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	70.3	91.6	69.3
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	88.2	71.6	58.6
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	75.0	100	62.5
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	90.4	101	108
Anthracene-d10	1719-06-8	0.1	%	----	----	116	98.7	88.4
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	122	102	92.1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH58 0.0-0.5B	BH58 0.5-1.0B	BH58 0.3V	BH58 0.7V	BH59 0.0-0.7A
				Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504618-021	ES1504618-022	ES1504618-023	ES1504618-024	ES1504618-025
EA150: Particle Sizing									
+75µm	----	1	%		93	89	----	----	----
+150µm	----	1	%		82	75	----	----	----
+300µm	----	1	%		34	31	----	----	----
+425µm	----	1	%		10	8	----	----	----
+600µm	----	1	%		2	1	----	----	----
+1180µm	----	1	%		<1	<1	----	----	----
+2.36mm	----	1	%		<1	<1	----	----	----
+4.75mm	----	1	%		<1	<1	----	----	----
+9.5mm	----	1	%		<1	<1	----	----	----
+19.0mm	----	1	%		<1	<1	----	----	----
+37.5mm	----	1	%		<1	<1	----	----	----
+75.0mm	----	1	%		<1	<1	----	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	----	25.5	24.3	32.7
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		4	7	----	----	----
Silt (2-60 µm)	----	1	%		3	3	----	----	----
Sand (0.06-2.00 mm)	----	1	%		93	90	----	----	----
Gravel (>2mm)	----	1	%		<1	<1	----	----	----
Cobbles (>6cm)	----	1	%		<1	<1	----	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		2.66	2.67	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	----	----	13700
Iron	7439-89-6	50	mg/kg		----	----	----	----	26500
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	----	----	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	----	----	----	31.4
Cadmium	7440-43-9	0.1	mg/kg		----	----	----	----	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	----	----	----	25.8
Copper	7440-50-8	1.0	mg/kg		----	----	----	----	14.7
Cobalt	7440-48-4	0.5	mg/kg		----	----	----	----	11.1
Lead	7439-92-1	1.0	mg/kg		----	----	----	----	8.4

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH58 0.0-0.5B	BH58 0.5-1.0B	BH58 0.3V	BH58 0.7V	BH59 0.0-0.7A
				Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
					ES1504618-021	ES1504618-022	ES1504618-023	ES1504618-024	ES1504618-025
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	----	----	**426**
Nickel	7440-02-0	1.0	mg/kg		----	----	----	----	**14.0**
Selenium	7782-49-2	0.1	mg/kg		----	----	----	----	**2.8**
Silver	7440-22-4	0.1	mg/kg		----	----	----	----	<0.1
Vanadium	7440-62-2	2.0	mg/kg		----	----	----	----	**46.5**
Zinc	7440-66-6	1.0	mg/kg		----	----	----	----	**40.6**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	----	----	**0.01**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	----	----	**480**
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	----	----	**480**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	----	----	**254**
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	----	----	**2.0**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	----	----	**0.22**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	----	----	<3
>C16 - C34 Fraction	----	3	mg/kg		----	----	----	----	**6**
>C34 - C40 Fraction	----	5	mg/kg		----	----	----	----	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	----	----	**6**
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	<3	<3	----
C10 - C14 Fraction	----	3	mg/kg		----	----	----	----	<3
C15 - C28 Fraction	----	3	mg/kg		----	----	----	----	<3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH58 0.0-0.5B	BH58 0.5-1.0B	BH58 0.3V	BH58 0.7V	BH59 0.0-0.7A
				Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
					ES1504618-021	ES1504618-022	ES1504618-023	ES1504618-024	ES1504618-025
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	----	----	<5
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	----	----	<3
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	<3	<3	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	<0.2	<0.2	----
Toluene	108-88-3	0.2	mg/kg		----	----	<0.2	<0.2	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	<0.2	<0.2	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	<0.2	<0.2	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	<0.2	<0.2	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	<0.5	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg		----	----	<0.2	<0.2	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	----	----	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	----	----	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	----	----	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	----	----	<10
Carbophenothion	786-19-6	10	µg/kg		----	----	----	----	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	----	----	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	----	----	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	----	----	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	----	----	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	----	----	<10
Diazinon	333-41-5	10	µg/kg		----	----	----	----	<10
Dichlorvos	62-73-7	10	µg/kg		----	----	----	----	<10
Dimethoate	60-51-5	10	µg/kg		----	----	----	----	<10
Ethion	563-12-2	10	µg/kg		----	----	----	----	<10
Fenamiphos	22224-92-6	10	µg/kg		----	----	----	----	<10
Fenthion	55-38-9	10	µg/kg		----	----	----	----	<10
Malathion	121-75-5	10	µg/kg		----	----	----	----	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	----	----	----	<10
Monocrotophos	6923-22-4	10	µg/kg		----	----	----	----	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH58 0.0-0.5B	BH58 0.5-1.0B	BH58 0.3V	BH58 0.7V	BH59 0.0-0.7A
				Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
					ES1504618-021	ES1504618-022	ES1504618-023	ES1504618-024	ES1504618-025
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	----	----	<10
Parathion-methyl	298-00-0	10	µg/kg		----	----	----	----	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	----	----	<10
Prothiofos	34643-46-4	10	µg/kg		----	----	----	----	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	----	----	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	----	----	----	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	----	----	----	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	----	----	<0.50
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	----	----	----	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	----	----	----	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	----	----	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	----	----	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	----	----	<0.50
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	----	----	----	<0.50
Endrin	72-20-8	0.50	µg/kg		----	----	----	----	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	----	----	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	----	----	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	----	----	----	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	----	----	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	----	----	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	----	----	----	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	----	----	----	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	----	----	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	----	----	<0.25
^ Total Chlordane (sum)	----	0.25	µg/kg		----	----	----	----	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	----	----	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	----	----	<5.0

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH58 0.0-0.5B	BH58 0.5-1.0B	BH58 0.3V	BH58 0.7V	BH59 0.0-0.7A
				Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
					ES1504618-021	ES1504618-022	ES1504618-023	ES1504618-024	ES1504618-025
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	----	----	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	----	----	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	----	----	<5
Acenaphthylene	208-96-8	4	µg/kg		----	----	----	----	<4
Acenaphthene	83-32-9	4	µg/kg		----	----	----	----	<4
Fluorene	86-73-7	4	µg/kg		----	----	----	----	<4
Phenanthrene	85-01-8	4	µg/kg		----	----	----	----	<4
Anthracene	120-12-7	4	µg/kg		----	----	----	----	<4
Fluoranthene	206-44-0	4	µg/kg		----	----	----	----	<4
Pyrene	129-00-0	4	µg/kg		----	----	----	----	<4
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	----	----	<4
Chrysene	218-01-9	4	µg/kg		----	----	----	----	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	----	----	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	----	----	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	----	----	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	----	----	<4
Perylene	198-55-0	4	µg/kg		----	----	----	----	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	----	----	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	----	----	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	----	----	<4
Coronene	191-07-1	5	µg/kg		----	----	----	----	<5
^ **Sum of PAHs**	----	4	µg/kg		----	----	----	----	<4
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	**76.2**	**73.1**	----
Toluene-D8	2037-26-5	0.1	%		----	----	**88.8**	**78.8**	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	**84.0**	**73.6**	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	----	----	**92.7**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH58 0.0-0.5B	BH58 0.5-1.0B	BH58 0.3V	BH58 0.7V	BH59 0.0-0.7A
			Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504618-021	ES1504618-022	ES1504618-023	ES1504618-024	ES1504618-025
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	----	----	72.1
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	----	----	51.1
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	----	62.5
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	----	104
Anthracene-d10	1719-06-8	0.1	%	----	----	----	----	98.5
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	----	95.4

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH59 0.0-0.7B	BH59 0.3V	BH61 0.0-0.5A	BH61 0.0-0.5B	BH61 0.3V
				Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
					ES1504618-026	ES1504618-027	ES1504618-028	ES1504618-029	ES1504618-030
EA150: Particle Sizing									
+75µm	----	1	%		46	----	----	15	----
+150µm	----	1	%		27	----	----	10	----
+300µm	----	1	%		12	----	----	6	----
+425µm	----	1	%		5	----	----	4	----
+600µm	----	1	%		2	----	----	3	----
+1180µm	----	1	%		1	----	----	2	----
+2.36mm	----	1	%		<1	----	----	1	----
+4.75mm	----	1	%		<1	----	----	<1	----
+9.5mm	----	1	%		<1	----	----	<1	----
+19.0mm	----	1	%		<1	----	----	<1	----
+37.5mm	----	1	%		<1	----	----	<1	----
+75.0mm	----	1	%		<1	----	----	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	22.3	22.6	----	23.5
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		31	----	----	39	----
Silt (2-60 µm)	----	1	%		17	----	----	41	----
Sand (0.06-2.00 mm)	----	1	%		51	----	----	18	----
Gravel (>2mm)	----	1	%		1	----	----	2	----
Cobbles (>6cm)	----	1	%		<1	----	----	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		2.66	----	----	2.61	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	18200	----	----
Iron	7439-89-6	50	mg/kg		----	----	40000	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	<0.50	----	----
Arsenic	7440-38-2	1.00	mg/kg		----	----	20.6	----	----
Cadmium	7440-43-9	0.1	mg/kg		----	----	<0.1	----	----
Chromium	7440-47-3	1.0	mg/kg		----	----	27.7	----	----
Copper	7440-50-8	1.0	mg/kg		----	----	43.5	----	----
Cobalt	7440-48-4	0.5	mg/kg		----	----	19.1	----	----
Lead	7439-92-1	1.0	mg/kg		----	----	13.6	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH59 0.0-0.7B	BH59 0.3V	BH61 0.0-0.5A	BH61 0.0-0.5B	BH61 0.3V
				Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504618-026	ES1504618-027	ES1504618-028	ES1504618-029	ES1504618-030
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	**270**	----	----
Nickel	7440-02-0	1.0	mg/kg		----	----	**25.2**	----	----
Selenium	7782-49-2	0.1	mg/kg		----	----	**4.2**	----	----
Silver	7440-22-4	0.1	mg/kg		----	----	<0.1	----	----
Vanadium	7440-62-2	2.0	mg/kg		----	----	**84.8**	----	----
Zinc	7440-66-6	1.0	mg/kg		----	----	**68.8**	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	**0.02**	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	**0.4**	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	**0.4**	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	**250**	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	**250**	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	**294**	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	**2.1**	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	**0.26**	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	<3	----	----
>C16 - C34 Fraction	----	3	mg/kg		----	----	**4**	----	----
>C34 - C40 Fraction	----	5	mg/kg		----	----	<5	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	**4**	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	<3	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		----	----	<3	----	----
C15 - C28 Fraction	----	3	mg/kg		----	----	<3	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH59 0.0-0.7B	BH59 0.3V	BH61 0.0-0.5A	BH61 0.0-0.5B	BH61 0.3V
				Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
					ES1504618-026	ES1504618-027	ES1504618-028	ES1504618-029	ES1504618-030
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	<5	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	<3	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	<3	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	<0.2	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		----	<0.2	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	<0.2	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	<0.2	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	<0.2	----	----	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	<0.5	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	<0.2	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	<1	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	<1	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	<0.5	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	<10	----	----
Carbophenothion	786-19-6	10	µg/kg		----	----	<10	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	<10.0	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	<10	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	<10	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	<10	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	<10	----	----
Diazinon	333-41-5	10	µg/kg		----	----	<10	----	----
Dichlorvos	62-73-7	10	µg/kg		----	----	<10	----	----
Dimethoate	60-51-5	10	µg/kg		----	----	<10	----	----
Ethion	563-12-2	10	µg/kg		----	----	<10	----	----
Fenamiphos	22224-92-6	10	µg/kg		----	----	<10	----	----
Fenthion	55-38-9	10	µg/kg		----	----	<10	----	----
Malathion	121-75-5	10	µg/kg		----	----	<10	----	----
Azinphos Methyl	86-50-0	10	µg/kg		----	----	<10	----	----
Monocrotophos	6923-22-4	10	µg/kg		----	----	<10	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH59 0.0-0.7B	BH59 0.3V	BH61 0.0-0.5A	BH61 0.0-0.5B	BH61 0.3V
				Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
					ES1504618-026	ES1504618-027	ES1504618-028	ES1504618-029	ES1504618-030
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	<10	----	----
Parathion-methyl	298-00-0	10	µg/kg		----	----	<10	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	<10	----	----
Prothiofos	34643-46-4	10	µg/kg		----	----	<10	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg		----	----	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg		----	----	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg		----	----	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	<0.50	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	<0.50	----	----
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	----	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		----	----	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	<0.50	----	----
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	----	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		----	----	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg		----	----	<0.50	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	<0.50	----	----
gamma-BHC	58-89-9	0.25	µg/kg		----	----	<0.25	----	----
Methoxychlor	72-43-5	0.50	µg/kg		----	----	<0.50	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	<0.25	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	<0.25	----	----
^ **Total Chlordane (sum)**	----	0.25	µg/kg		----	----	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	<5.0	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH59 0.0-0.7B	BH59 0.3V	BH61 0.0-0.5A	BH61 0.0-0.5B	BH61 0.3V
				Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
					ES1504618-026	ES1504618-027	ES1504618-028	ES1504618-029	ES1504618-030
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	<5.0	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	<5	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	<5	----	----
Acenaphthylene	208-96-8	4	µg/kg		----	----	<4	----	----
Acenaphthene	83-32-9	4	µg/kg		----	----	<4	----	----
Fluorene	86-73-7	4	µg/kg		----	----	<4	----	----
Phenanthrene	85-01-8	4	µg/kg		----	----	<4	----	----
Anthracene	120-12-7	4	µg/kg		----	----	<4	----	----
Fluoranthene	206-44-0	4	µg/kg		----	----	<4	----	----
Pyrene	129-00-0	4	µg/kg		----	----	<4	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	<4	----	----
Chrysene	218-01-9	4	µg/kg		----	----	<4	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	<4	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	<4	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	<4	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	<4	----	----
Perylene	198-55-0	4	µg/kg		----	----	<4	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	<4	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	<4	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	<4	----	----
Coronene	191-07-1	5	µg/kg		----	----	<5	----	----
^ **Sum of PAHs**	----	4	µg/kg		----	----	<4	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	**95.1**	----	----	**83.0**
Toluene-D8	2037-26-5	0.1	%		----	**91.2**	----	----	**88.6**
4-Bromofluorobenzene	460-00-4	0.1	%		----	**91.1**	----	----	**86.5**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	**91.0**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH59 0.0-0.7B	BH59 0.3V	BH61 0.0-0.5A	BH61 0.0-0.5B	BH61 0.3V
			Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504618-026	ES1504618-027	ES1504618-028	ES1504618-029	ES1504618-030
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	70.2	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	78.8	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	66.8	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	108	----	----
Anthracene-d10	1719-06-8	0.1	%	----	----	114	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	117	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH62 0.0-0.3A	BH62 0.3V	BH63 0.0-0.4A	BH63 0.3V	DUPLICATE 7A
				Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
					ES1504618-031	ES1504618-032	ES1504618-033	ES1504618-034	ES1504618-035
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		19.9	18.5	24.1	22.5	20.8
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		11500	----	14500	----	10800
Iron	7439-89-6	50	mg/kg		22700	----	32600	----	19800
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	----	<0.50	----	<0.50
Arsenic	7440-38-2	1.00	mg/kg		6.65	----	7.65	----	5.16
Cadmium	7440-43-9	0.1	mg/kg		<0.1	----	<0.1	----	<0.1
Chromium	7440-47-3	1.0	mg/kg		19.0	----	26.7	----	16.5
Copper	7440-50-8	1.0	mg/kg		25.3	----	34.0	----	29.0
Cobalt	7440-48-4	0.5	mg/kg		10.7	----	17.7	----	14.0
Lead	7439-92-1	1.0	mg/kg		7.9	----	13.5	----	14.4
Manganese	7439-96-5	10	mg/kg		168	----	273	----	220
Nickel	7440-02-0	1.0	mg/kg		13.5	----	19.0	----	10.6
Selenium	7782-49-2	0.1	mg/kg		3.2	----	5.2	----	4.8
Silver	7440-22-4	0.1	mg/kg		<0.1	----	<0.1	----	<0.1
Vanadium	7440-62-2	2.0	mg/kg		47.2	----	63.4	----	39.1
Zinc	7440-66-6	1.0	mg/kg		43.1	----	64.7	----	37.4
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		0.01	----	0.01	----	<0.01
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	----	<0.1	----	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		1.1	----	<0.1	----	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		1.1	----	<0.1	----	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		190	----	180	----	170
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		190	----	180	----	170
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		209	----	341	----	148
EK255A SD Ammonia in Sediment									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH62 0.0-0.3A	BH62 0.3V	BH63 0.0-0.4A	BH63 0.3V	DUPLICATE 7A
				Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
					ES1504618-031	ES1504618-032	ES1504618-033	ES1504618-034	ES1504618-035
EK255A SD Ammonia in Sediment - Continued									
Ammonia as N	7664-41-7	0.2	mg/kg		**1.4**	----	**1.9**	----	**1.5**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		**0.16**	----	**0.18**	----	**0.20**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	----	<3	----	<3
>C16 - C34 Fraction	----	3	mg/kg		**4**	----	**5**	----	<3
>C34 - C40 Fraction	----	5	mg/kg		<5	----	<5	----	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		**4**	----	**5**	----	<3
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	<3	----	<3	----
C10 - C14 Fraction	----	3	mg/kg		<3	----	<3	----	<3
C15 - C28 Fraction	----	3	mg/kg		<3	----	<3	----	<3
C29 - C36 Fraction	----	5	mg/kg		<5	----	<5	----	<5
^ **C10 - C36 Fraction (sum)**	----	3	mg/kg		<3	----	<3	----	<3
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	<3	----	<3	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	<0.2	----	<0.2	----
Toluene	108-88-3	0.2	mg/kg		----	<0.2	----	<0.2	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	<0.2	----	<0.2	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	<0.2	----	<0.2	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	<0.2	----	<0.2	----
^ **Total Xylenes**	1330-20-7	0.5	mg/kg		----	<0.5	----	<0.5	----
^ **Sum of BTEX**	----	0.2	mg/kg		----	<0.2	----	<0.2	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	----	<1	----	<1
Dibutyltin	1002-53-5	1	µgSn/kg		<1	----	<1	----	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	----	<0.5	----	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	----	<10	----	<10
Carbophenothion	786-19-6	10	µg/kg		<10	----	<10	----	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	----	<10.0	----	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	----	<10	----	<10

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH62 0.0-0.3A	BH62 0.3V	BH63 0.0-0.4A	BH63 0.3V	DUPLICATE 7A
				Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
					ES1504618-031	ES1504618-032	ES1504618-033	ES1504618-034	ES1504618-035
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Chlorpyrifos	2921-88-2	10	µg/kg		<10	----	<10	----	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	----	<10	----	<10
Demeton-S-methyl	919-86-8	10	µg/kg		<10	----	<10	----	<10
Diazinon	333-41-5	10	µg/kg		<10	----	<10	----	<10
Dichlorvos	62-73-7	10	µg/kg		<10	----	<10	----	<10
Dimethoate	60-51-5	10	µg/kg		<10	----	<10	----	<10
Ethion	563-12-2	10	µg/kg		<10	----	<10	----	<10
Fenamiphos	22224-92-6	10	µg/kg		<10	----	<10	----	<10
Fenthion	55-38-9	10	µg/kg		<10	----	<10	----	<10
Malathion	121-75-5	10	µg/kg		<10	----	<10	----	<10
Azinphos Methyl	86-50-0	10	µg/kg		<10	----	<10	----	<10
Monocrotophos	6923-22-4	10	µg/kg		<10	----	<10	----	<10
Parathion	56-38-2	10	µg/kg		<10	----	<10	----	<10
Parathion-methyl	298-00-0	10	µg/kg		<10	----	<10	----	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	----	<10	----	<10
Prothiofos	34643-46-4	10	µg/kg		<10	----	<10	----	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
beta-BHC	319-85-7	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
delta-BHC	319-86-8	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
Dieldrin	60-57-1	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
Endrin	72-20-8	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
Heptachlor	76-44-8	0.50	µg/kg		<0.50	----	<0.50	----	<0.50

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH62 0.0-0.3A	BH62 0.3V	BH63 0.0-0.4A	BH63 0.3V	DUPLICATE 7A
				Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
					ES1504618-031	ES1504618-032	ES1504618-033	ES1504618-034	ES1504618-035
EP131A: Organochlorine Pesticides - Continued									
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	----	<0.25	----	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	----	<0.25	----	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	----	<0.25	----	<0.25
^ **Total Chlordane (sum)**	----	0.25	µg/kg		<0.25	----	<0.25	----	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		<5.0	----	<5.0	----	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	----	<5.0	----	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	----	<5.0	----	<5.0
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	----	<5.0	----	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	----	<5.0	----	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	----	<5.0	----	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	----	<5.0	----	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	----	<5.0	----	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	----	<5	----	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	----	<5	----	<5
Acenaphthylene	208-96-8	4	µg/kg		<4	----	<4	----	<4
Acenaphthene	83-32-9	4	µg/kg		<4	----	<4	----	<4
Fluorene	86-73-7	4	µg/kg		<4	----	<4	----	<4
Phenanthrene	85-01-8	4	µg/kg		<4	----	<4	----	<4
Anthracene	120-12-7	4	µg/kg		<4	----	<4	----	<4
Fluoranthene	206-44-0	4	µg/kg		<4	----	<4	----	<4
Pyrene	129-00-0	4	µg/kg		<4	----	<4	----	<4
Benz(a)anthracene	56-55-3	4	µg/kg		<4	----	<4	----	<4
Chrysene	218-01-9	4	µg/kg		<4	----	<4	----	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	----	<4	----	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	----	<4	----	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	----	<4	----	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	----	<4	----	<4

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH62 0.0-0.3A	BH62 0.3V	BH63 0.0-0.4A	BH63 0.3V	DUPLICATE 7A
				Client sampling date / time	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00	25-FEB-2015 15:00
					ES1504618-031	ES1504618-032	ES1504618-033	ES1504618-034	ES1504618-035
EP132B: Polynuclear Aromatic Hydrocarbons - Continued									
Perylene	198-55-0	4	µg/kg		<4	----	<4	----	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	----	<4	----	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	----	<4	----	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	----	<4	----	<4
Coronene	191-07-1	5	µg/kg		<5	----	<5	----	<5
^ **Sum of PAHs**	----	4	µg/kg		<4	----	<4	----	<4
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	**76.5**	----	**81.0**	----
Toluene-D8	2037-26-5	0.1	%		----	**83.5**	----	**88.9**	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	**79.8**	----	**83.9**	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**89.4**	----	**91.7**	----	**100**
EP130S: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%		**79.9**	----	**66.8**	----	**68.7**
EP131S: OC Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.1	%		**47.0**	----	**72.9**	----	**94.6**
EP131T: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**65.2**	----	**62.5**	----	**75.0**
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		**112**	----	**104**	----	**110**
Anthracene-d10	1719-06-8	0.1	%		**84.8**	----	**99.8**	----	**99.0**
4-Terphenyl-d14	1718-51-0	0.1	%		**89.6**	----	**107**	----	**104**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TRIP BLANK 16	----	----	----	----
				Client sampling date / time	25-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1504618-036	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	----	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		<3	----	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	----	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	----	----	----	----
C10 - C14 Fraction	----	3	mg/kg		<3	----	----	----	----
C15 - C28 Fraction	----	3	mg/kg		<3	----	----	----	----
C29 - C36 Fraction	----	5	mg/kg		<5	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	3	mg/kg		<3	----	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	----	----	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.2	mg/kg		<0.2	----	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	----	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	----	----	----	----
^ **Total Xylenes**	1330-20-7	0.5	mg/kg		<0.5	----	----	----	----
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	----	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**98.4**	----	----	----	----
Toluene-D8	2037-26-5	0.1	%		**104**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**95.7**	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 16	----	----	----	----
				Client sampling date / time	25-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1504618-037	----	----	----	----
EG020T: Total Metals by ICP-MS									
Antimony	7440-36-0	0.001	mg/L		<0.001	----	----	----	----
Arsenic	7440-38-2	0.001	mg/L		<0.001	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	----	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	----	----	----	----
Manganese	7439-96-5	0.001	mg/L		<0.001	----	----	----	----
Nickel	7440-02-0	0.001	mg/L		<0.001	----	----	----	----
Silver	7440-22-4	0.001	mg/L		<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L		<0.005	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	----	----	----	----
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		<0.01	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	----	0.01	mg/L		<0.01	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		<0.01	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		<0.01	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L		<0.1	----	----	----	----
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser									
^ Total Nitrogen as N	----	0.1	mg/L		<0.1	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		<0.01	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	1	µg/L		<1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.5	µg/L		<0.5	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L		<0.5	----	----	----	----
beta-BHC	319-85-7	0.5	µg/L		<0.5	----	----	----	----
gamma-BHC	58-89-9	0.5	µg/L		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 16	----	----	----	----
				Client sampling date / time	25-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1504618-037	----	----	----	----
EP068A: Organochlorine Pesticides (OC) - Continued									
delta-BHC	319-86-8	0.5	µg/L		<0.5	----	----	----	----
Heptachlor	76-44-8	0.5	µg/L		<0.5	----	----	----	----
Aldrin	309-00-2	0.5	µg/L		<0.5	----	----	----	----
Heptachlor epoxide	1024-57-3	0.5	µg/L		<0.5	----	----	----	----
trans-Chlordane	5103-74-2	0.5	µg/L		<0.5	----	----	----	----
alpha-Endosulfan	959-98-8	0.5	µg/L		<0.5	----	----	----	----
cis-Chlordane	5103-71-9	0.5	µg/L		<0.5	----	----	----	----
Dieldrin	60-57-1	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDE	72-55-9	0.5	µg/L		<0.5	----	----	----	----
Endrin	72-20-8	0.5	µg/L		<0.5	----	----	----	----
beta-Endosulfan	33213-65-9	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDD	72-54-8	0.5	µg/L		<0.5	----	----	----	----
Endrin aldehyde	7421-93-4	0.5	µg/L		<0.5	----	----	----	----
Endosulfan sulfate	1031-07-8	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDT	50-29-3	2.0	µg/L		<2.0	----	----	----	----
Endrin ketone	53494-70-5	0.5	µg/L		<0.5	----	----	----	----
Methoxychlor	72-43-5	2.0	µg/L		<2.0	----	----	----	----
^ Total Chlordane (sum)	----	0.5	µg/L		<0.5	----	----	----	----
^ Sum of DDD + DDE + DDT	----	0.5	µg/L		<0.5	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L		<0.5	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.5	µg/L		<0.5	----	----	----	----
Demeton-S-methyl	919-86-8	0.5	µg/L		<0.5	----	----	----	----
Monocrotophos	6923-22-4	2.0	µg/L		<2.0	----	----	----	----
Dimethoate	60-51-5	0.5	µg/L		<0.5	----	----	----	----
Diazinon	333-41-5	0.5	µg/L		<0.5	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L		<0.5	----	----	----	----
Parathion-methyl	298-00-0	2.0	µg/L		<2.0	----	----	----	----
Malathion	121-75-5	0.5	µg/L		<0.5	----	----	----	----
Fenthion	55-38-9	0.5	µg/L		<0.5	----	----	----	----
Chlorpyrifos	2921-88-2	0.5	µg/L		<0.5	----	----	----	----
Parathion	56-38-2	2.0	µg/L		<2.0	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	µg/L		<0.5	----	----	----	----
Chlorfenvinphos	470-90-6	0.5	µg/L		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	RINSATE 16	----	----	----	----
			Client sampling date / time	25-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1504618-037	----	----	----	----
EP068B: Organophosphorus Pesticides (OP) - Continued								
Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	----	----	----	----
Fenamiphos	22224-92-6	0.5	µg/L	<0.5	----	----	----	----
Prothiofos	34643-46-4	0.5	µg/L	<0.5	----	----	----	----
Ethion	563-12-2	0.5	µg/L	<0.5	----	----	----	----
Carbophenothion	786-19-6	0.5	µg/L	<0.5	----	----	----	----
Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L	<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L	<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L	<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L	<1.0	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L	<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L	<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L	<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L	<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L	<50	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 16	----	----	----	----
				Client sampling date / time	25-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1504618-037	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L	<20	----	----	----	----
>C10 - C16 Fraction	>C10_C16	100	µg/L	<100	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L	<100	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L	<100	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L	<100	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L	<100	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L	<1	----	----	----	----
Toluene	108-88-3	2	µg/L	<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	----	----	----	----
^ **Total Xylenes**	1330-20-7	2	µg/L	<2	----	----	----	----
^ **Sum of BTEX**	----	1	µg/L	<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L	<5	----	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	5	ngSn/L	<5	----	----	----	----
Dibutyltin	1002-53-5	5	ngSn/L	<5	----	----	----	----
Tributyltin	56573-85-4	2	ngSn/L	<2	----	----	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	**65.5**	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.1	%	**106**	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%	**75.9**	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%	**22.2**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	**37.5**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	**34.8**	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%	**50.3**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**56.3**	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 16	----	----	----	----
				Client sampling date / time	25-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1504618-037	----	----	----	----
EP075(SIM)T: PAH Surrogates - Continued									
4-Terphenyl-d14	1718-51-0	0.1	%	58.6	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%	90.1	----	----	----	----
Toluene-D8	2037-26-5	0.1	%	108	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	97.4	----	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%	93.2	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
EP080-SD: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	67	137
Toluene-D8	2037-26-5	74	134
4-Bromofluorobenzene	460-00-4	73	137
EP090S: Organotin Surrogate			
Tripropyltin	----	35	130
EP130S: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	14.4	102
EP131S: OC Pesticide Surrogate			
Dibromo-DDE	21655-73-2	10	119
EP131T: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	10	106
EP132T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	55	135
Anthracene-d10	1719-06-8	70	136
4-Terphenyl-d14	1718-51-0	57	127

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	28.5	129
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	30	120
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	26.8	129
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10.0	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27.4	113
4-Terphenyl-d14	1718-51-0	32	112
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128
EP090S: Organotin Surrogate			
Tripropyltin	----	8.2	108

QUALITY CONTROL REPORT

Work Order	: **ES1504618**	Page	: 1 of 29
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 27-FEB-2015
Sampler	: GK	Issue Date	: 23-MAR-2015
Order number	: 245553		
		No. of samples received	: 37
Quote number	: SY/1021/14 V2	No. of samples analysed	: 37

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Dianne Blane	Laboratory Coordinator (2IC)	Newcastle - Inorganics
Matt Frost	Senior Organic Chemist	Brisbane Organics
Pabi Subba	Senior Organic Chemist	Sydney Organics
Phalak Inthakesone	Laboratory Manager - Organics	Sydney Inorganics
		Sydney Organics
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils
Shobhna Chandra	Metals Coordinator	Sydney Inorganics
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA055: Moisture Content (QC Lot: 3851663)									
ES1504618-004	BH7 0.0-0.4A	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	25.4	25.6	0.6	0% - 20%
ES1504618-019	BH58 0.5-1.0A	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	23.2	22.0	5.3	0% - 20%
EA055: Moisture Content (QC Lot: 3851664)									
ES1504618-032	BH62 0.3V	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	18.5	19.5	5.1	0% - 50%
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3853978)									
ES1504596-038	Anonymous	EG005-SD: Aluminium	7429-90-5	50	mg/kg	6390	6860	7.1	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	14800	15900	7.2	0% - 20%
ES1504618-007	BH13 0.5-1.0A	EG005-SD: Aluminium	7429-90-5	50	mg/kg	8540	8120	5.0	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	17100	16100	6.0	0% - 20%
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3853981)									
ES1504618-035	DUPLICATE 7A	EG005-SD: Aluminium	7429-90-5	50	mg/kg	10800	11200	3.0	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	19800	21600	8.7	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3853977)									
ES1504596-038	Anonymous	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	2.0	2.1	5.2	0% - 20%
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	11.6	10.2	12.2	0% - 20%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	14.8	14.4	3.0	0% - 50%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	14.9	15.9	6.9	0% - 50%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	4.9	5.2	6.8	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	9.0	8.4	6.1	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	32.4	32.4	0.0	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	4.04	3.41	16.8	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	108	118	9.3	0% - 50%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	41.4	41.8	1.0	0% - 20%
ES1504618-007	BH13 0.5-1.0A	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	2.8	3.1	9.1	0% - 20%
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	10.8	9.8	9.4	0% - 20%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	15.0	14.0	7.2	0% - 50%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	14.3	13.8	3.4	0% - 50%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	6.2	5.7	8.5	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	9.1	8.2	10.3	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3853977) - continued									
ES1504618-007	BH13 0.5-1.0A	EG020-SD: Zinc	7440-66-6	1.0	mg/kg	25.5	25.3	0.6	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	10.6	9.82	7.5	0% - 50%
		EG020-SD: Manganese	7439-96-5	10	mg/kg	444	446	0.3	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	36.1	33.4	7.7	0% - 50%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3853980)									
ES1504618-035	DUPLICATE 7A	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	4.8	5.0	3.0	0% - 20%
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	14.0	12.8	9.1	0% - 20%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	16.5	16.6	0.0	0% - 50%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	29.0	31.7	8.8	0% - 20%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	14.4	11.4	23.5	0% - 50%
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	10.6	10.8	2.2	0% - 50%
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	37.4	40.6	8.2	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	5.16	4.85	6.1	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	220	193	13.1	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	39.1	41.8	6.7	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3853976)									
ES1504596-038	Anonymous	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit
ES1504618-007	BH13 0.5-1.0A	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3853979)									
ES1504618-035	DUPLICATE 7A	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3854148)									
ES1504618-001	BH2 0.0-0.6AA	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1504618-025	BH59 0.0-0.7A	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3854149)									
ES1504618-001	BH2 0.0-0.6AA	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1504618-025	BH59 0.0-0.7A	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	0.3	94.5	No Limit
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3846123)									
ES1504596-043	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	220	200	10.3	0% - 50%
ES1504618-007	BH13 0.5-1.0A	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	240	180	31.7	0% - 50%
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3846125)									
ES1504596-043	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	208	244	15.9	0% - 20%
ES1504618-007	BH13 0.5-1.0A	EK067G: Total Phosphorus as P	----	2	mg/kg	223	290	# 25.9	0% - 20%
EK255A SD: Ammonia in Sediment (QC Lot: 3841399)									
ES1504618-001	BH2 0.0-0.6AA	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	1.2	1.2	0.0	No Limit
ES1504618-028	BH61 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	2.1	2.0	0.0	0% - 50%
EP003: Total Organic Carbon (TOC) in Soil (QC Lot: 3851097)									

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP003: Total Organic Carbon (TOC) in Soil (QC Lot: 3851097) - continued									
EM1501839-001	Anonymous	EP003: Total Organic Carbon	----	0.02	%	0.39	0.42	5.4	0% - 20%
ES1504618-004	BH7 0.0-0.4A	EP003: Total Organic Carbon	----	0.02	%	0.18	0.18	0.0	No Limit
EP003: Total Organic Carbon (TOC) in Soil (QC Lot: 3851098)									
ES1504618-031	BH62 0.0-0.3A	EP003: Total Organic Carbon	----	0.02	%	0.16	0.16	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3841479)									
ES1504618-001	BH2 0.0-0.6AA	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
ES1504618-028	BH61 0.0-0.5A	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	4	5	28.9	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	4	5	22.2	No Limit
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3841474)									
ES1504618-003	BH2 0.3V	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
ES1504618-027	BH59 0.3V	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3841479)									
ES1504618-001	BH2 0.0-0.6AA	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
ES1504618-028	BH61 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
EP080-SD: BTEXN (QC Lot: 3841474)									
ES1504618-003	BH2 0.3V	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
ES1504618-027	BH59 0.3V	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP090: Organotin Compounds (QC Lot: 3841330)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP090: Organotin Compounds (QC Lot: 3841330) - continued									
ES1504618-006	BH13 0.0-0.5A	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
ES1504618-028	BH61 0.0-0.5A	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3841475)									
ES1504618-001	BH2 0.0-0.6AA	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
ES1504618-028	BH61 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3841475) - continued									
ES1504618-028	BH61 0.0-0.5A	EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
EP131A: Organochlorine Pesticides (QC Lot: 3841476)									
ES1504618-001	BH2 0.0-0.6AA	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
ES1504618-028	BH61 0.0-0.5A	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP131A: Organochlorine Pesticides (QC Lot: 3841476) - continued									
ES1504618-028	BH61 0.0-0.5A	EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 3841477)									
ES1504618-001	BH2 0.0-0.6AA	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
ES1504618-028	BH61 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3841478)									
ES1504618-001	BH2 0.0-0.6AA	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3841478) - continued									
ES1504618-001	BH2 0.0-0.6AA	EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit
ES1504618-028	BH61 0.0-0.5A	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020T: Total Metals by ICP-MS (QC Lot: 3844857)									
ES1504301-069	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Manganese	7439-96-5	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
EG020T: Total Metals by ICP-MS (QC Lot: 3844858)									
ES1504301-069	Anonymous	EG020B-T: Silver	7440-22-4	0.001	mg/L	<0.001	<0.001	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3855815)									
ES1504618-037	RINSATE 16	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
ES1505356-006	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EK055G: Ammonia as N by Discrete Analyser (QC Lot: 3843017)									
ES1504596-058	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3840401)									
ES1504618-037	RINSATE 16	EK057G: Nitrite as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3843016)									
ES1504596-058	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1504966-005	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	0.10	0.10	0.0	0% - 50%
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3843002)									
ES1504596-058	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	<0.1	<0.1	0.0	No Limit
ES1504966-006	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	0.9	0.9	0.0	No Limit
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3843003)									
ES1504596-058	Anonymous	EK067G: Total Phosphorus as P	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1504966-006	Anonymous	EK067G: Total Phosphorus as P	----	0.01	mg/L	0.08	0.08	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3848604)									
ES1504796-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
ES1504841-006	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3848604)									
ES1504796-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
ES1504841-006	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 3848604)									
ES1504796-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP080: BTEXN (QC Lot: 3848604) - continued									
ES1504796-001	Anonymous	EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
ES1504841-006	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3853978)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	103	86	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	80.8	70	130
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3853981)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	106	86	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	84.1	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3853977)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	4.6 mg/kg	126	70	130
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	114	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	103	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	96.3	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	108	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	113	84	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	99.6	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	99.3	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	112	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	121	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	2.10 mg/kg	101	64	148
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	106	87	131
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	119	83	137
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3853980)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	4.6 mg/kg	127	70	130
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	113	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	108	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	98.5	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	110	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	113	84	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3853980) - continued								
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	101	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	110	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	115	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	123	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	2.10 mg/kg	95.0	64	148
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	107	87	131
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	119	83	137
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3853976)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.090 mg/kg	82.8	72	116
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3853979)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.090 mg/kg	83.3	72	116
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3854148)								
EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	95.6	82	120
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3854149)								
EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	99.2	89	115
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3846123)								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	----	500 mg/kg	108	70	122
				----	100 mg/kg	92.4	70	127
				<20	1000 mg/kg	85.9	64	114
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3846125)								
EK067G: Total Phosphorus as P	----	2	mg/kg	<2	442 mg/kg	85.9	68	116
				----	100 mg/kg	108	69	123
				----	44.2 mg/kg	87.9	64	124
EK255A SD: Ammonia in Sediment (QCLot: 3841399)								
EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	<0.2	0.1 mg/kg	110	70	130
EP003: Total Organic Carbon (TOC) in Soil (QCLot: 3851097)								
EP003: Total Organic Carbon	----	0.02	%	<0.02	0.11 %	104	70	130
EP003: Total Organic Carbon (TOC) in Soil (QCLot: 3851098)								
EP003: Total Organic Carbon	----	0.02	%	<0.02	0.11 %	101	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3841479)								
EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	6.25 mg/kg	101	70	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3841479) - continued								
EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	8.75 mg/kg	96.0	74	138
EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	3.75 mg/kg	83.2	63	131
EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3841474)								
EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	6.2 mg/kg	98.2	61	133
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3841479)								
EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	5 mg/kg	105	78	118
EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	7.5 mg/kg	98.8	84	118
EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	5 mg/kg	106	73	119
EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD: BTEXN (QCLot: 3841474)								
EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	0.2 mg/kg	94.9	66	122
EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	0.2 mg/kg	99.8	69	122
EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.2 mg/kg	103	66	126
EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	0.4 mg/kg	102	59	129
EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.2 mg/kg	99.8	66	126
EP090: Organotin Compounds (QCLot: 3841330)								
EP090: Monobutyltin	78763-54-9	1.0	µgSn/kg	<1	0.625 µgSn/kg	89.6	36	128
EP090: Dibutyltin	1002-53-5	1.0	µgSn/kg	<1	0.625 µgSn/kg	88.0	42	132
EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	0.625 µgSn/kg	107	52	139
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3841475)								
EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	50 µg/kg	93.9	45	139
EP130: Carbophenothion	786-19-6	10	µg/kg	<10	50 µg/kg	80.9	47	117
EP130: Chlorfenvinphos (E)	18708-86-6	10	µg/kg	<10.0	5 µg/kg	60.3	48	156
EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	50 µg/kg	79.1	62	136
EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	50 µg/kg	81.0	57	137
EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	50 µg/kg	98.0	57	121
EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	50 µg/kg	76.9	20.4	142
EP130: Diazinon	333-41-5	10	µg/kg	<10	50 µg/kg	93.5	57	121

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3841475) - continued								
EP130: Dichlorvos	62-73-7	10	µg/kg	<10	50 µg/kg	77.1	47	115
EP130: Dimethoate	60-51-5	10	µg/kg	<10	50 µg/kg	81.2	55	133
EP130: Ethion	563-12-2	10	µg/kg	<10	50 µg/kg	73.6	54	130
EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	50 µg/kg	84.2	57	131
EP130: Fenthion	55-38-9	10	µg/kg	<10	50 µg/kg	74.2	38	130
EP130: Malathion	121-75-5	10	µg/kg	<10	50 µg/kg	80.4	62	138
EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	50 µg/kg	89.9	33	137
EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	50 µg/kg	91.7	50	148
EP130: Parathion	56-38-2	10	µg/kg	<10	50 µg/kg	76.1	64	140
EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	50 µg/kg	78.1	56	136
EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	50 µg/kg	78.0	50	132
EP130: Prothiofos	34643-46-4	10	µg/kg	<10	50 µg/kg	81.8	55	135
EP131A: Organochlorine Pesticides (QCLot: 3841476)								
EP131A: Aldrin	309-00-2	0.5	µg/kg	<0.50	5 µg/kg	98.4	38	150
EP131A: alpha-BHC	319-84-6	0.5	µg/kg	<0.50	5 µg/kg	72.0	17.6	156
EP131A: beta-BHC	319-85-7	0.5	µg/kg	<0.50	5 µg/kg	62.9	30.5	152
EP131A: delta-BHC	319-86-8	0.5	µg/kg	<0.50	5 µg/kg	78.9	37	151
EP131A: 4.4`-DDD	72-54-8	0.5	µg/kg	<0.50	5 µg/kg	75.6	25.9	150
EP131A: 4.4`-DDE	72-55-9	0.5	µg/kg	<0.50	5 µg/kg	72.3	35	129
EP131A: 4.4`-DDT	50-29-3	0.5	µg/kg	<0.50	5 µg/kg	105	23.4	163
EP131A: Sum of DDD + DDE + DDT	----	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Dieldrin	60-57-1	0.5	µg/kg	<0.50	5 µg/kg	72.9	30.2	140
EP131A: alpha-Endosulfan	959-98-8	0.5	µg/kg	<0.50	5 µg/kg	53.2	38	140
EP131A: beta-Endosulfan	33213-65-9	0.5	µg/kg	<0.50	5 µg/kg	73.9	32	152
EP131A: Endosulfan sulfate	1031-07-8	0.5	µg/kg	<0.50	5 µg/kg	73.6	36	162
EP131A: Endosulfan (sum)	115-29-7	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Endrin	72-20-8	0.5	µg/kg	<0.50	5 µg/kg	91.9	25.8	166
EP131A: Endrin aldehyde	7421-93-4	0.5	µg/kg	<0.50	5 µg/kg	67.1	20.1	116
EP131A: Endrin ketone	53494-70-5	0.5	µg/kg	<0.50	5 µg/kg	49.9	13.4	151

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP131A: Organochlorine Pesticides (QCLot: 3841476) - continued								
EP131A: Heptachlor	76-44-8	0.5	µg/kg	<0.50	5 µg/kg	78.7	39	173
EP131A: Heptachlor epoxide	1024-57-3	0.5	µg/kg	<0.50	5 µg/kg	58.6	34	148
EP131A: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/kg	<0.50	5 µg/kg	46.1	26.1	152
EP131A: gamma-BHC	58-89-9	0.5	µg/kg	<0.50	5 µg/kg	46.6	31.2	159
EP131A: Methoxychlor	72-43-5	0.5	µg/kg	<0.50	5 µg/kg	114	36	160
EP131A: cis-Chlordane	5103-71-9	0.5	µg/kg	<0.50	5 µg/kg	57.9	36	142
EP131A: trans-Chlordane	5103-74-2	0.5	µg/kg	<0.50	5 µg/kg	73.6	29.5	138
EP131A: Total Chlordane (sum)	----	0.5	µg/kg	<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3841477)								
EP131B: Total Polychlorinated biphenyls	----	5	µg/kg	<5.0	50 µg/kg	73.8	44	136
EP131B: Aroclor 1016	12674-11-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1221	11104-28-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1232	11141-16-5	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1242	53469-21-9	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1248	12672-29-6	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1254	11097-69-1	5	µg/kg	<5.0	50 µg/kg	73.8	44	136
EP131B: Aroclor 1260	11096-82-5	5	µg/kg	<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3841478)								
EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	25 µg/kg	88.3	67	133
EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	25 µg/kg	81.1	63	135
EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	25 µg/kg	97.6	68	132
EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	25 µg/kg	99.6	67	133
EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	25 µg/kg	96.6	69	131
EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	25 µg/kg	98.9	66	138
EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	25 µg/kg	103	67	133
EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	25 µg/kg	106	64	130
EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	25 µg/kg	112	67	133
EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	25 µg/kg	84.5	65	133
EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	25 µg/kg	98.3	70	134

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3841478) - continued								
EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	25 µg/kg	87.3	63	133
EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	25 µg/kg	104	67	133
EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	25 µg/kg	94.5	64	130
EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	25 µg/kg	93.1	72	130
EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	25 µg/kg	93.1	70	132
EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	25 µg/kg	95.9	65	127
EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	25 µg/kg	94.6	67	135
EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	25 µg/kg	94.1	62	126
EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	25 µg/kg	110	66	134
EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 3844857)								
EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	----	----	----	----
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	96.1	79	121
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	103	83	113
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	105	84	116
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	105	83	117
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	102	84	116
EG020A-T: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	100	85	115
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	104	84	116
EG020T: Total Metals by ICP-MS (QCLot: 3844858)								
EG020B-T: Silver	7440-22-4	0.001	mg/L	<0.001	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3855815)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	96.4	77	115
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3843017)								
EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	1.0 mg/L	99.2	86	112
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3840401)								
EK057G: Nitrite as N	----	0.01	mg/L	<0.01	0.5 mg/L	102	83	119

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3843016)								
EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	0.5 mg/L	101	87	119
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3843002)								
EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	<0.1	10 mg/L	89.2	66	114
				----	1.0 mg/L	102	66	126
				----	5 mg/L	104	66	119
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3843003)								
EK067G: Total Phosphorus as P	----	0.01	mg/L	<0.01	4.42 mg/L	91.5	67	117
				----	1.0 mg/L	105	66	124
				----	0.442 mg/L	95.5	63	123
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3841682)								
EP066: Total Polychlorinated biphenyls	----	1	µg/L	<1	10 µg/L	79.8	61.6	107
EP068A: Organochlorine Pesticides (OC) (QCLot: 3841681)								
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	5 µg/L	76.3	65	107
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	5 µg/L	71.4	51	119
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	5 µg/L	74.2	63	113
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	5 µg/L	90.6	62	112
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	5 µg/L	102	60	106
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	5 µg/L	104	58	108
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	5 µg/L	108	58	114
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	5 µg/L	102	59	111
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	5 µg/L	108	62	114
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	5 µg/L	99.1	64	114
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	5 µg/L	99.7	62	114
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	5 µg/L	106	59	111
EP068: 4.4`-DDE	72-55-9	0.5	µg/L	<0.5	5 µg/L	81.2	63	111
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	5 µg/L	106	61	119
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	5 µg/L	104	71	119
EP068: 4.4`-DDD	72-54-8	0.5	µg/L	<0.5	5 µg/L	105	70	118
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	5 µg/L	90.1	62	112
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	5 µg/L	102	53	113

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 3841681) - continued								
EP068: 4.4`-DDT	50-29-3	2.0	µg/L	<2.0	5 µg/L	98.6	52	120
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	5 µg/L	97.9	51	117
EP068: Methoxychlor	72-43-5	2.0	µg/L	<2.0	5 µg/L	96.8	53	127
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3841681)								
EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	5 µg/L	84.4	52	122
EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	5 µg/L	85.8	51	123
EP068: Monocrotophos	6923-22-4	0.5	µg/L	<2.0	5 µg/L	35.8	10	89.1
EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	5 µg/L	96.4	61	119
EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	5 µg/L	94.0	67	113
EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	5 µg/L	108	60	116
EP068: Parathion-methyl	298-00-0	2.0	µg/L	<2.0	5 µg/L	110	64	120
EP068: Malathion	121-75-5	0.5	µg/L	<0.5	5 µg/L	109	67	115
EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	5 µg/L	98.2	64	110
EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	5 µg/L	106	63	109
EP068: Parathion	56-38-2	2.0	µg/L	<2.0	5 µg/L	104	63	121
EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	5 µg/L	103	60	110
EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	5 µg/L	101	68	114
EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	5 µg/L	108	61	109
EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	5 µg/L	96.1	63	117
EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	5 µg/L	99.1	63	111
EP068: Ethion	563-12-2	0.5	µg/L	<0.5	5 µg/L	110	65	115
EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	5 µg/L	105	55	115
EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	5 µg/L	80.9	44	124
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3841680)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	<1.0	5 µg/L	92.4	58.6	119
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	<1.0	5 µg/L	69.6	63.6	114
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	<1.0	5 µg/L	67.1	62.2	113
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	<1.0	5 µg/L	70.0	63.9	115
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	<1.0	5 µg/L	72.4	62.6	116

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3841680) - continued								
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	<1.0	5 µg/L	72.9	64.3	116
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	<1.0	5 µg/L	74.9	63.6	118
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	<1.0	5 µg/L	76.8	63.1	118
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	<1.0	5 µg/L	74.8	64.1	117
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	<1.0	5 µg/L	71.6	62.5	116
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.2	µg/L	<1.0	5 µg/L	70.7	61.7	119
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	<1.0	5 µg/L	79.0	61.7	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	<0.5	5 µg/L	63.6	63.3	117
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.2	µg/L	<1.0	5 µg/L	61.8	59.9	118
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.2	µg/L	<1.0	5 µg/L	65.7	61.2	117
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.2	µg/L	<1.0	5 µg/L	64.2	59.1	118
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3841679)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	2000 µg/L	104	59	129
EP071: C15 - C28 Fraction	----	100	µg/L	<100	3000 µg/L	91.4	71	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	2000 µg/L	92.4	62	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3848604)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	82.9	75	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3841679)								
EP071: >C10 - C16 Fraction	>C10_C16	100	µg/L	<100	2500 µg/L	98.8	58.9	131
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	3500 µg/L	93.2	73.9	138
EP071: >C34 - C40 Fraction	----	50	µg/L	<100	1500 µg/L	94.4	67	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3848604)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	85.8	75	127
EP080: BTEXN (QCLot: 3848604)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	80.4	70	124
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	87.5	65	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	85.8	70	120
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	85.8	69	121
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	86.4	72	122

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP080: BTEXN (QCLot: 3848604) - continued								
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	94.6	70	124
EP090: Organotin Compounds (QCLot: 3841312)								
EP090H: Monobutyltin	78763-54-9	2	ngSn/L	<5	50 ngSn/L	103	25	139
EP090H: Dibutyltin	1002-53-5	2	ngSn/L	<5	50 ngSn/L	# 121	50	114
EP090H: Tributyltin	56573-85-4	1	ngSn/L	<2	50 ngSn/L	107	39	120

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3853977)							
ES1504596-043	Anonymous	EG020-SD: Arsenic	7440-38-2	50 mg/kg	105	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	102	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	100	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	104	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	94.4	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	104	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	103	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3853976)							
ES1504596-038	Anonymous	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	124	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3853979)							
ES1504618-035	DUPLICATE 7A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	129	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3854148)							
ES1504618-001	BH2 0.0-0.6AA	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	96.3	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3854149)							
ES1504618-001	BH2 0.0-0.6AA	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	106	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3846123)							
ES1504596-043	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	83.8	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3846125)							
ES1504596-043	Anonymous	EK067G: Total Phosphorus as P	----	100 mg/kg	85.7	70	130
EK255A SD: Ammonia in Sediment (QCLot: 3841399)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EK255A SD: Ammonia in Sediment (QCLot: 3841399) - continued							
ES1504618-001	BH2 0.0-0.6AA	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	72.2	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3841474)							
ES1504618-003	BH2 0.3V	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	106	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3841479)							
ES1504618-001	BH2 0.0-0.6AA	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	105	70	130
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	97.8	70	130
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	111	70	130
EP080-SD: BTEXN (QCLot: 3841474)							
ES1504618-003	BH2 0.3V	EP080-SD: Benzene	71-43-2	0.5 mg/kg	96.3	70	130
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	96.8	70	130
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	101	70	130
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	97.0	70	130
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	97.4	70	130
EP090: Organotin Compounds (QCLot: 3841330)							
ES1504618-004	BH7 0.0-0.4A	EP090: Monobutyltin	78763-54-9	0.625 µgSn/kg	36.0	35	130
		EP090: Dibutyltin	1002-53-5	0.625 µgSn/kg	75.5	20	130
		EP090: Tributyltin	56573-85-4	0.625 µgSn/kg	93.4	20	130
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3841475)							
ES1504618-001	BH2 0.0-0.6AA	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	81.7	36	144
		EP130: Carbophenothion	786-19-6	50 µg/kg	79.0	38	120
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	52.4	49	157
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	88.8	53	145
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	71.9	60	140
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	93.6	56	126
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	74.7	9.7	148
		EP130: Diazinon	333-41-5	50 µg/kg	86.2	60	122
		EP130: Dichlorvos	62-73-7	50 µg/kg	85.9	33	123
		EP130: Dimethoate	60-51-5	50 µg/kg	73.9	36	142
		EP130: Ethion	563-12-2	50 µg/kg	71.6	48	136
		EP130: Fenamiphos	22224-92-6	50 µg/kg	93.3	42	136
		EP130: Fenthion	55-38-9	50 µg/kg	79.6	35	131
		EP130: Malathion	121-75-5	50 µg/kg	70.8	55	141
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	96.6	23.5	132
		EP130: Monocrotophos	6923-22-4	50 µg/kg	74.5	35	153
		EP130: Parathion	56-38-2	50 µg/kg	72.7	57	147

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3841475) - continued							
ES1504618-001	BH2 0.0-0.6AA	EP130: Parathion-methyl	298-00-0	50 µg/kg	77.0	48	140
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	70.0	45	137
		EP130: Prothiofos	34643-46-4	50 µg/kg	73.2	51	137
EP131A: Organochlorine Pesticides (QCLot: 3841476)							
ES1504618-001	BH2 0.0-0.6AA	EP131A: Aldrin	309-00-2	5 µg/kg	94.8	23.4	153
		EP131A: alpha-BHC	319-84-6	5 µg/kg	67.5	17.6	156
		EP131A: beta-BHC	319-85-7	5 µg/kg	56.5	24.9	153
		EP131A: delta-BHC	319-86-8	5 µg/kg	55.7	25.2	147
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	67.5	25.9	150
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	53.8	31.2	125
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	54.5	23.4	163
		EP131A: Dieldrin	60-57-1	5 µg/kg	38.4	30.2	140
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	38.3	28.8	135
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	39.3	22.6	141
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	40.9	16.1	156
		EP131A: Endrin	72-20-8	5 µg/kg	86.2	17.7	162
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	56.1	20.1	116
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	39.9	13.4	151
		EP131A: Heptachlor	76-44-8	5 µg/kg	73.5	23.8	170
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	64.5	28.3	140
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	46.4	17.7	144
		EP131A: gamma-BHC	58-89-9	5 µg/kg	51.0	21.8	158
		EP131A: Methoxychlor	72-43-5	5 µg/kg	48.0	24.4	158
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	64.5	27.3	139
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	66.8	29.5	138
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3841477)							
ES1504618-001	BH2 0.0-0.6AA	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	73.8	44	136
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	73.8	44	136
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3841478)							
ES1504618-001	BH2 0.0-0.6AA	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	99.3	70	130
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	82.3	70	130
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	111	70	130
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	105	70	130
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	105	70	130
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	94.0	70	130
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	82.4	70	130

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Matrix Spike (MS) Report: Recovery Limits (%) Low	Matrix Spike (MS) Report: Recovery Limits (%) High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3841478) - continued							
ES1504618-001	BH2 0.0-0.6AA	EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	91.8	70	130
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	92.4	70	130
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	104	70	130
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	97.4	70	130
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	116	70	130
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	82.0	70	130
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	101	70	130
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	102	70	130
		EP132B-SD: Perylene	198-55-0	25 µg/kg	99.9	70	130
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	104	70	130
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	108	70	130
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	104	70	130
		EP132B-SD: Coronene	191-07-1	25 µg/kg	110	70	130

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Matrix Spike (MS) Report: Recovery Limits (%) Low	Matrix Spike (MS) Report: Recovery Limits (%) High
EG020T: Total Metals by ICP-MS (QCLot: 3844857)							
ES1504426-061	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	104	70	130
		EG020A-T: Cadmium	7440-43-9	0.250 mg/L	104	70	130
		EG020A-T: Chromium	7440-47-3	1 mg/L	104	70	130
		EG020A-T: Copper	7440-50-8	1 mg/L	104	70	130
		EG020A-T: Lead	7439-92-1	1 mg/L	104	70	130
		EG020A-T: Manganese	7439-96-5	1 mg/L	110	70	130
		EG020A-T: Nickel	7440-02-0	1 mg/L	104	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3855815)							
ES1505137-001	Anonymous	EG035T: Mercury	7439-97-6	0.010 mg/L	85.1	70	130
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3843017)							
ES1504596-058	Anonymous	EK055G: Ammonia as N	7664-41-7	1 mg/L	103	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3840401)							
ES1504618-037	RINSATE 16	EK057G: Nitrite as N	----	0.5 mg/L	105	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3843016)							
ES1504596-058	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.5 mg/L	98.8	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3843002)							
ES1504618-037	RINSATE 16	EK061G: Total Kjeldahl Nitrogen as N	----	5 mg/L	103	70	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3843003)							
ES1504618-037	RINSATE 16	EK067G: Total Phosphorus as P	----	1.0 mg/L	104	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3848604)							
ES1504796-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	118	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3848604)							
ES1504796-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	118	70	130
EP080: BTEXN (QCLot: 3848604)							
ES1504796-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	85.6	70	130
		EP080: Toluene	108-88-3	25 µg/L	89.9	70	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	93.9	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	92.2	70	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	92.6	70	130
		EP080: Naphthalene	91-20-3	25 µg/L	94.5	70	130

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

The quality control term Matrix Spike (MS) and Matrix Spike Duplicate (MSD) refers to intralaboratory split samples spiked with a representative set of target analytes. The purpose of these QC parameters are to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP090: Organotin Compounds (QCLot: 3841330)										
ES1504618-004	BH7 0.0-0.4A	EP090: Monobutyltin	78763-54-9	0.625 µgSn/kg	36.0	----	35	130	----	----
		EP090: Dibutyltin	1002-53-5	0.625 µgSn/kg	75.5	----	20	130	----	----
		EP090: Tributyltin	56573-85-4	0.625 µgSn/kg	93.4	----	20	130	----	----
EK255A SD: Ammonia in Sediment (QCLot: 3841399)										
ES1504618-001	BH2 0.0-0.6AA	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	72.2	----	70	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3841474)										
ES1504618-003	BH2 0.3V	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	106	----	70	130	----	----
EP080-SD: BTEXN (QCLot: 3841474)										
ES1504618-003	BH2 0.3V	EP080-SD: Benzene	71-43-2	0.5 mg/kg	96.3	----	70	130	----	----
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	96.8	----	70	130	----	----
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	101	----	70	130	----	----
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	97.0	----	70	130	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP080-SD: BTEXN (QCLot: 3841474) - continued										
ES1504618-003	BH2 0.3V	EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	97.4	----	70	130	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3841475)										
ES1504618-001	BH2 0.0-0.6AA	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	81.7	----	36	144	----	----
		EP130: Carbophenothion	786-19-6	50 µg/kg	79.0	----	38	120	----	----
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	52.4	----	49	157	----	----
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	88.8	----	53	145	----	----
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	71.9	----	60	140	----	----
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	93.6	----	56	126	----	----
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	74.7	----	9.7	148	----	----
		EP130: Diazinon	333-41-5	50 µg/kg	86.2	----	60	122	----	----
		EP130: Dichlorvos	62-73-7	50 µg/kg	85.9	----	33	123	----	----
		EP130: Dimethoate	60-51-5	50 µg/kg	73.9	----	36	142	----	----
		EP130: Ethion	563-12-2	50 µg/kg	71.6	----	48	136	----	----
		EP130: Fenamiphos	22224-92-6	50 µg/kg	93.3	----	42	136	----	----
		EP130: Fenthion	55-38-9	50 µg/kg	79.6	----	35	131	----	----
		EP130: Malathion	121-75-5	50 µg/kg	70.8	----	55	141	----	----
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	96.6	----	23.5	132	----	----
		EP130: Monocrotophos	6923-22-4	50 µg/kg	74.5	----	35	153	----	----
		EP130: Parathion	56-38-2	50 µg/kg	72.7	----	57	147	----	----
		EP130: Parathion-methyl	298-00-0	50 µg/kg	77.0	----	48	140	----	----
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	70.0	----	45	137	----	----
		EP130: Prothiofos	34643-46-4	50 µg/kg	73.2	----	51	137	----	----
EP131A: Organochlorine Pesticides (QCLot: 3841476)										
ES1504618-001	BH2 0.0-0.6AA	EP131A: Aldrin	309-00-2	5 µg/kg	94.8	----	23.4	153	----	----
		EP131A: alpha-BHC	319-84-6	5 µg/kg	67.5	----	17.6	156	----	----
		EP131A: beta-BHC	319-85-7	5 µg/kg	56.5	----	24.9	153	----	----
		EP131A: delta-BHC	319-86-8	5 µg/kg	55.7	----	25.2	147	----	----
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	67.5	----	25.9	150	----	----
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	53.8	----	31.2	125	----	----
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	54.5	----	23.4	163	----	----
		EP131A: Dieldrin	60-57-1	5 µg/kg	38.4	----	30.2	140	----	----
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	38.3	----	28.8	135	----	----
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	39.3	----	22.6	141	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP131A: Organochlorine Pesticides (QCLot: 3841476) - continued										
ES1504618-001	BH2 0.0-0.6AA	EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	40.9	----	16.1	156	----	----
		EP131A: Endrin	72-20-8	5 µg/kg	86.2	----	17.7	162	----	----
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	56.1	----	20.1	116	----	----
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	39.9	----	13.4	151	----	----
		EP131A: Heptachlor	76-44-8	5 µg/kg	73.5	----	23.8	170	----	----
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	64.5	----	28.3	140	----	----
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	46.4	----	17.7	144	----	----
		EP131A: gamma-BHC	58-89-9	5 µg/kg	51.0	----	21.8	158	----	----
		EP131A: Methoxychlor	72-43-5	5 µg/kg	48.0	----	24.4	158	----	----
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	64.5	----	27.3	139	----	----
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	66.8	----	29.5	138	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3841477)										
ES1504618-001	BH2 0.0-0.6AA	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	73.8	----	44	136	----	----
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	73.8	----	44	136	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3841478)										
ES1504618-001	BH2 0.0-0.6AA	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	99.3	----	70	130	----	----
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	82.3	----	70	130	----	----
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	111	----	70	130	----	----
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	105	----	70	130	----	----
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	105	----	70	130	----	----
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	94.0	----	70	130	----	----
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	82.4	----	70	130	----	----
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	91.8	----	70	130	----	----
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	92.4	----	70	130	----	----
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	104	----	70	130	----	----
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	97.4	----	70	130	----	----
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	116	----	70	130	----	----
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	82.0	----	70	130	----	----
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	101	----	70	130	----	----
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	102	----	70	130	----	----
		EP132B-SD: Perylene	198-55-0	25 µg/kg	99.9	----	70	130	----	----
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	104	----	70	130	----	----

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report: Spike Concentration	Spike Recovery (%): MS	Spike Recovery (%): MSD	Recovery Limits (%): Low	Recovery Limits (%): High	RPDs (%): Value	RPDs (%): Control Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3841478) - continued										
ES1504618-001	BH2 0.0-0.6AA	EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	108	----	70	130	----	----
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	104	----	70	130	----	----
		EP132B-SD: Coronene	191-07-1	25 µg/kg	110	----	70	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3841479)										
ES1504618-001	BH2 0.0-0.6AA	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	105	----	70	130	----	----
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	97.8	----	70	130	----	----
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	111	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3846123)										
ES1504596-043	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	83.8	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3846125)										
ES1504596-043	Anonymous	EK067G: Total Phosphorus as P	----	100 mg/kg	85.7	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3853976)										
ES1504596-038	Anonymous	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	124	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3853977)										
ES1504596-043	Anonymous	EG020-SD: Arsenic	7440-38-2	50 mg/kg	105	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	102	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	100	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	104	----	70	130	----	----
		EG020-SD: Lead	7439-92-1	250 mg/kg	94.4	----	70	130	----	----
		EG020-SD: Nickel	7440-02-0	50 mg/kg	104	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	103	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3853979)										
ES1504618-035	DUPLICATE 7A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	129	----	70	130	----	----
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3854148)										
ES1504618-001	BH2 0.0-0.6AA	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	96.3	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3854149)										
ES1504618-001	BH2 0.0-0.6AA	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	106	----	70	130	----	----

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report: Spike Concentration	Spike Recovery (%): MS	Spike Recovery (%): MSD	Recovery Limits (%): Low	Recovery Limits (%): High	RPDs (%): Value	RPDs (%): Control Limit
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3840401)										
ES1504618-037	RINSATE 16	EK057G: Nitrite as N	----	0.5 mg/L	105	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3843002)										

Sub-Matrix: **WATER**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3843002) - continued										
ES1504618-037	RINSATE 16	EK061G: Total Kjeldahl Nitrogen as N	----	5 mg/L	103	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3843003)										
ES1504618-037	RINSATE 16	EK067G: Total Phosphorus as P	----	1.0 mg/L	104	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3843016)										
ES1504596-058	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.5 mg/L	98.8	----	70	130	----	----
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3843017)										
ES1504596-058	Anonymous	EK055G: Ammonia as N	7664-41-7	1 mg/L	103	----	70	130	----	----
EG020T: Total Metals by ICP-MS (QCLot: 3844857)										
ES1504426-061	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	104	----	70	130	----	----
		EG020A-T: Cadmium	7440-43-9	0.250 mg/L	104	----	70	130	----	----
		EG020A-T: Chromium	7440-47-3	1 mg/L	104	----	70	130	----	----
		EG020A-T: Copper	7440-50-8	1 mg/L	104	----	70	130	----	----
		EG020A-T: Lead	7439-92-1	1 mg/L	104	----	70	130	----	----
		EG020A-T: Manganese	7439-96-5	1 mg/L	110	----	70	130	----	----
		EG020A-T: Nickel	7440-02-0	1 mg/L	104	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3848604)										
ES1504796-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	118	----	70	130	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3848604)										
ES1504796-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	118	----	70	130	----	----
EP080: BTEXN (QCLot: 3848604)										
ES1504796-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	85.6	----	70	130	----	----
		EP080: Toluene	108-88-3	25 µg/L	89.9	----	70	130	----	----
		EP080: Ethylbenzene	100-41-4	25 µg/L	93.9	----	70	130	----	----
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	92.2	----	70	130	----	----
		EP080: ortho-Xylene	95-47-6	25 µg/L	92.6	----	70	130	----	----
		EP080: Naphthalene	91-20-3	25 µg/L	94.5	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3855815)										
ES1505137-001	Anonymous	EG035T: Mercury	7439-97-6	0.010 mg/L	85.1	----	70	130	----	----

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1504618**	Page	: 1 of 17
Client	: AURECON AUSTRALASIA PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 27-FEB-2015
Sampler	: GK	Issue Date	: 23-MAR-2015
Order number	: 245553		
		No. of samples received	: 37
Quote number	: SY/1021/14 V2	No. of samples analysed	: 37

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with recommended holding times (USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content								
Soil Glass Jar - Unpreserved (EA055-103)								
BH2 0.0-0.6AA,	BH2 0.3V,	**25-FEB-2015**	**----**	----	----	**09-MAR-2015**	11-MAR-2015	✓
BH7 0.0-0.4A,	BH7 0.3V,							
BH13 0.0-0.5A,	BH13 0.5-1.0A,							
BH13 0.3V,	BH13 0.7V,							
BH32 0.0-0.4A,	BH32 0.3V,							
BH57 0.0-0.4A,	BH57 0.3V,							
BH58 0.0-0.5A,	BH58 0.5-1.0A,							
BH58 1.0-1.25A,	BH58 0.3V,							
BH58 0.7V,	BH59 0.0-0.7A,							
BH59 0.3V,	BH61 0.0-0.5A,							
BH61 0.3V,	BH62 0.0-0.3A,							
BH62 0.3V,	BH63 0.0-0.4A,							
BH63 0.3V,	DUPLICATE 7A							
EA150: Particle Sizing								
Snap Lock Bag (EA150H)								
BH2 0.0-0.6B,	BH13 0.0-0.5B,	**25-FEB-2015**	**---**	24-AUG-2015	----	**17-MAR-2015**	24-AUG-2015	✓
BH13 0.5-1.0B,	BH32 0.0-0.4B,							
BH57 0.0-0.4B,	BH58 0.0-0.5B,							
BH58 0.5-1.0B,	BH59 0.0-0.7B,							
BH61 0.0-0.5B								
EA150: Soil Classification based on Particle Size								
Snap Lock Bag (EA150H)								
BH2 0.0-0.6B,	BH13 0.0-0.5B,	**25-FEB-2015**	**---**	24-AUG-2015	----	**17-MAR-2015**	24-AUG-2015	✓
BH13 0.5-1.0B,	BH32 0.0-0.4B,							
BH57 0.0-0.4B,	BH58 0.0-0.5B,							
BH58 0.5-1.0B,	BH59 0.0-0.7B,							
BH61 0.0-0.5B								

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA152: Soil Particle Density								
Snap Lock Bag (EA152)								
BH2 0.0-0.6B,	BH13 0.0-0.5B,	**25-FEB-2015**	---	24-AUG-2015	----	**20-MAR-2015**	24-AUG-2015	✓
BH13 0.5-1.0B,	BH32 0.0-0.4B,							
BH57 0.0-0.4B,	BH58 0.0-0.5B,							
BH58 0.5-1.0B,	BH59 0.0-0.7B,							
BH61 0.0-0.5B								
EG005-SD: Total Metals in Sediments by ICP-AES								
Soil Glass Jar - Unpreserved (EG005-SD)								
BH2 0.0-0.6AA,	BH7 0.0-0.4A,	**25-FEB-2015**	**11-MAR-2015**	24-AUG-2015	✓	**12-MAR-2015**	24-AUG-2015	✓
BH13 0.0-0.5A,	BH13 0.5-1.0A,							
BH32 0.0-0.4A,	BH57 0.0-0.4A,							
BH58 0.0-0.5A,	BH58 0.5-1.0A,							
BH58 1.0-1.25A,	BH59 0.0-0.7A,							
BH61 0.0-0.5A,	BH62 0.0-0.3A,							
BH63 0.0-0.4A,	DUPLICATE 7A							
EG020-SD: Total Metals in Sediments by ICPMS								
Soil Glass Jar - Unpreserved (EG020-SD)								
BH2 0.0-0.6AA,	BH7 0.0-0.4A,	**25-FEB-2015**	**11-MAR-2015**	24-AUG-2015	✓	**11-MAR-2015**	24-AUG-2015	✓
BH13 0.0-0.5A,	BH13 0.5-1.0A,							
BH32 0.0-0.4A,	BH57 0.0-0.4A,							
BH58 0.0-0.5A,	BH58 0.5-1.0A,							
BH58 1.0-1.25A,	BH59 0.0-0.7A,							
BH61 0.0-0.5A,	BH62 0.0-0.3A,							
BH63 0.0-0.4A,	DUPLICATE 7A							
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T-LL)								
BH2 0.0-0.6AA,	BH7 0.0-0.4A,	**25-FEB-2015**	**11-MAR-2015**	25-MAR-2015	✓	**11-MAR-2015**	25-MAR-2015	✓
BH13 0.0-0.5A,	BH13 0.5-1.0A,							
BH32 0.0-0.4A,	BH57 0.0-0.4A,							
BH58 0.0-0.5A,	BH58 0.5-1.0A,							
BH58 1.0-1.25A,	BH59 0.0-0.7A,							
BH61 0.0-0.5A,	BH62 0.0-0.3A,							
BH63 0.0-0.4A,	DUPLICATE 7A							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK057G: Nitrite as N by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK057G)							
BH2 0.0-0.6AA, BH7 0.0-0.4A, BH13 0.0-0.5A, BH13 0.5-1.0A, BH32 0.0-0.4A, BH57 0.0-0.4A, BH58 0.0-0.5A, BH58 0.5-1.0A, BH58 1.0-1.25A, BH59 0.0-0.7A, BH61 0.0-0.5A, BH62 0.0-0.3A, BH63 0.0-0.4A, DUPLICATE 7A	**25-FEB-2015**	**11-MAR-2015**	24-AUG-2015	✓	**11-MAR-2015**	24-AUG-2015	✓
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK059G)							
BH2 0.0-0.6AA, BH7 0.0-0.4A, BH13 0.0-0.5A, BH13 0.5-1.0A, BH32 0.0-0.4A, BH57 0.0-0.4A, BH58 0.0-0.5A, BH58 0.5-1.0A, BH58 1.0-1.25A, BH59 0.0-0.7A, BH61 0.0-0.5A, BH62 0.0-0.3A, BH63 0.0-0.4A, DUPLICATE 7A	**25-FEB-2015**	**11-MAR-2015**	24-AUG-2015	✓	**11-MAR-2015**	24-AUG-2015	✓
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser							
Soil Glass Jar - Unpreserved (EK061G)							
BH2 0.0-0.6AA, BH7 0.0-0.4A, BH13 0.0-0.5A, BH13 0.5-1.0A, BH32 0.0-0.4A, BH57 0.0-0.4A, BH58 0.0-0.5A, BH58 0.5-1.0A, BH58 1.0-1.25A, BH59 0.0-0.7A, BH61 0.0-0.5A, BH62 0.0-0.3A, BH63 0.0-0.4A, DUPLICATE 7A	**25-FEB-2015**	**04-MAR-2015**	24-AUG-2015	✓	**04-MAR-2015**	24-AUG-2015	✓
EK067G: Total Phosphorus as P by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK067G)							
BH2 0.0-0.6AA, BH7 0.0-0.4A, BH13 0.0-0.5A, BH13 0.5-1.0A, BH32 0.0-0.4A, BH57 0.0-0.4A, BH58 0.0-0.5A, BH58 0.5-1.0A, BH58 1.0-1.25A, BH59 0.0-0.7A, BH61 0.0-0.5A, BH62 0.0-0.3A, BH63 0.0-0.4A, DUPLICATE 7A	**25-FEB-2015**	**04-MAR-2015**	24-AUG-2015	✓	**04-MAR-2015**	24-AUG-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK255A SD Ammonia in Sediment								
Soil Glass Jar - Unpreserved (EK255A SD)								
BH2 0.0-0.6AA,	BH7 0.0-0.4A,	**25-FEB-2015**	**----**	----	----	**02-MAR-2015**	24-AUG-2015	✓
BH13 0.0-0.5A,	BH13 0.5-1.0A,							
BH32 0.0-0.4A,	BH57 0.0-0.4A,							
BH58 0.0-0.5A,	BH58 0.5-1.0A,							
BH58 1.0-1.25A,	BH59 0.0-0.7A,							
BH61 0.0-0.5A,	BH62 0.0-0.3A,							
BH63 0.0-0.4A,	DUPLICATE 7A							
EP003: Total Organic Carbon (TOC) in Soil								
Pulp Bag (EP003)								
BH2 0.0-0.6AA,	BH7 0.0-0.4A,	**25-FEB-2015**	**09-MAR-2015**	25-MAR-2015	✓	**09-MAR-2015**	25-MAR-2015	✓
BH13 0.0-0.5A,	BH13 0.5-1.0A,							
BH32 0.0-0.4A,	BH57 0.0-0.4A,							
BH58 0.0-0.5A,	BH58 0.5-1.0A,							
BH58 1.0-1.25A,	BH59 0.0-0.7A,							
BH61 0.0-0.5A,	BH62 0.0-0.3A,							
BH63 0.0-0.4A,	DUPLICATE 7A							
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP071-SD)								
BH2 0.0-0.6AA,	BH7 0.0-0.4A,	**25-FEB-2015**	**09-MAR-2015**	11-MAR-2015	✓	**10-MAR-2015**	18-APR-2015	✓
BH13 0.0-0.5A,	BH13 0.5-1.0A,							
BH32 0.0-0.4A,	BH57 0.0-0.4A,							
BH58 0.0-0.5A,	BH58 0.5-1.0A,							
BH58 1.0-1.25A,	BH59 0.0-0.7A,							
BH61 0.0-0.5A,	BH62 0.0-0.3A,							
BH63 0.0-0.4A,	DUPLICATE 7A,							
TRIP BLANK 16								
EP080-SD: BTEXN								
Soil Glass Jar - Unpreserved (EP080-SD)								
BH2 0.3V,	BH7 0.3V,	**25-FEB-2015**	**03-MAR-2015**	11-MAR-2015	✓	**09-MAR-2015**	11-MAR-2015	✓
BH13 0.3V,	BH13 0.7V,							
BH32 0.3V,	BH57 0.3V,							
BH58 0.3V,	BH58 0.7V,							
BH59 0.3V,	BH61 0.3V,							
BH62 0.3V,	BH63 0.3V,							
TRIP BLANK 16								

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080-SD)								
BH2 0.3V,	BH7 0.3V,	**25-FEB-2015**	**03-MAR-2015**	11-MAR-2015	✓	**09-MAR-2015**	11-MAR-2015	✓
BH13 0.3V,	BH13 0.7V,							
BH32 0.3V,	BH57 0.3V,							
BH58 0.3V,	BH58 0.7V,							
BH59 0.3V,	BH61 0.3V,							
BH62 0.3V,	BH63 0.3V,							
TRIP BLANK 16								
EP090: Organotin Compounds								
Soil Glass Jar - Unpreserved (EP090)								
BH2 0.0-0.6AA,	BH7 0.0-0.4A,	**25-FEB-2015**	**05-MAR-2015**	11-MAR-2015	✓	**12-MAR-2015**	14-APR-2015	✓
BH13 0.0-0.5A,	BH13 0.5-1.0A,							
BH32 0.0-0.4A,	BH57 0.0-0.4A,							
BH58 0.0-0.5A,	BH58 0.5-1.0A,							
BH58 1.0-1.25A,	BH59 0.0-0.7A,							
BH61 0.0-0.5A,	BH62 0.0-0.3A,							
BH63 0.0-0.4A,	DUPLICATE 7A							
EP130A: Organophosphorus Pesticides (Ultra-trace)								
Soil Glass Jar - Unpreserved (EP130)								
BH2 0.0-0.6AA,	BH7 0.0-0.4A,	**25-FEB-2015**	**09-MAR-2015**	11-MAR-2015	✓	**12-MAR-2015**	18-APR-2015	✓
BH13 0.0-0.5A,	BH13 0.5-1.0A,							
BH32 0.0-0.4A,	BH57 0.0-0.4A,							
BH58 0.0-0.5A,	BH58 0.5-1.0A,							
BH58 1.0-1.25A,	BH59 0.0-0.7A,							
BH61 0.0-0.5A,	BH62 0.0-0.3A,							
BH63 0.0-0.4A,	DUPLICATE 7A							
EP131A: Organochlorine Pesticides								
Soil Glass Jar - Unpreserved (EP131A)								
BH2 0.0-0.6AA,	BH7 0.0-0.4A,	**25-FEB-2015**	**09-MAR-2015**	11-MAR-2015	✓	**12-MAR-2015**	18-APR-2015	✓
BH13 0.0-0.5A,	BH13 0.5-1.0A,							
BH32 0.0-0.4A,	BH57 0.0-0.4A,							
BH58 0.0-0.5A,	BH58 0.5-1.0A,							
BH58 1.0-1.25A,	BH59 0.0-0.7A,							
BH61 0.0-0.5A,	BH62 0.0-0.3A,							
BH63 0.0-0.4A,	DUPLICATE 7A							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP131B: Polychlorinated Biphenyls (as Aroclors)							
Soil Glass Jar - Unpreserved (EP131B)							
BH2 0.0-0.6AA, BH7 0.0-0.4A, BH13 0.0-0.5A, BH13 0.5-1.0A, BH32 0.0-0.4A, BH57 0.0-0.4A, BH58 0.0-0.5A, BH58 0.5-1.0A, BH58 1.0-1.25A, BH59 0.0-0.7A, BH61 0.0-0.5A, BH62 0.0-0.3A, BH63 0.0-0.4A, DUPLICATE 7A	**25-FEB-2015**	**09-MAR-2015**	11-MAR-2015	✓	**12-MAR-2015**	18-APR-2015	✓
EP132B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP132B-SD)							
BH2 0.0-0.6AA, BH7 0.0-0.4A, BH13 0.0-0.5A, BH13 0.5-1.0A, BH32 0.0-0.4A, BH57 0.0-0.4A, BH58 0.0-0.5A, BH58 0.5-1.0A, BH58 1.0-1.25A, BH59 0.0-0.7A, BH61 0.0-0.5A, BH62 0.0-0.3A, BH63 0.0-0.4A, DUPLICATE 7A	**25-FEB-2015**	**09-MAR-2015**	11-MAR-2015	✓	**10-MAR-2015**	18-APR-2015	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG020A-T)							
RINSATE 16	**25-FEB-2015**	**04-MAR-2015**	24-AUG-2015	✓	**05-MAR-2015**	24-AUG-2015	✓
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG020B-T)							
RINSATE 16	**25-FEB-2015**	**04-MAR-2015**	24-AUG-2015	✓	**05-MAR-2015**	24-AUG-2015	✓
EG035T: Total Recoverable Mercury by FIMS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG035T)							
RINSATE 16	**25-FEB-2015**	**----**	----	----	**12-MAR-2015**	25-MAR-2015	✓
EK055G: Ammonia as N by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK055G)							
RINSATE 16	**25-FEB-2015**	**---**	25-MAR-2015	----	**03-MAR-2015**	25-MAR-2015	✓
EK057G: Nitrite as N by Discrete Analyser							
Clear Plastic Bottle - Natural (EK057G)							
RINSATE 16	**25-FEB-2015**	**---**	27-FEB-2015	----	**27-FEB-2015**	27-FEB-2015	✓
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK059G)							
RINSATE 16	**25-FEB-2015**	**---**	25-MAR-2015	----	**03-MAR-2015**	25-MAR-2015	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK061G)							
RINSATE 16	**25-FEB-2015**	**03-MAR-2015**	25-MAR-2015	✓	**03-MAR-2015**	25-MAR-2015	✓
EK067G: Total Phosphorus as P by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK067G)							
RINSATE 16	**25-FEB-2015**	**03-MAR-2015**	25-MAR-2015	✓	**03-MAR-2015**	25-MAR-2015	✓
EP066: Polychlorinated Biphenyls (PCB)							
Amber Glass Bottle - Unpreserved (EP066)							
RINSATE 16	**25-FEB-2015**	**03-MAR-2015**	04-MAR-2015	✓	**03-MAR-2015**	12-APR-2015	✓
EP068A: Organochlorine Pesticides (OC)							
Amber Glass Bottle - Unpreserved (EP068)							
RINSATE 16	**25-FEB-2015**	**03-MAR-2015**	04-MAR-2015	✓	**03-MAR-2015**	12-APR-2015	✓
EP068B: Organophosphorus Pesticides (OP)							
Amber Glass Bottle - Unpreserved (EP068)							
RINSATE 16	**25-FEB-2015**	**03-MAR-2015**	04-MAR-2015	✓	**03-MAR-2015**	12-APR-2015	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071)							
RINSATE 16	**25-FEB-2015**	**03-MAR-2015**	04-MAR-2015	✓	**03-MAR-2015**	12-APR-2015	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
RINSATE 16	**25-FEB-2015**	**03-MAR-2015**	04-MAR-2015	✓	**03-MAR-2015**	12-APR-2015	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
RINSATE 16	**25-FEB-2015**	**07-MAR-2015**	11-MAR-2015	✓	**07-MAR-2015**	11-MAR-2015	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber VOC Vial - Sulfuric Acid (EP080)							
RINSATE 16	**25-FEB-2015**	**07-MAR-2015**	11-MAR-2015	✓	**07-MAR-2015**	11-MAR-2015	✓
EP090: Organotin Compounds							
Amber Glass Bottle - Unpreserved (EP090H)							
RINSATE 16	**25-FEB-2015**	**03-MAR-2015**	04-MAR-2015	✓	**04-MAR-2015**	12-APR-2015	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Ammonia in Sediments	EK255A SD	2	14	**14.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Moisture Content	EA055-103	3	26	**11.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	2	15	**13.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	2	14	**14.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	2	14	**14.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	2	14	**14.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	2	14	**14.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	2	14	**14.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	2	14	**14.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	2	21	**9.5**	**9.5**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	3	21	**14.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	3	21	**14.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	3	21	**14.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	3	23	**13.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	2	15	**13.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	2	15	**13.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Ammonia in Sediments	EK255A SD	1	14	**7.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	1	14	**7.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	14	**7.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	14	**7.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	1	14	**7.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	14	**7.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	14	**7.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	3	21	**14.3**	**14.3**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	21	**9.5**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	21	**9.5**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	21	**9.5**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	2	23	**8.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	3	20	**15.0**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Method Blanks (MB)							
Ammonia in Sediments	EK255A SD	1	14	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	1	15	6.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	1	14	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	14	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	14	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	1	14	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	14	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	14	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	1	21	4.8	4.8	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	21	9.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	21	9.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	21	9.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	2	23	8.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	1	15	6.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	1	15	6.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia in Sediments	EK255A SD	1	14	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	1	15	6.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	1	14	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	1	14	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	1	14	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	1	14	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	1	14	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	1	14	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	1	21	4.8	4.8	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	21	9.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	1	20	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	1	15	6.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	1	15	6.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Ammonia as N by Discrete analyser	EK055G	1	7	14.3	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	2	15	13.3	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	1	100.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP) - Continued							
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	2	14	**14.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	8	**12.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	5	**20.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	2	15	**13.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Ammonia as N by Discrete analyser	EK055G	1	7	**14.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	1	**100.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Compounds (Soluble)	EP090H	1	1	**100.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	5	**20.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	10	**10.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	3	**33.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	3	14	**21.4**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	8	**12.5**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	5	**20.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	3	15	**20.0**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	12	**8.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Ammonia as N by Discrete analyser	EK055G	1	7	**14.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	1	**100.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Compounds (Soluble)	EP090H	1	1	**100.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	5	**20.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	10	**10.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	3	**33.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	14	**7.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	8	**12.5**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	5	**20.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	12	**8.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia as N by Discrete analyser	EK055G	1	7	**14.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	1	**100.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Matrix Spikes (MS) - Continued							
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	14	**7.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	8	**12.5**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	1	15	**6.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055-103	SOIL	In-house. A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Particle Size Analysis by Hydrometer	EA150H	SOIL	Particle Size Analysis by Hydrometer according to AS1289.3.6.3 - 2003
Soil Particle Density	* EA152	SOIL	Soil Particle Density by AS 1289.3.5.1-2006 : Methods of testing soils for engineering purposes - Soil classification tests - Determination of the soil particle density of a soil - Standard method A modification of the AS 1289.3.5.1 method may apply when testing dispersed soils also tested by AS1289.3.6.3. This modification uses the dispersion solution from AS1289.3.6.3 in place of water for density determinations
Total Fe and Al in Sediments by ICPAES	EG005-SD	SOIL	In house: Referenced to APHA 21st ed., 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3). LORs per NODG
Total Metals in Sediments by ICPMS	EG020-SD	SOIL	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector. Analyte list and LORs per NODG.
Total Mercury by FIMS (Low Level)	EG035T-LL	SOIL	In house: Referenced to AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Nitrite as N - Soluble by Discrete Analyser	EK057G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3- B. Nitrite in a water extract is determined by direct colourimetry by Discrete Analyser.
Nitrate as N - Soluble by Discrete Analyser	EK058G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3--F. Nitrate in the 1:5 soil:water extract is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results.
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3- F. Combined oxidised Nitrogen (NO2+NO3) in a water extract is determined by Chemical Reduction, and direct colourimetry by Discrete Analyser.
TKN as N By Discrete Analyser	EK061G	SOIL	In house: Referenced to APHA 21st ed., 4500-Norg-D Soil samples are digested using Kjeldahl digestion followed by determination by Discrete Analyser.
Total Nitrogen as N (TKN + NOx) By Discrete Analyser	EK062G	SOIL	In house: Referenced to APHA 21st ed., 4500 Norg/NO3- Total Nitrogen is determined as the sum of TKN and Oxidised Nitrrogen, each determined seperately as N.
Total Phosporus By Discrete Analyser	EK067G	SOIL	In house: Referenced to APHA 21st ed., 4500 P-B&F This procedure involves sulfuric acid digestion and quantification using Discrete Analyser.
Ammonia in Sediments	EK255A SD	SOIL	Rayment and Higginson (1992) Method 7C1 and 7C2. This method measures exchangeable ammonium which is defined by the amount of ammonium released by shaking sediment with an un-buffered 2M potassium chloride solution.

Analytical Methods	Method	Matrix	Method Descriptions
Total Organic Carbon	EP003	SOIL	In-house C-IR17. Dried and pulverised sample is reacted with acid to remove inorganic Carbonates, then combusted in a LECO furnace in the presence of strong oxidants / catalysts. The evolved (Organic) Carbon (as CO2) is automaticaly measured by infra-red detector.
TPH - Semivolatile Fraction	EP071-SD	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 504)
TRH Volatiles/BTEX in Sediments	EP080-SD	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve.
Organotin Analysis	EP090	SOIL	(USEPA SW 846 - 8270D) Prepared sample extracts are analysed by GC/MS coupled with high volume injection, and quanitified against an established calibration curve.
Organophosphorus Pesticides (Ultra-trace)	EP130	SOIL	USEPA Method 3640 (GPC cleanup), 8141 (GC/FPD - Capillary Column) This technique is compliant with NEPM (2013) Schedule B(3) (Method 505)
Organochlorine Pesticides (Ultra-trace)	EP131A	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (2013) Schedule B(3) (Method 504)
PCB's (Ultra-trace)	EP131B	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (2013) Schedule B(3) (Method 504)
PAHs in Sediments by GCMS(SIM)	EP132B-SD	SOIL	USEPA 8270 GCMS Capillary column, SIM mode using large volume programmed temperature vaporisation injection.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Metals by ICP-MS - Suite B	EG020B-T	WATER	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Mercury by FIMS	EG035T	WATER	In house: Referenced to AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Ammonia as N by Discrete analyser	EK055G	WATER	In house: Referenced to APHA 21st ed., 4500-NH3 G Ammonia is determined by direct colorimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Nitrite as N by Discrete Analyser	EK057G	WATER	In house: Referenced to APHA 21st ed., 4500-NO2- B. Nitrite is determined by direct colourimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Nitrate as N by Discrete Analyser	EK058G	WATER	In house: Referenced to APHA 21st ed., 4500-NO3- F. Nitrate is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results. This method is compliant with NEPM (2013) Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	WATER	In house: Referenced to APHA 21st ed., 4500-NO3- F. Combined oxidised Nitrogen (NO2+NO3) is determined by Chemical Reduction and direct colourimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	WATER	In house: Referenced to APHA 21st ed., 4500-Norg D (In house). An aliquot of sample is digested using a high temperature Kjeldahl digestion to convert nitrogenous compounds to ammonia. Ammonia is determined colorimetrically by discrete analyser. This method is compliant with NEPM (2013) Schedule B(3)
Total Nitrogen as N (TKN + Nox) By Discrete Analyser	EK062G	WATER	In house: Referenced to APHA 21st ed., 4500-Norg / 4500-NO3-. This method is compliant with NEPM (2013) Schedule B(3)
Total Phosphorus as P By Discrete Analyser	EK067G	WATER	In house: Referenced to APHA 21st ed., 4500-P H, Jirka et al (1976), Zhang et al (2006). This procedure involves sulphuric acid digestion of a sample aliquot to break phosphorus down to orthophosphate. The orthophosphate reacts with ammonium molybdate and antimony potassium tartrate to form a complex which is then reduced and its concentration measured at 880nm using discrete analyser. This method is compliant with NEPM (2013) Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Pesticides by GCMS	EP068	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
Organotin Compounds (Soluble)	EP090H	WATER	(USEPA SW 846 - 8270D, ALS QWI-ORG/EP090) Sample extracts (ALS QWI-ORG/035) are analysed by GC/MS coupled with high volume injection (10-50µL). Quantitation is achieved using internal standard and average response factor quantitation techniques against an established five-point curve. Butyltin results are reported in either "as tin" units eg. ng Sn/L or "ng TBT+/L". The analytical standards are prepared in "as tin" units. Sample results are converted to TBT+ results as required.

Preparation Methods	Method	Matrix	Method Descriptions
TKN/TP Digestion	EK061/EK067	SOIL	APHA 21st ed., 4500 Norg- D; APHA 21st ed., 4500 P - H. Macro Kjeldahl digestion.
1:5 solid / water leach for soluble analytes	EN34	SOIL	10 g of soil is mixed with 50 mL of distilled water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids/ Sample Cleanup	ORG17A-UTP	SOIL	In-house, Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. Samples are extracted, concentrated (by KD) and exchanged into an appropriate solvent for GPC and florisil cleanup as required.

Preparation Methods	Method	Matrix	Method Descriptions
Tumbler Extraction of Solids for LVI (Non-concentrating)	ORG17D	SOIL	In house: 10g of sample, Na2SO4 and surrogate are extracted with 50mL 1:1 DCM/Acetone by end over end tumbling. An aliquot is concentrated by nitrogen blowdown to a reduced volume for analysis if required.
Organotin Sample Preparation	ORG35	SOIL	In house. 20g sample is spiked with surrogate and leached in a methanol:acetic acid:UHP water mix and vacuum filtered. Reagents and solvents are added to the sample and the mixture tumbled. The butyltin compounds are simultaneously derivatised and extracted. The extract is further extracted with petroleum ether. The resultant extracts are combined and concentrated for analysis.
TKN/TP Digestion	EK061/EK067	WATER	APHA 21st ed., 4500 Norg - D; APHA 21st ed., 4500 P - H. This method is compliant with NEPM (2013) Schedule B(3)
Digestion for Total Recoverable Metals	EN25	WATER	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (2013) Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (2013) Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Organotin Sample Preparation	ORG34H	WATER	(IN HOUSE, ALS QWI-ORG/35) A specified volume (determined by the detection limit requirement) of sample is spiked with surrogate, acidified and vacuum filtered. Reagents and solvent are added to the sample and the mixture tumbled for 20 minutes. The butyltin compounds is derivitisated, extracted and the subtitution reaction is completed. The extracts is transferred to a separatory funnel and further extracted two times using petroleum ether. The resultant extracts are combined and concentrated to the desired volume for analysis.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW 846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EK067G: Total Phosphorus as P by Discrete Analyser	ES1504618-007	BH13 0.5-1.0A	**Total Phosphorus as P**	----	25.9 %	0-20%	**RPD exceeds LOR based limits**

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP090: Organotin Compounds	4629446-002	----	**Dibutyltin**	1002-53-5	121 %	50-114%	**Recovery greater than upper control limit**

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Matrix Spike outliers occur.**

Regular Sample Surrogates

- **For all regular sample matrices, no surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- **No Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Free ice / Ice Pack present upon Arrival? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	Cooling Method:
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 14	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		Other comments:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*	KSchafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		26-Feb-15	26-Feb-15 1815	2-3-15 1600

RECEIVED BY:	Additional Information
DATE/TIME:	
3-3-15 09:15	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	BH42 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
2	BH42 0.5-1.0 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
3	BH42 1.0-1.6 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
4	BH42 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1								
5	BH42 0.5-1.0 B	26/02/2015	S	Bag (White label)	1		1								
6	BH42 1.0-1.6 B	26/02/2015	S	Bag (White label)	1		1								
7	BH42 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1							
8	BH42 0.7V	26/02/2015	S	Glass Jar (150 ml)	1			1							
9	BH42 1.3V	26/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	12	3	3	3							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Pla
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

150ml A Jars and 500ml Amber sent direct to Brisbane for TOC/TBT

Environmental Division
Sydney
Work Order
ES1504836

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):			FOR LABORATORY USE ONLY (Circle)		
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround			Custody Seal Intact	Yes	No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2		COC SEQUENCE NUMBER (Circle)		Free ice / frozen gel blocks present upon receipt	Yes	No N/A
ORDER NUMBER: 245553			COC: 1 2 3 4 5 6 7		Random Sample Temperature on Receipt	°C	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		OF: 1 2 3 4 5 6 (7)		Other comments:		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:		
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*	JS			
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:		
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		26-Feb-15	26-Feb-15 1815	2-3-15 1600			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
10	BH44 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
11	BH44 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1							
12	BH44 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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ALS Laboratory: please tick →

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NOWRA 4/19 Geary Place North Nowra NSW 2541 Ph: 02 4225 2028 E: nowra@alsglobal.com
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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	**Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Cooling Method: Ice / Ice Pack / Frozen Ice Pack / None (Circle)
ORDER NUMBER: 245553		COC: 1 2 (3) 4 5 6 7	Random Sample Temperature on Receipt (°C):
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Other comments:

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		26-Feb-15	26-Feb-15 1815	2-3-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
13	BH47 0.0-0.7A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
14	BH47 0.0-0.7B	26/02/2015	S	Bag (White label)	1		1							
15	BH47 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	2		1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
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Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
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Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/43 Cary Place North Nowra NSW 2541
Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville@alsglobal.com
WOLLONGONG 19 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes / No / N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 (4) 5 6 7	Random Sample Temperature on Receipt: °C
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 (7)	Other comments:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	AS	
DATE/TIME: 26-Feb-15	DATE/TIME: 26-Feb-15 1815	DATE/TIME: 2-3-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION	ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
16	BH48 0.0-0.6A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
17	BH48 0.0-0.6B	26/02/2015	S	Bag (White label)	1		1							
18	BH48 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Wyee NSW 2259
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 02 4422 3100 E: nowra@alsglobal.com
PERTH 2 Hope Valley Wattle Grove WA 6530
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
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Ph: 07 4796 0600 E: townsville@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Cooling Method: Ice Ice Pack None Cooling Initiated: Yes No N/A
ORDER NUMBER: 245563		COC: 1 2 3 4 (5) 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Other Comments:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer	KS	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		26-Feb-15	26-Feb-15 1815	2·3·15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
19	BH49 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
20	BH49 0.5-0.8 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
21	BH49 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1								
22	BH49 0.5-0.8 B	26/02/2015	S	Bag (White label)	1		1								
23	BH49 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1							
24	BH49 0.7V	26/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	7	2	2	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	
ORDER NUMBER: 245553		COC: 1 2 3 4 5 (6) 7	
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (7)	
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 26-Feb-15	DATE/TIME: 26-Feb-15 1815
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		**RELINQUISHED BY:** KS	**RECEIVED BY:**
		DATE/TIME: 2-3-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH				Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
25	BH50 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
26	BH50 0.5-0.9 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
27	BH50 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1								
28	BH50 0.5-0.9 B	26/02/2015	S	Bag (White label)	1		1								
29	BH50 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1							
30	BH50 0.7V	26/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	8	2	2	2							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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WOLLONGONG Unit 1, 16 Steel Street Kembla Grange NSW 2526 Ph: 02 4258 5100 E: wollongong@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY: (Circle) Custody Seal Intact? Yes No N/A; Free ice / frozen ice packs present upon receipt? Yes No N/A; Random Sample Temperature on Receipt: °C; Other comment:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7; OF: 1 2 3 4 5 6 7	
ORDER NUMBER: 246553			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: *Georgina Kerr* DATE/TIME: 26-Feb-15	RECEIVED BY: *Kelly Schafer* DATE/TIME: 26-Feb-15 1815
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	RELINQUISHED BY: DATE/TIME: 2-3-15 1600	RECEIVED BY: DATE/TIME:
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH				Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
31	BH51 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
32	BH51 0.5-0.9 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
33	BH51 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1								
34	BH51 0.5-0.9 B	26/02/2015	S	Bag (White label)	1		1								
35	BH51 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1							
36	BH51 0.7V	26/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	8	2	2	2							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): **5 day turnaround**	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Frozen ice/ice packs present upon receipt? Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (5)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Other comments:

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		26-Feb-15	26-Feb-15 1815	2-3-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
37	BH52 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
38	BH52 0.5-0.8 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
39	BH52 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1							
40	BH52 0.5-0.8 B	26/02/2015	S	Bag (White label)	1		1							
41	BH52 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1						
42	BH52 0.7V	26/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL:	7	2	2	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
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NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/15 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Garbutt QLD 4814 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Received Chilled? Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (9)	Temperature (Min.): 2.8 °C (Max.): 3.8 °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (10)	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		26-Feb-15	26-Feb-15 1815

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME:	DATE/TIME:
2-3-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
43	BH53 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
44	BH53 0.5-1.0 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
45	BH53 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1								
46	BH53 0.5-1.0 B	26/02/2015	S	Bag (White label)	1		1								
47	BH53 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1							
48	BH53 0.7V	26/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	7	2	2	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ADELAIDE 21 Burma Road Pooraka SA 5095
Ph: 08 8359 0890 E: adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053
Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 30 Callemondah Drive Clinton QLD 4680
Ph: 07 7471 5800 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MOOREE 27 Sydney Road Muswellbrook NSW 2333
Ph: 02 6372 6735 E: muswellbrook.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Electronic Coding:
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Preservation Checked: Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (10)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Other Comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	DATE/TIME: 26-Feb-15	DATE/TIME: 26-Feb-15 1815
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: KS	RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 2-3-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION	ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
49	BH54 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
50	BH54 0.5-1.0 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
51	BH54 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1							
52	BH54 0.5-1.0 B	26/02/2015	S	Bag (White label)	1		1							
53	BH54 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1						
54	BH54 0.7V	26/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	7	2	2	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0690 E: adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
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NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: pontiemble@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Cooling Method: Ice / Ice Pack / None
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6	Cooling Initiated: Yes / No / N/A
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6	Random Sample Temperature on Receipt: °C
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		Cooling Method: Ice / Ice Pack / None
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		Custody Seal Intact? Yes / No / N/A
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	Kelly Schafer	KS	
DATE/TIME: 26-Feb-15	DATE/TIME: 26-Feb-15 1815	DATE/TIME: 2-3-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
55	BH55 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
56	BH55 0.5-0.9 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
57	BH55 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1								
58	BH55 0.5-0.9 B	26/02/2015	S	Bag (White label)	1		1								
59	BH55 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1							
60	BH55 0.7V	26/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	7	2	2	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0690 E: adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 24 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
SNOWY RA 4/13 Cleary Place North Narooma NSW 2541 Ph: 02 4476 2685 E: narooma@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TAMWORTH 25 Chaffey Street Tamworth NSW 2340 Ph: 02 6755 8225 E: tamworth@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Receipt Temperature Upon Receipt: °C
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (12)	Random Sample Temperature Upon Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		26-Feb-15	26-Feb-15 1815

RELINQUISHED BY:	RECEIVED BY:
KS	
DATE/TIME: 2-3-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
61	BH56 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
62	BH56 0.5-1.0 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
63	BH56 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1							
64	BH56 0.5-1.0 B	26/02/2015	S	Bag (White label)	1		1							
65	BH56 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1						
66	BH56 0.7V	26/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	7	2	2	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4-13 Geary Place North Nowra NSW 2541 Ph: 024420 3063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 PH: 08 9209 7666 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Cooling Method: Ice Gel None
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (13)	Environmental Temperature: Ambient / Chilled
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Cooler Temperature:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		26-Feb-15	26-Feb-15 1815

RELINQUISHED BY:	**RECEIVED BY:**
KS	
DATE/TIME: 2-3-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
67	EB28 0.0-0.4 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
68	EB28 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	3	1		1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
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NOWRA 4/11 Searry Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / freezer blocks present upon receipt? Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (14)	Cooling Method: Ice Ice Bricks Gel Packs None
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Blue Ice Frozen
SAMPLER: Georgina Kerr SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO) EDD FORMAT (or default):	DATE/TIME: 26-Feb-15	DATE/TIME: 26-Feb-15 1815
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com	RELINQUISHED BY:	RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com	DATE/TIME: 2-3-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	Rinsate Suite	Trip blank suite	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
69	Triplicate 15A	26/02/2015	S	Glass Jar (250 ml)	2	1								
70	Triplicate 15B	26/02/2015	S	Glass Jar (250 ml)	2	1								
71	Triplicate 16A	26/02/2015	S	Glass Jar (250 ml)	2	1								
72	Triplicate 16B	26/02/2015	S	Glass Jar (250 ml)	2	1								
73	Duplicate 8A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
~~74~~	~~Duplicate 8B~~	~~26/02/2015~~	~~S~~	~~Glass Jar (250 ml and 150 ml)~~	~~2~~									~~Send to Eurofins~~
74	Trip Blank 17	26/02/2015											1	
75	Rinsate 17	26/02/2015	W	Bottle	8							1		
				TOTAL	12	1						1	1	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph 08 8359 0390 E: adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053
Ph 07 3243 7222 E: samples.brisbane@alsglobal.com
LIDCOMBE Unit 46 Gladstone Drive Stafford QLD 4053
Ph 07 7471 5600 E: gladstone@alsglobal.com
MACKAY 76 Harbour Road Mackay QLD 4740
Ph +7 4944 0177 E: mackay@alsglobal.com
MELBOURNE 24 Westall Road Springvale VIC 3171
Ph 03 8549 9600 E: samples.melbourne@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph 02 8784 8555 E: samples.sydney@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph +61 2 4968 9433 E: samples.newcastle@alsglobal.com
TOWNSVILLE 14-15 Desma Court Garbutt QLD 4814
Ph 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph 02 4225 3125 E: portkembla@alsglobal.com
ALBURY 31 Dalton Street Albury NSW 2640
Ph +61 2 6041 0411 E: albury@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph 08 9209 7655 E: samples.perth@alsglobal.com
AUCKLAND 2 Wagener Place Mt Wellington Auckland 1060
Ph +64 9 525 0568 E: auckland@alsglobal.com
TAURANGA 1277 Cameron Road Tauranga 3110
Ph +64 7 571 5135 E: tauranga@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date):	5 day turnaround
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 (14)	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No NA Free ice / frozen ice blocks present upon receipt? Yes No NA Random Sample Temperature on Receipt: °C Other comments:
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr DATE/TIME: 26-Feb-15	RECEIVED BY: Kelly Schafer DATE/TIME: 26-Feb-15 1815
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		RELINQUISHED BY: KSchafer DATE/TIME: 2-3-15 1600
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			RECEIVED BY: Kar DATE/TIME: 3-3-15 11:30
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	BH42 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
2	BH42 0.5-1.0 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
3	BH42 1.0-1.6 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
4	BH42 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1							
5	BH42 0.5-1.0 B	26/02/2015	S	Bag (White label)	1		1							
6	BH42 1.0-1.6 B	26/02/2015	S	Bag (White label)	1		1							
7	BH42 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1						
8	BH42 0.7V	26/02/2015	S	Glass Jar (150 ml)	1			1						
9	BH42 1.3V	26/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	12	3	3	3						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plas
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

150ml A Jars and 500ml Amber sent direct to Brisbane for TOC/TBT

Environmental Division Sydney

Work Order

ES1504836

Telephone : +61-2-8784 8555

ALS Environmental

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QGLADSTONE 46 Cameron Dr Dinah Qld 4680 Ph: 07 7471 6700 E: gladstone@alsglobal.com
QMACKAY 74 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
QMELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
QMUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 1731 E: mudgee.mail@alsglobal.com
QNEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 0432 E: samples.newcastle@alsglobal.com
QNOWRA 4/13 Quarry Place North Nowra NSW 2541 Ph: 02 4422 2063 E: nowra@alsglobal.com
QPERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
QSYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
QTOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
QWOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: ponkemala@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 (2) 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	DF: 1 2 3 4 5 6 (14)	Other comment:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer	KS	Rai
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		26-Feb-15	26-Feb-15 1815	2-3-15 1600	3-3-15 11:30

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
10	BH44 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
11	BH44 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1							
12	BH44 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1						
[redacted]				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 8372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
ORANGE 4-13 Geary Place North Orange NSW 2800 Ph: 02 4423 2063 E: orange@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 8 day turnaround	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	Free Ice / Frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: 245563		Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	Other comments:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		

COC SEQUENCE NUMBER (Circle)

COC: 1 2 (3) 4 5 6 7

OF: 1 2 3 4 5 6 (14)

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*		Ran
DATE/TIME: 26-Feb-15	DATE/TIME: 26-Feb-15 1815	DATE/TIME: 2-3-15 1600	DATE/TIME: 3-3-15 1130

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
13	BH47 0.0-0.7A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
14	BH47 0.0-0.7B	26/02/2015	S	Bag (White label)	1		1							
15	BH47 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	2		1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
UNIT 2/30 ALICE ST 4 Vincent Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
ORANGE Unit 5 Canary Place North Nyrang NSW 2511
Ph: 02 4360 6063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: sydney@alsglobal.com
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 5125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245563		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 26-Feb-15	DATE/TIME: 26-Feb-15 1815
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: AS	RECEIVED BY: Kar
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:		DATE/TIME: 2-3-15 1600	DATE/TIME: 3-3-15 1130

ALS USE	SAMPLE DETAILS — MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
16	BH48 0.0-0.6A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
17	BH48 0.0-0.6B	26/02/2015	S	Bag (White label)	1		1							
18	BH48 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulfate Soils; B = Unpreserved Bag.

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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: position.NZ@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / Frozen Ice Bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: 10 °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Cooling Method:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		Other comments:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	Kelly Schafer		
DATE/TIME: 20-Feb-15	DATE/TIME: 25-Feb-15 1815	DATE/TIME: 2-3-15 1600	DATE/TIME: 3-3-15 11:30

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS (MATRIX: SOLID (S) WATER (W))			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP090-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
19	BH49 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
20	BH49 0.5-0.8 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
21	BH49 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1								
22	BH49 0.5-0.8 B	26/02/2015	S	Bag (White label)	1		1								
23	BH49 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1							
24	BH49 0.7V	26/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	7	2	2	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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LOGAN ALSTONE 46 Dacoit Drive Crestmead QLD 4132
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Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 24 Westall Road Springvale VIC 3171
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MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 2735 E: mudgee.mail@alsglobal.com
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NOWRA 4/13 Geary Place PO Box 798 Nowra NSW 2541
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PERTH 10 Hod Way Malaga WA 6090
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TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS: (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date):	5 day turnaround
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	FOR LABORATORY USE ONLY (Circle) Custody seal intact? YES NO N/A Ice bricks present upon receipt? YES NO N/A (see 29) Random Sample Temperature on Receipt: °C
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6	Other comments:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 26-Feb-15	DATE/TIME: 26-Feb-15 1815
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 2-3-15 1600	DATE/TIME: 3-3-15 1130

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH				Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
25	BH50 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
26	BH50 0.5-0.9 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
27	BH50 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1								
28	BH50 0.5-0.9 B	26/02/2015	S	Bag (White label)	1		1								
29	BH50 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1							
30	BH50 0.7V	26/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	8	2	2	2							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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BRISBANE 32 Shand Street Stafford QLD 4053
Ph: 07 3243 7222 E: enquiries@alsglobal.com
COLAC/OTWAY 45 Callaghan Drive Clifton QLD 4680
Ph: 07 7471 5890 E: gladstone@alsglobal.com
MACKAY 78 Tabon Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 24 Woodhill Road Springvale VIC 3171
Ph: 03 9549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 6735 E: samples.mudgee@alsglobal.com
NEWCASTLE 6 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 8448 E: samples.newcastle@alsglobal.com
ORANGE 1/13 Geary Place North Orange NSW 2800
Ph: 02 6360 2063 E: orange@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date):	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact: Yes / No / N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		5 day turnaround	Free ice / frozen ice bricks present upon receipt: Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Random Sample Temperature on Receipt: °C
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Other comments:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	DF: 1 2 3 4 5 6 7	

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		26-Feb-15	26-Feb-15 1815	2-3-15 1600

RECEIVED BY:	DATE/TIME:
	3-3-15 1030

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS — MATRIX: SOLID (S) WATER (W)		CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price). Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
31	BH51 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
32	BH51 0.5-0.9 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
33	BH51 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1							
34	BH51 0.5-0.9 B	26/02/2015	S	Bag (White label)	1		1							
35	BH51 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1						
36	BH51 0.7V	26/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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DARWIN 27 Sydney Road Manunda NT 0870
Ph: 08 8945 2121 E: darwin@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 24 Wedge Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: perth.samples@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 8133 E: samples.newcastle@alsglobal.com
ORANGE 10 Gilbay Place North Orange NSW 2800
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: samples.wollongong@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A; Free Ice / frozen ice bricks present upon Yes No N/A; Receipt; Random Sample Temperature on Receipt; Cooling Method; Other comments:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (7); SF: 1 2 3 4 5 6 (14)	
ORDER NUMBER: 246883			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 26-Feb-15	DATE/TIME: 26-Feb-15 1815
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY:	RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 2-3-15 1600	DATE/TIME: 3-3-15 1130

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
37	BH52 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
38	BH52 0.5-0.8 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
39	BH52 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1							
40	BH52 0.5-0.8 B	26/02/2015	S	Bag (White label)	1		1							
41	BH52 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1						
42	BH52 0.7V	26/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	7	2	2	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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ROLLINGSTONE 48 Colombo Drive Cannon Hill QLD 4170
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Ph: 07 4784 0777 E: mackay@alsglobal.com
MELBOURNE 24 Woodlands Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com

NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4258 0133 E: samples.newcastle@alsglobal.com
ORANGE 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com

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Ph: 02 4225 3125 E: samples.wollongong@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes / No / NA
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice/frozen ice bricks present upon receipt? Yes / No / NA
ORDER NUMBER: 246553		COC: 1 2 3 4 5 6	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	CF: 1 2 3 4 5 6	Cooling Method:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 25-Feb-15	DATE/TIME: 25-Feb-15 1815
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY:	RECEIVED BY:
		DATE/TIME: 2-3-15 1600	DATE/TIME: 3-3-15 1130

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
43	BH53 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
44	BH53 0.5-1.0 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
45	BH53 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1							
46	BH53 0.5-1.0 B	26/02/2015	S	Bag (White label)	1		1							
47	BH53 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1						
48	BH53 0.7V	26/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	7	2	2	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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GLADSTONE 46 Callemondah Drive Clinton QLD 4680
Ph: 07 7471 5500 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
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NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4258 8400 E: samples.newcastle@alsglobal.com
ORANGE 4/13 Geary Place Orange NSW 2800
Ph: 02 6393 8788 E: orange@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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ALS Environmental

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free Ice / Cooling Blocks on Upon Receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (16)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Cooling Method:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6909	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		26-Feb-15	26-Feb-15 1815

RELINQUISHED BY:	RECEIVED BY:
KS	Ron
DATE/TIME: 2-3-15 1600	DATE/TIME: 3-3-15 11:30

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
49	BH54 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
50	BH54 0.5-1.0 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
51	BH54 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1							
52	BH54 0.5-1.0 B	26/02/2015	S	Bag (White label)	1		1							
53	BH54 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1						
54	BH54 0.7V	26/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	7	2	2	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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EMU PLAINS 10 Ralph Black Drive North Richmond NSW 2754
Ph: 02 4578 2400 E: samples.emuplains@alsglobal.com
GLADSTONE 46 Callemondah Drive Clinton QLD 4680
Ph: 07 4971 9600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4958 5200 E: samples.newcastle@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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Ph: 07 4796 0600 E: samples.townsville@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice blocks present upon arrival? Yes No N/A
ORDER NUMBER: 246553		COC: 1 2 3 4 5 6	Cooling: Ice / Ice Packs / None
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6	Random Sample Temperature at Receipt: °C
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	Other comments:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	RECEIVED BY: Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 26-Feb-15	DATE/TIME: 26-Feb-15 1815
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY:	RECEIVED BY:
		DATE/TIME: 2-3-15 1600	DATE/TIME: 3-3-15 1130

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
55	BH55 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
56	BH55 0.5-0.9 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
57	BH55 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1							
58	BH55 0.5-0.9 B	26/02/2015	S	Bag (White label)	1		1							
59	BH55 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1						
60	BH55 0.7V	26/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	7	2	2	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ADELAIDE 21 Burma Road Pooraka SA 5095
Ph: 08 8359 0890 E: adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053
Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 4/6 Callemondah Drive Clinton QLD 4680
Ph: 07 7471 5600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 6735 E: mudgee@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4958 0433 E: samples.newcastle@alsglobal.com
NOWRA 4/91 Geary Place North Nowra NSW 2541
Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 7784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-16 Dominic Court Garbutt QLD 4814
Ph: 07 4760 0600 E: townsville@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: southern.lab@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	[Standard TAT may be longer for some tests e.g., Ultra Trace Organics]	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Cooling Method: Ice / Ice Pack / Frozen / None
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (12)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Cooling Comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		26-Feb-15	26-Feb-15 1815

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 2-3-15 1600	DATE/TIME: 3-3-15 1130

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
61	BH56 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
62	BH56 0.5-1.0 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
63	BH56 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1								
64	BH56 0.5-1.0 B	26/02/2015	S	Bag (White label)	1		1								
65	BH56 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1							
66	BH56 0.7V	26/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	7	2	2	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VS = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

QADELAIDE 21 Burns Road Pooraka SA 5095 Ph: 08 8260 0850 E: adelaide@alsglobal.com
QBRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
QGLADSTONE 46 Cullemonah Drive Clinton QLD 4680 Ph: 07 7471 5630 E: gladstone@alsglobal.com
QMACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
QMELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
QMUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
QNEWCASTLE 5 Rose Cum Road Waratbrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
QNOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
QPERTH 15 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
QSYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
QTOWNSVILLE 14-15 Desma Court Stuart QLD 4816 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
QWOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: perthenvlab@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free Ice / Frozen Ice Bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (13)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Other comment:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer	RELINQUISHED BY: KS	RECEIVED BY: Ravi
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):				
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 28-Feb-15	DATE/TIME: 20-Feb-15 1815	DATE/TIME: 2-3-15 1600	DATE/TIME: 3-3-15 11:30
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com					

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB, Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
67	EB28 0.0-0.4 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
68	EB28 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	3	1		1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Environmental

ALS Laboratory: please tick →

☐ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
☐BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
☐GLADSTONE 48 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5003 E: gladstone@alsglobal.com
☐MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
☐MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
☐MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
☐NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 0448 E: samples.newcastle@alsglobal.com
☐QUEANBEYAN 4/13 Geary Place Nth Queanbeyan NSW 2620 Ph: 02 6123 2300 E: nsweq@alsglobal.com
☐PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
☐SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
☐TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt	Yes / No / N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (13)	Random Sample Temperature on Receipt	°C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006 OF: 1 2 3 4 5 6 (14)	Other comments:	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*		
DATE/TIME: 26-Feb-15	DATE/TIME: 26-Feb-15 1815	DATE/TIME: 2-3-15 1600	DATE/TIME: 2-3-15 1130

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	Rinsate Suite	Trip blank suite	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
69	Triplicate 15A	26/02/2015	S	Glass Jar (250 ml)	2	1								
70	Triplicate 15B	26/02/2015	S	Glass Jar (250 ml)	2	1								
71	Triplicate 16A	26/02/2015	S	Glass Jar (250 ml)	2	1								
72	Triplicate 16B	26/02/2015	S	Glass Jar (250 ml)	2	1								
73	Duplicate 8A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
~~73~~	~~Duplicate 8B~~	~~26/02/2015~~	~~S~~	~~Glass Jar (250 ml and 150 ml)~~	~~2~~									~~Send to Eurofins~~
74	Trip Blank 17	26/02/2015											1	
75	Rinsate 17	26/02/2015	W	Bottle	8							1		
				TOTAL	12	1						1	1	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

SAMPLE RECEIPT INFORMATION & BOTTLE TYPE

WORKORDER No:

To be completed by Sample Receipt					Samples checked, labelled and put in trays by:	Analysis creation by: (Starlims only)
Sorting Times *(Only record for BP, Mobil & URS)*	**Temperature Details** (record INOT on COC)		**Packaging**	**Courier Details** (Mandatory for Quarantine)		
Time Sorting Commenced: 8:50	Sample Temp 4.9 °C		Seal Intact - Y / N / NA	Con Note:	Initial: RM 3b	Initial:
Time Placed in Fridge: 18:50	Chilling Method - Circle If sample temp is less than 6°C it is not necessary to complete this section		Type / No.			
Sorting to Fridge Target Time <1 Hour			Esky ✓	*Cells shaded grey don't need to be completed on this form if they are entered directly into LIMS/ANGEL by Sample Receipt staff.*		
	Ice / Ice Bricks / No Chilling		Other			

Sample Receipt Advice Comments - To be completed by Sorting Staff

VOC analysis may be compromised as sample containers contained **headspace** *(list):*

Details of any samples damaged during transit:

Other Information (eg. Were bottles received that weren't completely filled) (eg. If sample temperature is above 6°C add further detail here - *Internal use only - Not for SRN*):

#74 100g - dated 18/2

Metals Bottles: F = Field filtered. T = Total. N/S = Not Specified.
Cyanide Bottles: Tr = Treated, meaning the client has ticked the pre-treated box on the bottle. Un = Untreated, meaning the box is not ticked.
Ferrous Iron, Hexavalent Chromium & Geosmin and MIB: F = Field filtered. N/S = Not Specified.
Soil Bags: S = Small. M = Medium (~500mL asbestos or PSD bag). L = Large (~6kg FMT bag)

M83B

Lab No.	S- 559-561						SV- 103			Scores by	V- 29A				T-30A			W- 199				P43	OG-	M-			MA-			IN-								Micro			UTW-		Crypto Lab	Other
	Soil Jar	Sediment Jar	SOIL BAG LARGE Plastic / Paper Frozen / Air Frozen			Potential ACM Board	Glass Orange (SVOC)		Grey HDPE - No PTFE (PFOS & PFOA etc)	Red Glass (AOC)	Purple (VOC)	Dark Blue / White (Halo Acetic Acids)	Grey (Acrylamide / Acrolein)	Green (Geosmin & MIB)	Purple		Black on White EDA pres'vd (EDB)	Natural Plastic Grass		White Plastic Green (Chlorate)	Plastic Purple (Nutrien, Total Phenols & OOD)		Purple Glass (O&G)	Red Metal Bottle CIRCLE Standard OR ORC		Maroon on White Plastic (As / Se Special'n)	Red / Green Metal Bottle CIRCLE Standard OR ORC			Blue White Plastic (CN)		Yellow Plastic (Sulfide)	Light Blue Plastic (UHS)	Light Orange Plastic (Sulfite)	Maroon Plastic (Ferrous Iron)		Blue Plastic (Cr VI)		Brown / Green Stripe Glass (Surf'ct or Alkyl Ethoxy)	Sterile Micro Jar		Dark Green White Plastic (Algae)	Light Green & White Plastic (UT Nutrients - Unfiltered)	Turquoise & White Plastic (UT Nutrients - Filtered)	Plastic Carboy (Crypto & Giardia)	
			S	M	L										TOC	DOC								F	T	N/S		F	T	N/S	Tr	Un								Black	Grey					
	150	250				Bag	100	500	60	125	500	40	40	4E	F	N/S	40	40	40mL	1L	500	250	1L	60	125	250mL	F	T	N/S	60	F	T	N/S	Tr	Un	125	250	250	F	N/S	F	N/S	500	125	250	500mL	60	60	10L	
This line allows for an initial indication of bottle types received without specifying the exact number for each sample. When using this function tick the boxes matching the containers received for this work order.																																														
1-3		1					10		13	16		19	20																																	
4-6	0		1				11		14	17		21	22																																	
7-9	1						12		15	18		23	24																																	
25-26	1	1					31		32	35	36	37	38	43	44			49	50				55	56		61	62			67			69	70	71		72		73						
27-28			1				33		34			39	40	45	46			51	52				57	58		63	64																		
29-30	1						35		36			41	42	47	48			53	54				59	60		65	66			68															
74	1																																													
75							1				2				1				1		1								1																		

CERTIFICATE OF ANALYSIS

Work Order	: **ES1504836**	Page	: 1 of 95
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553		
C-O-C number	: ----	Date Samples Received	: 03-MAR-2015
Sampler	: GK	Issue Date	: 27-MAR-2015
Site	: ----		
		No. of samples received	: 75
Quote number	: SY/1021/14 V2	No. of samples analysed	: 75

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.**
- **EG020A-T: Positive results for sample ES1504836 # 075 have been confirmed.**
- **EP090: Particular samples show poor matrix spike recovery for Monobutyltin due to matrix interference.**
- **EP090H: High failing LCS deemed acceptable as all associated analyte results are less than LOR.**

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Ashesh Patel	Inorganic Chemist	Sydney Inorganics
Dianne Blane	Laboratory Coordinator (2IC)	Newcastle - Inorganics
Edwandy Fadjar	Organic Coordinator	Sydney Organics
Pabi Subba	Senior Organic Chemist	Sydney Organics
Ryan Story	2IC Organic Instrument Chemist	Brisbane Organics
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH42 0.0-0.5A	BH42 0.5-1.0A	BH42 1.0-1.6A	BH42 0.0-0.5B	BH42 0.5-1.0B
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504836-001	ES1504836-002	ES1504836-003	ES1504836-004	ES1504836-005
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	80	63
+150µm	----	1	%		----	----	----	74	57
+300µm	----	1	%		----	----	----	54	46
+425µm	----	1	%		----	----	----	38	29
+600µm	----	1	%		----	----	----	31	8
+1180µm	----	1	%		----	----	----	28	<1
+2.36mm	----	1	%		----	----	----	24	<1
+4.75mm	----	1	%		----	----	----	17	<1
+9.5mm	----	1	%		----	----	----	12	<1
+19.0mm	----	1	%		----	----	----	7	<1
+37.5mm	----	1	%		----	----	----	<1	<1
+75.0mm	----	1	%		----	----	----	<1	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		15.0	26.1	30.9	----	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	11	19
Silt (2-60 µm)	----	1	%		----	----	----	9	16
Sand (0.06-2.00 mm)	----	1	%		----	----	----	55	65
Gravel (>2mm)	----	1	%		----	----	----	25	<1
Cobbles (>6cm)	----	1	%		----	----	----	<1	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	2.67	2.64
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		7980	11500	17700	----	----
Iron	7439-89-6	50	mg/kg		17600	19800	27800	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	<0.50	----	----
Arsenic	7440-38-2	1.00	mg/kg		10.4	8.65	13.3	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	<0.1	----	----
Chromium	7440-47-3	1.0	mg/kg		15.9	18.5	25.0	----	----
Copper	7440-50-8	1.0	mg/kg		13.8	18.0	25.9	----	----
Cobalt	7440-48-4	0.5	mg/kg		9.9	12.0	18.1	----	----
Lead	7439-92-1	1.0	mg/kg		6.1	8.1	9.5	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH42 0.0-0.5A	BH42 0.5-1.0A	BH42 1.0-1.6A	BH42 0.0-0.5B	BH42 0.5-1.0B
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-001	ES1504836-002	ES1504836-003	ES1504836-004	ES1504836-005
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		252	371	512	----	----
Nickel	7440-02-0	1.0	mg/kg		9.7	11.8	15.5	----	----
Selenium	7782-49-2	0.1	mg/kg		0.5	0.6	0.9	----	----
Silver	7440-22-4	0.1	mg/kg		<0.1	0.5	0.2	----	----
Vanadium	7440-62-2	2.0	mg/kg		36.4	43.8	49.8	----	----
Zinc	7440-66-6	1.0	mg/kg		24.2	34.5	45.8	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	0.01	0.02	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	0.1	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	0.1	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		170	210	360	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		170	210	360	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		184	218	236	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		3.3	5.9	7.3	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		0.24	0.47	0.48	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	<3	<3	----	----
>C16 - C34 Fraction	----	3	mg/kg		3	6	14	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	<5	5	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		3	6	19	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C10 - C14 Fraction	----	3	mg/kg		<3	<3	<3	----	----
C15 - C28 Fraction	----	3	mg/kg		<3	3	7	----	----
C29 - C36 Fraction	----	5	mg/kg		<5	<5	10	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH42 0.0-0.5A	BH42 0.5-1.0A	BH42 1.0-1.6A	BH42 0.0-0.5B	BH42 0.5-1.0B
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504836-001	ES1504836-002	ES1504836-003	ES1504836-004	ES1504836-005
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
^ C10 - C36 Fraction (sum)	----	3	mg/kg		<3	3	17	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	<1	<1	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	<1	<1	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	<0.5	<0.5	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	<10	<10	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	<10	<10	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	<10.0	<10.0	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	<10	<10	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	<10	<10	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	<10	<10	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	<10	<10	----	----
Diazinon	333-41-5	10	µg/kg		<10	<10	<10	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	<10	<10	----	----
Dimethoate	60-51-5	10	µg/kg		<10	<10	<10	----	----
Ethion	563-12-2	10	µg/kg		<10	<10	<10	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	<10	<10	----	----
Fenthion	55-38-9	10	µg/kg		<10	<10	<10	----	----
Malathion	121-75-5	10	µg/kg		<10	<10	<10	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	<10	<10	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	<10	<10	----	----
Parathion	56-38-2	10	µg/kg		<10	<10	<10	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	<10	<10	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	<10	<10	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	<10	<10	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	<0.50	<0.50	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH42 0.0-0.5A	BH42 0.5-1.0A	BH42 1.0-1.6A	BH42 0.0-0.5B	BH42 0.5-1.0B
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-001	ES1504836-002	ES1504836-003	ES1504836-004	ES1504836-005
EP131A: Organochlorine Pesticides - Continued									
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	<0.25	<0.25	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	<0.25	<0.25	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	<0.25	<0.25	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	<0.25	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	<5.0	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	<5.0	<5.0	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	<5.0	<5.0	----	----
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	<5.0	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	<5.0	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	<5.0	<5.0	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	<5.0	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	<5.0	<5.0	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	<5	<5	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	<5	<5	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	<4	<4	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	<4	<4	----	----
Fluorene	86-73-7	4	µg/kg		<4	<4	<4	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH42 0.0-0.5A	BH42 0.5-1.0A	BH42 1.0-1.6A	BH42 0.0-0.5B	BH42 0.5-1.0B
			Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504836-001	ES1504836-002	ES1504836-003	ES1504836-004	ES1504836-005
EP132B: Polynuclear Aromatic Hydrocarbons - Continued								
Phenanthrene	85-01-8	4	µg/kg	<4	<4	<4	----	----
Anthracene	120-12-7	4	µg/kg	<4	<4	<4	----	----
Fluoranthene	206-44-0	4	µg/kg	<4	<4	<4	----	----
Pyrene	129-00-0	4	µg/kg	<4	<4	<4	----	----
Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	<4	----	----
Chrysene	218-01-9	4	µg/kg	<4	<4	<4	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	<4	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	<4	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	<4	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	<4	----	----
Perylene	198-55-0	4	µg/kg	<4	6	6	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	<4	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	<4	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	<4	----	----
Coronene	191-07-1	5	µg/kg	<5	<5	<5	----	----
^ Sum of PAHs	----	4	µg/kg	<4	6	6	----	----
EP090S: Organotin Surrogate								
Tripropyltin	----	0.1	%	107	92.6	98.0	----	----
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	72.4	74.1	75.6	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	83.1	76.2	86.1	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	72.0	70.3	67.6	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	94.2	83.8	80.0	----	----
Anthracene-d10	1719-06-8	0.1	%	89.5	87.5	92.9	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	112	91.1	96.5	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH42 1.0-1.6B	BH42 0.3V	BH42 0.7V	BH42 1.3V	BH44 0.0-0.5A
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-006	ES1504836-007	ES1504836-008	ES1504836-009	ES1504836-010
EA150: Particle Sizing									
+75µm	----	1	%		**57**	----	----	----	----
+150µm	----	1	%		**36**	----	----	----	----
+300µm	----	1	%		**26**	----	----	----	----
+425µm	----	1	%		**22**	----	----	----	----
+600µm	----	1	%		**19**	----	----	----	----
+1180µm	----	1	%		**10**	----	----	----	----
+2.36mm	----	1	%		**4**	----	----	----	----
+4.75mm	----	1	%		**2**	----	----	----	----
+9.5mm	----	1	%		<1	----	----	----	----
+19.0mm	----	1	%		<1	----	----	----	----
+37.5mm	----	1	%		<1	----	----	----	----
+75.0mm	----	1	%		<1	----	----	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	**17.9**	**27.0**	**21.0**	**22.1**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		**19**	----	----	----	----
Silt (2-60 µm)	----	1	%		**21**	----	----	----	----
Sand (0.06-2.00 mm)	----	1	%		**54**	----	----	----	----
Gravel (>2mm)	----	1	%		**6**	----	----	----	----
Cobbles (>6cm)	----	1	%		<1	----	----	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		**2.66**	----	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	----	----	**19300**
Iron	7439-89-6	50	mg/kg		----	----	----	----	**37500**
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	----	----	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	----	----	----	**8.91**
Cadmium	7440-43-9	0.1	mg/kg		----	----	----	----	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	----	----	----	**27.4**
Copper	7440-50-8	1.0	mg/kg		----	----	----	----	**35.4**
Cobalt	7440-48-4	0.5	mg/kg		----	----	----	----	**22.5**
Lead	7439-92-1	1.0	mg/kg		----	----	----	----	**11.0**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH42 1.0-1.6B	BH42 0.3V	BH42 0.7V	BH42 1.3V	BH44 0.0-0.5A
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-006	ES1504836-007	ES1504836-008	ES1504836-009	ES1504836-010
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	----	----	**543**
Nickel	7440-02-0	1.0	mg/kg		----	----	----	----	**25.0**
Selenium	7782-49-2	0.1	mg/kg		----	----	----	----	**0.8**
Silver	7440-22-4	0.1	mg/kg		----	----	----	----	<0.1
Vanadium	7440-62-2	2.0	mg/kg		----	----	----	----	**68.1**
Zinc	7440-66-6	1.0	mg/kg		----	----	----	----	**62.3**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	----	----	**0.03**
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	----	----	**210**
EK062: Total Nitrogen as N (TKN + NOx)									
^ **Total Nitrogen as N**	----	20	mg/kg		----	----	----	----	**210**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	----	----	**337**
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	----	----	**4.0**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	----	----	**0.12**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	----	----	<3
>C16 - C34 Fraction	----	3	mg/kg		----	----	----	----	**4**
>C34 - C40 Fraction	----	5	mg/kg		----	----	----	----	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	----	----	**4**
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	<3	<3	<3	----
C10 - C14 Fraction	----	3	mg/kg		----	----	----	----	<3
C15 - C28 Fraction	----	3	mg/kg		----	----	----	----	<3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH42 1.0-1.6B	BH42 0.3V	BH42 0.7V	BH42 1.3V	BH44 0.0-0.5A
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-006	ES1504836-007	ES1504836-008	ES1504836-009	ES1504836-010
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	----	----	<5
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	----	----	<3
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	<3	<3	<3	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	<0.2	<0.2	<0.2	----
Toluene	108-88-3	0.2	mg/kg		----	<0.2	<0.2	<0.2	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	<0.2	<0.2	<0.2	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	<0.2	<0.2	<0.2	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	<0.2	<0.2	<0.2	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	<0.5	<0.5	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg		----	<0.2	<0.2	<0.2	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	----	----	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	----	----	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	----	----	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	----	----	<10
Carbophenothion	786-19-6	10	µg/kg		----	----	----	----	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	----	----	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	----	----	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	----	----	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	----	----	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	----	----	<10
Diazinon	333-41-5	10	µg/kg		----	----	----	----	<10
Dichlorvos	62-73-7	10	µg/kg		----	----	----	----	<10
Dimethoate	60-51-5	10	µg/kg		----	----	----	----	<10
Ethion	563-12-2	10	µg/kg		----	----	----	----	<10
Fenamiphos	22224-92-6	10	µg/kg		----	----	----	----	<10
Fenthion	55-38-9	10	µg/kg		----	----	----	----	<10
Malathion	121-75-5	10	µg/kg		----	----	----	----	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	----	----	----	<10
Monocrotophos	6923-22-4	10	µg/kg		----	----	----	----	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH42 1.0-1.6B	BH42 0.3V	BH42 0.7V	BH42 1.3V	BH44 0.0-0.5A
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-006	ES1504836-007	ES1504836-008	ES1504836-009	ES1504836-010
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	----	----	<10
Parathion-methyl	298-00-0	10	µg/kg		----	----	----	----	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	----	----	<10
Prothiofos	34643-46-4	10	µg/kg		----	----	----	----	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	----	----	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	----	----	----	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	----	----	----	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	----	----	<0.50
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	----	----	----	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	----	----	----	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	----	----	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	----	----	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	----	----	<0.50
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	----	----	----	<0.50
Endrin	72-20-8	0.50	µg/kg		----	----	----	----	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	----	----	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	----	----	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	----	----	----	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	----	----	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	----	----	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	----	----	----	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	----	----	----	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	----	----	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	----	----	<0.25
^ Total Chlordane (sum)	----	0.25	µg/kg		----	----	----	----	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	----	----	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	----	----	<5.0

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID: BH42 1.0-1.6B	BH42 0.3V	BH42 0.7V	BH42 1.3V	BH44 0.0-0.5A
				Client sampling date / time: 26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
				ES1504836-006	ES1504836-007	ES1504836-008	ES1504836-009	ES1504836-010
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued								
Aroclor 1232	11141-16-5	5.0	µg/kg	----	----	----	----	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg	----	----	----	----	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg	----	----	----	----	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg	----	----	----	----	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg	----	----	----	----	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	5	µg/kg	----	----	----	----	<5
2-Methylnaphthalene	91-57-6	5	µg/kg	----	----	----	----	<5
Acenaphthylene	208-96-8	4	µg/kg	----	----	----	----	<4
Acenaphthene	83-32-9	4	µg/kg	----	----	----	----	<4
Fluorene	86-73-7	4	µg/kg	----	----	----	----	<4
Phenanthrene	85-01-8	4	µg/kg	----	----	----	----	<4
Anthracene	120-12-7	4	µg/kg	----	----	----	----	<4
Fluoranthene	206-44-0	4	µg/kg	----	----	----	----	<4
Pyrene	129-00-0	4	µg/kg	----	----	----	----	<4
Benz(a)anthracene	56-55-3	4	µg/kg	----	----	----	----	<4
Chrysene	218-01-9	4	µg/kg	----	----	----	----	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	----	----	----	----	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg	----	----	----	----	<4
Benzo(e)pyrene	192-97-2	4	µg/kg	----	----	----	----	<4
Benzo(a)pyrene	50-32-8	4	µg/kg	----	----	----	----	<4
Perylene	198-55-0	4	µg/kg	----	----	----	----	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg	----	----	----	----	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg	----	----	----	----	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	----	----	----	----	<4
Coronene	191-07-1	5	µg/kg	----	----	----	----	<5
^ **Sum of PAHs**	----	4	µg/kg	----	----	----	----	<4
EP080-SD: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	**96.2**	**78.4**	**73.4**	----
Toluene-D8	2037-26-5	0.1	%	----	**93.7**	**114**	**105**	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	**95.6**	**115**	**104**	----
EP090S: Organotin Surrogate								
Tripropyltin	----	0.1	%	----	----	----	----	**98.8**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH42 1.0-1.6B	BH42 0.3V	BH42 0.7V	BH42 1.3V	BH44 0.0-0.5A
			Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504836-006	ES1504836-007	ES1504836-008	ES1504836-009	ES1504836-010
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	----	----	97.4
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	----	----	95.4
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	----	88.4
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	----	99.5
Anthracene-d10	1719-06-8	0.1	%	----	----	----	----	97.0
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	----	110

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH44 0.0-0.5B	BH44 0.3V	BH47 0.0-0.7A	BH47 0.0-0.7B	BH47 0.3V
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-011	ES1504836-012	ES1504836-013	ES1504836-014	ES1504836-015
EA150: Particle Sizing									
+75µm	----	1	%		**20**	----	----	**38**	----
+150µm	----	1	%		**11**	----	----	**34**	----
+300µm	----	1	%		**6**	----	----	**23**	----
+425µm	----	1	%		**4**	----	----	**14**	----
+600µm	----	1	%		**3**	----	----	**10**	----
+1180µm	----	1	%		**2**	----	----	**6**	----
+2.36mm	----	1	%		**2**	----	----	**4**	----
+4.75mm	----	1	%		<1	----	----	**2**	----
+9.5mm	----	1	%		<1	----	----	<1	----
+19.0mm	----	1	%		<1	----	----	<1	----
+37.5mm	----	1	%		<1	----	----	<1	----
+75.0mm	----	1	%		<1	----	----	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	**21.6**	**20.6**	----	**25.0**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		**28**	----	----	**29**	----
Silt (2-60 µm)	----	1	%		**46**	----	----	**33**	----
Sand (0.06-2.00 mm)	----	1	%		**24**	----	----	**33**	----
Gravel (>2mm)	----	1	%		**2**	----	----	**5**	----
Cobbles (>6cm)	----	1	%		<1	----	----	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		**2.68**	----	----	**2.65**	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	**15600**	----	----
Iron	7439-89-6	50	mg/kg		----	----	**30200**	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	<0.50	----	----
Arsenic	7440-38-2	1.00	mg/kg		----	----	**9.36**	----	----
Cadmium	7440-43-9	0.1	mg/kg		----	----	<0.1	----	----
Chromium	7440-47-3	1.0	mg/kg		----	----	**22.9**	----	----
Copper	7440-50-8	1.0	mg/kg		----	----	**32.5**	----	----
Cobalt	7440-48-4	0.5	mg/kg		----	----	**20.2**	----	----
Lead	7439-92-1	1.0	mg/kg		----	----	**8.8**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH44 0.0-0.5B	BH44 0.3V	BH47 0.0-0.7A	BH47 0.0-0.7B	BH47 0.3V
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-011	ES1504836-012	ES1504836-013	ES1504836-014	ES1504836-015
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	**591**	----	----
Nickel	7440-02-0	1.0	mg/kg		----	----	**18.1**	----	----
Selenium	7782-49-2	0.1	mg/kg		----	----	**0.8**	----	----
Silver	7440-22-4	0.1	mg/kg		----	----	<0.1	----	----
Vanadium	7440-62-2	2.0	mg/kg		----	----	**68.7**	----	----
Zinc	7440-66-6	1.0	mg/kg		----	----	**52.7**	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	<0.01	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	**160**	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	**160**	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	**332**	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	**3.3**	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	**0.16**	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	<3	----	----
>C16 - C34 Fraction	----	3	mg/kg		----	----	**4**	----	----
>C34 - C40 Fraction	----	5	mg/kg		----	----	<5	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	**4**	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	<3	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		----	----	<3	----	----
C15 - C28 Fraction	----	3	mg/kg		----	----	<3	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH44 0.0-0.5B	BH44 0.3V	BH47 0.0-0.7A	BH47 0.0-0.7B	BH47 0.3V
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-011	ES1504836-012	ES1504836-013	ES1504836-014	ES1504836-015
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	<5	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	<3	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	<3	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	<0.2	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		----	<0.2	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	<0.2	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	<0.2	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	<0.2	----	----	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	<0.5	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	<0.2	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	<1	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	<1	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	<0.5	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	<10	----	----
Carbophenothion	786-19-6	10	µg/kg		----	----	<10	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	<10.0	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	<10	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	<10	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	<10	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	<10	----	----
Diazinon	333-41-5	10	µg/kg		----	----	<10	----	----
Dichlorvos	62-73-7	10	µg/kg		----	----	<10	----	----
Dimethoate	60-51-5	10	µg/kg		----	----	<10	----	----
Ethion	563-12-2	10	µg/kg		----	----	<10	----	----
Fenamiphos	22224-92-6	10	µg/kg		----	----	<10	----	----
Fenthion	55-38-9	10	µg/kg		----	----	<10	----	----
Malathion	121-75-5	10	µg/kg		----	----	<10	----	----
Azinphos Methyl	86-50-0	10	µg/kg		----	----	<10	----	----
Monocrotophos	6923-22-4	10	µg/kg		----	----	<10	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH44 0.0-0.5B	BH44 0.3V	BH47 0.0-0.7A	BH47 0.0-0.7B	BH47 0.3V
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-011	ES1504836-012	ES1504836-013	ES1504836-014	ES1504836-015
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	<10	----	----
Parathion-methyl	298-00-0	10	µg/kg		----	----	<10	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	<10	----	----
Prothiofos	34643-46-4	10	µg/kg		----	----	<10	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg		----	----	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg		----	----	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg		----	----	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	<0.50	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	<0.50	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	----	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		----	----	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	<0.50	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	----	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		----	----	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg		----	----	<0.50	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	<0.50	----	----
gamma-BHC	58-89-9	0.25	µg/kg		----	----	<0.25	----	----
Methoxychlor	72-43-5	0.50	µg/kg		----	----	<0.50	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	<0.25	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	<0.25	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		----	----	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	<5.0	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH44 0.0-0.5B	BH44 0.3V	BH47 0.0-0.7A	BH47 0.0-0.7B	BH47 0.3V
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-011	ES1504836-012	ES1504836-013	ES1504836-014	ES1504836-015
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	<5.0	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	<5	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	<5	----	----
Acenaphthylene	208-96-8	4	µg/kg		----	----	<4	----	----
Acenaphthene	83-32-9	4	µg/kg		----	----	<4	----	----
Fluorene	86-73-7	4	µg/kg		----	----	<4	----	----
Phenanthrene	85-01-8	4	µg/kg		----	----	<4	----	----
Anthracene	120-12-7	4	µg/kg		----	----	<4	----	----
Fluoranthene	206-44-0	4	µg/kg		----	----	<4	----	----
Pyrene	129-00-0	4	µg/kg		----	----	<4	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	<4	----	----
Chrysene	218-01-9	4	µg/kg		----	----	<4	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	<4	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	<4	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	<4	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	<4	----	----
Perylene	198-55-0	4	µg/kg		----	----	<4	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	<4	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	<4	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	<4	----	----
Coronene	191-07-1	5	µg/kg		----	----	<5	----	----
^ **Sum of PAHs**	----	4	µg/kg		----	----	<4	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	**97.9**	----	----	**104**
Toluene-D8	2037-26-5	0.1	%		----	**98.7**	----	----	**102**
4-Bromofluorobenzene	460-00-4	0.1	%		----	**97.1**	----	----	**102**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	**111**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH44 0.0-0.5B	BH44 0.3V	BH47 0.0-0.7A	BH47 0.0-0.7B	BH47 0.3V
			Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504836-011	ES1504836-012	ES1504836-013	ES1504836-014	ES1504836-015
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	72.6	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	68.9	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	64.5	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	93.5	----	----
Anthracene-d10	1719-06-8	0.1	%	----	----	89.9	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	108	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH48 0.0-0.6A	BH48 0.0-0.6B	BH48 0.3V	BH49 0.0-0.5A	BH49 0.5-0.8A
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-016	ES1504836-017	ES1504836-018	ES1504836-019	ES1504836-020
EA150: Particle Sizing									
+75µm	----	1	%		----	**15**	----	----	----
+150µm	----	1	%		----	**12**	----	----	----
+300µm	----	1	%		----	**4**	----	----	----
+425µm	----	1	%		----	**2**	----	----	----
+600µm	----	1	%		----	<1	----	----	----
+1180µm	----	1	%		----	<1	----	----	----
+2.36mm	----	1	%		----	<1	----	----	----
+4.75mm	----	1	%		----	<1	----	----	----
+9.5mm	----	1	%		----	<1	----	----	----
+19.0mm	----	1	%		----	<1	----	----	----
+37.5mm	----	1	%		----	<1	----	----	----
+75.0mm	----	1	%		----	<1	----	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**21.1**	----	**22.6**	**17.2**	**17.3**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	**50**	----	----	----
Silt (2-60 µm)	----	1	%		----	**36**	----	----	----
Sand (0.06-2.00 mm)	----	1	%		----	**14**	----	----	----
Gravel (>2mm)	----	1	%		----	<1	----	----	----
Cobbles (>6cm)	----	1	%		----	<1	----	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	**2.66**	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**19600**	----	----	**14000**	**11400**
Iron	7439-89-6	50	mg/kg		**33100**	----	----	**26700**	**24000**
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	----	----	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		**7.43**	----	----	**7.97**	**8.06**
Cadmium	7440-43-9	0.1	mg/kg		<0.1	----	----	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg		**24.4**	----	----	**22.1**	**21.2**
Copper	7440-50-8	1.0	mg/kg		**36.6**	----	----	**23.1**	**17.6**
Cobalt	7440-48-4	0.5	mg/kg		**21.9**	----	----	**7.9**	**6.2**
Lead	7439-92-1	1.0	mg/kg		**10.6**	----	----	**7.4**	**6.5**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH48 0.0-0.6A	BH48 0.0-0.6B	BH48 0.3V	BH49 0.0-0.5A	BH49 0.5-0.8A
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-016	ES1504836-017	ES1504836-018	ES1504836-019	ES1504836-020
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		363	----	----	179	110
Nickel	7440-02-0	1.0	mg/kg		15.1	----	----	12.5	11.8
Selenium	7782-49-2	0.1	mg/kg		0.9	----	----	0.6	0.5
Silver	7440-22-4	0.1	mg/kg		<0.1	----	----	<0.1	<0.1
Vanadium	7440-62-2	2.0	mg/kg		47.6	----	----	60.0	53.2
Zinc	7440-66-6	1.0	mg/kg		63.0	----	----	36.4	35.0
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		0.01	----	----	<0.01	<0.01
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	<0.1	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	<0.1	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	<0.1	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		230	----	----	120	100
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		230	----	----	120	100
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		206	----	----	328	295
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		4.0	----	----	3.6	3.7
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		0.31	----	----	0.11	0.05
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	----	----	<3	<3
>C16 - C34 Fraction	----	3	mg/kg		4	----	----	7	<3
>C34 - C40 Fraction	----	5	mg/kg		<5	----	----	<5	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		4	----	----	7	<3
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	<3	----	----
C10 - C14 Fraction	----	3	mg/kg		<3	----	----	<3	<3
C15 - C28 Fraction	----	3	mg/kg		<3	----	----	3	<3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH48 0.0-0.6A	BH48 0.0-0.6B	BH48 0.3V	BH49 0.0-0.5A	BH49 0.5-0.8A
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504836-016	ES1504836-017	ES1504836-018	ES1504836-019	ES1504836-020
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	----	----	<5	<5
^ C10 - C36 Fraction (sum)	----	3	mg/kg		<3	----	----	3	<3
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	<3	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	<0.2	----	----
Toluene	108-88-3	0.2	mg/kg		----	----	<0.2	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	<0.2	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	<0.2	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	<0.2	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	<0.5	----	----
^ Sum of BTEX	----	0.2	mg/kg		----	----	<0.2	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	----	----	<1	<1
Dibutyltin	1002-53-5	1	µgSn/kg		<1	----	----	<1	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	----	----	<0.5	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	----	----	<10	<10
Carbophenothion	786-19-6	10	µg/kg		<10	----	----	<10	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	----	----	<10.0	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	----	----	<10	<10
Chlorpyrifos	2921-88-2	10	µg/kg		<10	----	----	<10	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	----	----	<10	<10
Demeton-S-methyl	919-86-8	10	µg/kg		<10	----	----	<10	<10
Diazinon	333-41-5	10	µg/kg		<10	----	----	<10	<10
Dichlorvos	62-73-7	10	µg/kg		<10	----	----	<10	<10
Dimethoate	60-51-5	10	µg/kg		<10	----	----	<10	<10
Ethion	563-12-2	10	µg/kg		<10	----	----	<10	<10
Fenamiphos	22224-92-6	10	µg/kg		<10	----	----	<10	<10
Fenthion	55-38-9	10	µg/kg		<10	----	----	<10	<10
Malathion	121-75-5	10	µg/kg		<10	----	----	<10	<10
Azinphos Methyl	86-50-0	10	µg/kg		<10	----	----	<10	<10
Monocrotophos	6923-22-4	10	µg/kg		<10	----	----	<10	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH48 0.0-0.6A	BH48 0.0-0.6B	BH48 0.3V	BH49 0.0-0.5A	BH49 0.5-0.8A
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-016	ES1504836-017	ES1504836-018	ES1504836-019	ES1504836-020
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	----	----	<10	<10
Parathion-methyl	298-00-0	10	µg/kg		<10	----	----	<10	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	----	----	<10	<10
Prothiofos	34643-46-4	10	µg/kg		<10	----	----	<10	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
beta-BHC	319-85-7	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
delta-BHC	319-86-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Dieldrin	60-57-1	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Endrin	72-20-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Heptachlor	76-44-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	----	----	<0.25	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	----	----	<0.25	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	----	----	<0.25	<0.25
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	----	----	<0.25	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	----	----	<0.50	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	----	----	<5.0	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	----	----	<5.0	<5.0

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID: BH48 0.0-0.6A	BH48 0.0-0.6B	BH48 0.3V	BH49 0.0-0.5A	BH49 0.5-0.8A
			Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
				ES1504836-016	ES1504836-017	ES1504836-018	ES1504836-019	ES1504836-020
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued								
Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	----	----	<5.0	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	----	----	<5.0	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	----	----	<5.0	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	----	----	<5.0	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	----	----	<5.0	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	5	µg/kg	<5	----	----	<5	<5
2-Methylnaphthalene	91-57-6	5	µg/kg	<5	----	----	<5	<5
Acenaphthylene	208-96-8	4	µg/kg	<4	----	----	**4**	<4
Acenaphthene	83-32-9	4	µg/kg	<4	----	----	<4	<4
Fluorene	86-73-7	4	µg/kg	<4	----	----	<4	<4
Phenanthrene	85-01-8	4	µg/kg	<4	----	----	<4	<4
Anthracene	120-12-7	4	µg/kg	<4	----	----	<4	<4
Fluoranthene	206-44-0	4	µg/kg	<4	----	----	<4	<4
Pyrene	129-00-0	4	µg/kg	<4	----	----	<4	<4
Benz(a)anthracene	56-55-3	4	µg/kg	<4	----	----	<4	<4
Chrysene	218-01-9	4	µg/kg	<4	----	----	<4	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	----	----	**5**	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	----	----	<4	<4
Benzo(e)pyrene	192-97-2	4	µg/kg	<4	----	----	<4	<4
Benzo(a)pyrene	50-32-8	4	µg/kg	<4	----	----	<4	<4
Perylene	198-55-0	4	µg/kg	<4	----	----	<4	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	----	----	**6**	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	----	----	<4	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	----	----	**4**	<4
Coronene	191-07-1	5	µg/kg	<5	----	----	<5	<5
^ **Sum of PAHs**	----	4	µg/kg	<4	----	----	**19**	<4
EP080-SD: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	----	**97.4**	----	----
Toluene-D8	2037-26-5	0.1	%	----	----	**101**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	----	**95.7**	----	----
EP090S: Organotin Surrogate								
Tripropyltin	----	0.1	%	**99.8**	----	----	**110**	**103**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH48 0.0-0.6A	BH48 0.0-0.6B	BH48 0.3V	BH49 0.0-0.5A	BH49 0.5-0.8A
			Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504836-016	ES1504836-017	ES1504836-018	ES1504836-019	ES1504836-020
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	70.0	----	----	82.3	81.1
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	65.5	----	----	73.0	88.1
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	61.7	----	----	71.6	84.4
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	108	----	----	108	102
Anthracene-d10	1719-06-8	0.1	%	95.7	----	----	98.3	94.6
4-Terphenyl-d14	1718-51-0	0.1	%	105	----	----	116	103

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH49 0.0-0.5B	BH49 0.5-0.8B	BH49 0.3V	BH49 0.7V	BH50 0.0-0.5A
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-021	ES1504836-022	ES1504836-023	ES1504836-024	ES1504836-025
EA150: Particle Sizing									
+75µm	----	1	%		**43**	**54**	----	----	----
+150µm	----	1	%		**24**	**38**	----	----	----
+300µm	----	1	%		**10**	**19**	----	----	----
+425µm	----	1	%		**5**	**6**	----	----	----
+600µm	----	1	%		**3**	**2**	----	----	----
+1180µm	----	1	%		**2**	<1	----	----	----
+2.36mm	----	1	%		**2**	<1	----	----	----
+4.75mm	----	1	%		**2**	<1	----	----	----
+9.5mm	----	1	%		<1	<1	----	----	----
+19.0mm	----	1	%		<1	<1	----	----	----
+37.5mm	----	1	%		<1	<1	----	----	----
+75.0mm	----	1	%		<1	<1	----	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	----	**16.2**	**16.4**	**18.6**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		**26**	**20**	----	----	----
Silt (2-60 µm)	----	1	%		**28**	**23**	----	----	----
Sand (0.06-2.00 mm)	----	1	%		**44**	**57**	----	----	----
Gravel (>2mm)	----	1	%		**2**	<1	----	----	----
Cobbles (>6cm)	----	1	%		<1	<1	----	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		**2.68**	**2.66**	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	----	----	**18200**
Iron	7439-89-6	50	mg/kg		----	----	----	----	**31000**
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	----	----	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	----	----	----	**7.42**
Cadmium	7440-43-9	0.1	mg/kg		----	----	----	----	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	----	----	----	**34.8**
Copper	7440-50-8	1.0	mg/kg		----	----	----	----	**22.5**
Cobalt	7440-48-4	0.5	mg/kg		----	----	----	----	**14.0**
Lead	7439-92-1	1.0	mg/kg		----	----	----	----	**9.0**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH49 0.0-0.5B	BH49 0.5-0.8B	BH49 0.3V	BH49 0.7V	BH50 0.0-0.5A
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-021	ES1504836-022	ES1504836-023	ES1504836-024	ES1504836-025
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	----	----	**171**
Nickel	7440-02-0	1.0	mg/kg		----	----	----	----	**15.3**
Selenium	7782-49-2	0.1	mg/kg		----	----	----	----	**0.7**
Silver	7440-22-4	0.1	mg/kg		----	----	----	----	<0.1
Vanadium	7440-62-2	2.0	mg/kg		----	----	----	----	**65.1**
Zinc	7440-66-6	1.0	mg/kg		----	----	----	----	**53.0**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	----	----	<0.01
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	----	----	**220**
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	----	----	**220**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	----	----	**350**
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	----	----	**4.3**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	----	----	**0.16**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	----	----	<3
>C16 - C34 Fraction	----	3	mg/kg		----	----	----	----	**6**
>C34 - C40 Fraction	----	5	mg/kg		----	----	----	----	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	----	----	**6**
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	<3	<3	----
C10 - C14 Fraction	----	3	mg/kg		----	----	----	----	<3
C15 - C28 Fraction	----	3	mg/kg		----	----	----	----	**3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH49 0.0-0.5B	BH49 0.5-0.8B	BH49 0.3V	BH49 0.7V	BH50 0.0-0.5A
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-021	ES1504836-022	ES1504836-023	ES1504836-024	ES1504836-025
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	----	----	<5
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	----	----	3
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	<3	<3	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	<0.2	<0.2	----
Toluene	108-88-3	0.2	mg/kg		----	----	<0.2	<0.2	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	<0.2	<0.2	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	<0.2	<0.2	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	<0.2	<0.2	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	<0.5	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg		----	----	<0.2	<0.2	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	----	----	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	----	----	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	----	----	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	----	----	<10
Carbophenothion	786-19-6	10	µg/kg		----	----	----	----	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	----	----	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	----	----	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	----	----	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	----	----	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	----	----	<10
Diazinon	333-41-5	10	µg/kg		----	----	----	----	<10
Dichlorvos	62-73-7	10	µg/kg		----	----	----	----	<10
Dimethoate	60-51-5	10	µg/kg		----	----	----	----	<10
Ethion	563-12-2	10	µg/kg		----	----	----	----	<10
Fenamiphos	22224-92-6	10	µg/kg		----	----	----	----	<10
Fenthion	55-38-9	10	µg/kg		----	----	----	----	<10
Malathion	121-75-5	10	µg/kg		----	----	----	----	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	----	----	----	<10
Monocrotophos	6923-22-4	10	µg/kg		----	----	----	----	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH49 0.0-0.5B	BH49 0.5-0.8B	BH49 0.3V	BH49 0.7V	BH50 0.0-0.5A
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-021	ES1504836-022	ES1504836-023	ES1504836-024	ES1504836-025
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	----	----	<10
Parathion-methyl	298-00-0	10	µg/kg		----	----	----	----	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	----	----	<10
Prothiofos	34643-46-4	10	µg/kg		----	----	----	----	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	----	----	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	----	----	----	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	----	----	----	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	----	----	<0.50
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	----	----	----	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	----	----	----	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	----	----	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	----	----	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	----	----	<0.50
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	----	----	----	<0.50
Endrin	72-20-8	0.50	µg/kg		----	----	----	----	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	----	----	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	----	----	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	----	----	----	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	----	----	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	----	----	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	----	----	----	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	----	----	----	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	----	----	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	----	----	<0.25
^ Total Chlordane (sum)	----	0.25	µg/kg		----	----	----	----	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	----	----	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	----	----	<5.0

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID: BH49 0.0-0.5B	BH49 0.5-0.8B	BH49 0.3V	BH49 0.7V	BH50 0.0-0.5A
				Client sampling date / time: 26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
				ES1504836-021	ES1504836-022	ES1504836-023	ES1504836-024	ES1504836-025
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued								
Aroclor 1232	11141-16-5	5.0	µg/kg	----	----	----	----	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg	----	----	----	----	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg	----	----	----	----	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg	----	----	----	----	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg	----	----	----	----	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	5	µg/kg	----	----	----	----	<5
2-Methylnaphthalene	91-57-6	5	µg/kg	----	----	----	----	<5
Acenaphthylene	208-96-8	4	µg/kg	----	----	----	----	<4
Acenaphthene	83-32-9	4	µg/kg	----	----	----	----	<4
Fluorene	86-73-7	4	µg/kg	----	----	----	----	<4
Phenanthrene	85-01-8	4	µg/kg	----	----	----	----	<4
Anthracene	120-12-7	4	µg/kg	----	----	----	----	<4
Fluoranthene	206-44-0	4	µg/kg	----	----	----	----	<4
Pyrene	129-00-0	4	µg/kg	----	----	----	----	<4
Benz(a)anthracene	56-55-3	4	µg/kg	----	----	----	----	<4
Chrysene	218-01-9	4	µg/kg	----	----	----	----	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	----	----	----	----	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg	----	----	----	----	<4
Benzo(e)pyrene	192-97-2	4	µg/kg	----	----	----	----	<4
Benzo(a)pyrene	50-32-8	4	µg/kg	----	----	----	----	<4
Perylene	198-55-0	4	µg/kg	----	----	----	----	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg	----	----	----	----	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg	----	----	----	----	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	----	----	----	----	<4
Coronene	191-07-1	5	µg/kg	----	----	----	----	<5
^ **Sum of PAHs**	----	4	µg/kg	----	----	----	----	<4
EP080-SD: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	----	**80.1**	**83.6**	----
Toluene-D8	2037-26-5	0.1	%	----	----	**86.8**	**89.8**	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	----	**84.8**	**85.4**	----
EP090S: Organotin Surrogate								
Tripropyltin	----	0.1	%	----	----	----	----	**74.1**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH49 0.0-0.5B	BH49 0.5-0.8B	BH49 0.3V	BH49 0.7V	BH50 0.0-0.5A
			Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504836-021	ES1504836-022	ES1504836-023	ES1504836-024	ES1504836-025
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	----	----	65.8
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	----	----	88.0
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	----	88.4
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	----	83.2
Anthracene-d10	1719-06-8	0.1	%	----	----	----	----	90.1
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	----	93.8

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH50 0.5-0.9A	BH50 0.0-0.5B	BH50 0.5-0.9B	BH50 0.3V	BH50 0.7V
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-026	ES1504836-027	ES1504836-028	ES1504836-029	ES1504836-030
EA150: Particle Sizing									
+75µm	----	1	%		----	**28**	**43**	----	----
+150µm	----	1	%		----	**12**	**16**	----	----
+300µm	----	1	%		----	**3**	**9**	----	----
+425µm	----	1	%		----	<1	**8**	----	----
+600µm	----	1	%		----	<1	**8**	----	----
+1180µm	----	1	%		----	<1	**8**	----	----
+2.36mm	----	1	%		----	<1	**8**	----	----
+4.75mm	----	1	%		----	<1	**8**	----	----
+9.5mm	----	1	%		----	<1	**8**	----	----
+19.0mm	----	1	%		----	<1	**8**	----	----
+37.5mm	----	1	%		----	<1	<1	----	----
+75.0mm	----	1	%		----	<1	<1	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**19.4**	----	----	**18.6**	**20.0**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	**30**	**20**	----	----
Silt (2-60 µm)	----	1	%		----	**34**	**30**	----	----
Sand (0.06-2.00 mm)	----	1	%		----	**36**	**42**	----	----
Gravel (>2mm)	----	1	%		----	<1	**8**	----	----
Cobbles (>6cm)	----	1	%		----	<1	<1	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	**2.69**	**2.68**	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**16200**	----	----	----	----
Iron	7439-89-6	50	mg/kg		**32000**	----	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	----	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		**6.88**	----	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	----	----	----	----
Chromium	7440-47-3	1.0	mg/kg		**26.8**	----	----	----	----
Copper	7440-50-8	1.0	mg/kg		**33.5**	----	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		**16.5**	----	----	----	----
Lead	7439-92-1	1.0	mg/kg		**9.7**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH50 0.5-0.9A	BH50 0.0-0.5B	BH50 0.5-0.9B	BH50 0.3V	BH50 0.7V
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-026	ES1504836-027	ES1504836-028	ES1504836-029	ES1504836-030
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		**222**	----	----	----	----
Nickel	7440-02-0	1.0	mg/kg		**17.5**	----	----	----	----
Selenium	7782-49-2	0.1	mg/kg		**0.8**	----	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.1	----	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		**68.7**	----	----	----	----
Zinc	7440-66-6	1.0	mg/kg		**51.2**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		**150**	----	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		**150**	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		**416**	----	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		**4.3**	----	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		**1.26**	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	----	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		<3	----	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	----	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	<3	<3
C10 - C14 Fraction	----	3	mg/kg		<3	----	----	----	----
C15 - C28 Fraction	----	3	mg/kg		<3	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH50 0.5-0.9A	BH50 0.0-0.5B	BH50 0.5-0.9B	BH50 0.3V	BH50 0.7V
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-026	ES1504836-027	ES1504836-028	ES1504836-029	ES1504836-030
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	----	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		<3	----	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	<3	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	<0.2	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	<0.2	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	<0.2	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	<0.2	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	----	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	<0.2	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	----	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	----	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	----	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	----	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	----	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	----	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	----	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	----	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	----	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	----	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	----	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	----	----	----	----
Ethion	563-12-2	10	µg/kg		<10	----	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	----	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	----	----	----	----
Malathion	121-75-5	10	µg/kg		<10	----	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	----	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH50 0.5-0.9A	BH50 0.0-0.5B	BH50 0.5-0.9B	BH50 0.3V	BH50 0.7V
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504836-026	ES1504836-027	ES1504836-028	ES1504836-029	ES1504836-030
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	----	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	----	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	----	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	----	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	----	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	----	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	----	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	----	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	----	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	----	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	----	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	----	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	----	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	----	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	----	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	----	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	----	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	----	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	----	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	----	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	----	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	----	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	----	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	----	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	----	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH50 0.5-0.9A	BH50 0.0-0.5B	BH50 0.5-0.9B	BH50 0.3V	BH50 0.7V
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-026	ES1504836-027	ES1504836-028	ES1504836-029	ES1504836-030
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	----	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	----	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	----	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	----	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	----	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	----	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	----	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	----	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	----	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	----	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	----	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	----	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	----	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	----	----	----	----
Perylene	198-55-0	4	µg/kg		<4	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	----	----	----	----
Coronene	191-07-1	5	µg/kg		<5	----	----	----	----
^ **Sum of PAHs**	----	4	µg/kg		<4	----	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	**91.5**	**88.3**
Toluene-D8	2037-26-5	0.1	%		----	----	----	**93.3**	**94.1**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	**91.4**	**93.0**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**89.2**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH50 0.5-0.9A	BH50 0.0-0.5B	BH50 0.5-0.9B	BH50 0.3V	BH50 0.7V
			Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504836-026	ES1504836-027	ES1504836-028	ES1504836-029	ES1504836-030
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**68.9**	----	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**65.2**	----	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**84.4**	----	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**108**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**100**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	**122**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH51 0.0-0.5A	BH51 0.5-0.9A	BH51 0.0-0.5B	BH51 0.5-0.9B	BH51 0.3V
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504836-031	ES1504836-032	ES1504836-033	ES1504836-034	ES1504836-035
EA150: Particle Sizing									
+75µm	----	1	%		----	----	45	13	----
+150µm	----	1	%		----	----	27	2	----
+300µm	----	1	%		----	----	12	<1	----
+425µm	----	1	%		----	----	9	<1	----
+600µm	----	1	%		----	----	8	<1	----
+1180µm	----	1	%		----	----	6	<1	----
+2.36mm	----	1	%		----	----	5	<1	----
+4.75mm	----	1	%		----	----	<1	<1	----
+9.5mm	----	1	%		----	----	<1	<1	----
+19.0mm	----	1	%		----	----	<1	<1	----
+37.5mm	----	1	%		----	----	<1	<1	----
+75.0mm	----	1	%		----	----	<1	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		19.0	21.8	----	----	19.3
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	24	30	----
Silt (2-60 µm)	----	1	%		----	----	26	49	----
Sand (0.06-2.00 mm)	----	1	%		----	----	45	21	----
Gravel (>2mm)	----	1	%		----	----	5	<1	----
Cobbles (>6cm)	----	1	%		----	----	<1	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	2.66	2.71	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		13100	16100	----	----	----
Iron	7439-89-6	50	mg/kg		23200	31900	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		9.06	8.70	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	----	----	----
Chromium	7440-47-3	1.0	mg/kg		20.5	22.3	----	----	----
Copper	7440-50-8	1.0	mg/kg		24.8	28.3	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		17.7	12.3	----	----	----
Lead	7439-92-1	1.0	mg/kg		7.5	8.8	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH51 0.0-0.5A	BH51 0.5-0.9A	BH51 0.0-0.5B	BH51 0.5-0.9B	BH51 0.3V
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504836-031	ES1504836-032	ES1504836-033	ES1504836-034	ES1504836-035
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		246	179	----	----	----
Nickel	7440-02-0	1.0	mg/kg		15.8	16.4	----	----	----
Selenium	7782-49-2	0.1	mg/kg		0.6	0.8	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.1	<0.1	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		59.3	56.9	----	----	----
Zinc	7440-66-6	1.0	mg/kg		39.0	47.8	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		0.01	0.01	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		170	170	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		170	170	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		283	349	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		4.6	4.0	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		0.12	0.10	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	<3	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		<3	6	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	<5	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	6	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		<3	<3	----	----	----
C15 - C28 Fraction	----	3	mg/kg		<3	3	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH51 0.0-0.5A	BH51 0.5-0.9A	BH51 0.0-0.5B	BH51 0.5-0.9B	BH51 0.3V
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-031	ES1504836-032	ES1504836-033	ES1504836-034	ES1504836-035
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	<5	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		<3	3	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	----	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	<1	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	<1	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	<0.5	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	<10	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	<10	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	<10.0	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	<10	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	<10	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	<10	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	<10	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	<10	----	----	----
Ethion	563-12-2	10	µg/kg		<10	<10	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	<10	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	<10	----	----	----
Malathion	121-75-5	10	µg/kg		<10	<10	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	<10	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	<10	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH51 0.0-0.5A	BH51 0.5-0.9A	BH51 0.0-0.5B	BH51 0.5-0.9B	BH51 0.3V
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504836-031	ES1504836-032	ES1504836-033	ES1504836-034	ES1504836-035
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	<10	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	<10	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	<10	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	<10	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	<0.50	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	<0.50	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	<0.50	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	<0.50	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	<0.50	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	<0.25	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	<0.50	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	<0.25	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	<0.25	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	<0.25	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	<0.50	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	<5.0	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH51 0.0-0.5A	BH51 0.5-0.9A	BH51 0.0-0.5B	BH51 0.5-0.9B	BH51 0.3V
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-031	ES1504836-032	ES1504836-033	ES1504836-034	ES1504836-035
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	<5.0	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	<5	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	<5	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	<4	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	<4	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	<4	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	<4	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	<4	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	<4	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	<4	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	<4	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	<4	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	<4	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	<4	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	<4	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	<4	----	----	----
Perylene	198-55-0	4	µg/kg		<4	<4	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	<4	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	<4	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	<4	----	----	----
Coronene	191-07-1	5	µg/kg		<5	<5	----	----	----
^ **Sum of PAHs**	----	4	µg/kg		<4	<4	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	----	**86.9**
Toluene-D8	2037-26-5	0.1	%		----	----	----	----	**91.2**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	----	**94.8**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**93.3**	**36.4**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH51 0.0-0.5A	BH51 0.5-0.9A	BH51 0.0-0.5B	BH51 0.5-0.9B	BH51 0.3V
			Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504836-031	ES1504836-032	ES1504836-033	ES1504836-034	ES1504836-035
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	66.0	67.2	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	82.2	72.1	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	65.9	73.4	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	111	87.3	----	----	----
Anthracene-d10	1719-06-8	0.1	%	100	84.4	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	116	98.1	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH51 0.7V	BH52 0.0-0.5A	BH52 0.5-0.8A	BH52 0.0-0.5B	BH52 0.5-0.8B
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504836-036	ES1504836-037	ES1504836-038	ES1504836-039	ES1504836-040
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	83	70
+150µm	----	1	%		----	----	----	68	62
+300µm	----	1	%		----	----	----	25	42
+425µm	----	1	%		----	----	----	10	9
+600µm	----	1	%		----	----	----	6	3
+1180µm	----	1	%		----	----	----	4	<1
+2.36mm	----	1	%		----	----	----	3	<1
+4.75mm	----	1	%		----	----	----	2	<1
+9.5mm	----	1	%		----	----	----	<1	<1
+19.0mm	----	1	%		----	----	----	<1	<1
+37.5mm	----	1	%		----	----	----	<1	<1
+75.0mm	----	1	%		----	----	----	<1	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		22.1	22.3	21.4	----	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	11	17
Silt (2-60 µm)	----	1	%		----	----	----	6	10
Sand (0.06-2.00 mm)	----	1	%		----	----	----	79	73
Gravel (>2mm)	----	1	%		----	----	----	4	<1
Cobbles (>6cm)	----	1	%		----	----	----	<1	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	2.67	2.66
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	6630	10600	----	----
Iron	7439-89-6	50	mg/kg		----	15000	19100	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	<0.50	<0.50	----	----
Arsenic	7440-38-2	1.00	mg/kg		----	12.4	4.56	----	----
Cadmium	7440-43-9	0.1	mg/kg		----	<0.1	<0.1	----	----
Chromium	7440-47-3	1.0	mg/kg		----	12.6	18.3	----	----
Copper	7440-50-8	1.0	mg/kg		----	8.1	15.7	----	----
Cobalt	7440-48-4	0.5	mg/kg		----	7.0	10.0	----	----
Lead	7439-92-1	1.0	mg/kg		----	3.8	5.7	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH51 0.7V	BH52 0.0-0.5A	BH52 0.5-0.8A	BH52 0.0-0.5B	BH52 0.5-0.8B
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-036	ES1504836-037	ES1504836-038	ES1504836-039	ES1504836-040
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	**425**	**132**	----	----
Nickel	7440-02-0	1.0	mg/kg		----	**7.0**	**11.5**	----	----
Selenium	7782-49-2	0.1	mg/kg		----	**0.4**	**0.5**	----	----
Silver	7440-22-4	0.1	mg/kg		----	<0.1	<0.1	----	----
Vanadium	7440-62-2	2.0	mg/kg		----	**37.2**	**51.9**	----	----
Zinc	7440-66-6	1.0	mg/kg		----	**19.2**	**31.0**	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	<0.01	<0.01	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	**130**	**90**	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	**130**	**90**	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	**237**	**175**	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	**3.9**	**3.9**	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	**0.10**	**0.07**	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	<3	<3	----	----
>C16 - C34 Fraction	----	3	mg/kg		----	<3	<3	----	----
>C34 - C40 Fraction	----	5	mg/kg		----	<5	<5	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	<3	<3	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	----	----	----	----
C10 - C14 Fraction	----	3	mg/kg		----	<3	<3	----	----
C15 - C28 Fraction	----	3	mg/kg		----	<3	<3	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH51 0.7V	BH52 0.0-0.5A	BH52 0.5-0.8A	BH52 0.0-0.5B	BH52 0.5-0.8B
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-036	ES1504836-037	ES1504836-038	ES1504836-039	ES1504836-040
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	<5	<5	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	<3	<3	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	----	----	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	----
Toluene	108-88-3	0.2	mg/kg		<0.2	----	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	----	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	----	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	----	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	<1	<1	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	<1	<1	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	<0.5	<0.5	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	<10	<10	----	----
Carbophenothion	786-19-6	10	µg/kg		----	<10	<10	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	<10.0	<10.0	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	<10	<10	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	<10	<10	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	<10	<10	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	<10	<10	----	----
Diazinon	333-41-5	10	µg/kg		----	<10	<10	----	----
Dichlorvos	62-73-7	10	µg/kg		----	<10	<10	----	----
Dimethoate	60-51-5	10	µg/kg		----	<10	<10	----	----
Ethion	563-12-2	10	µg/kg		----	<10	<10	----	----
Fenamiphos	22224-92-6	10	µg/kg		----	<10	<10	----	----
Fenthion	55-38-9	10	µg/kg		----	<10	<10	----	----
Malathion	121-75-5	10	µg/kg		----	<10	<10	----	----
Azinphos Methyl	86-50-0	10	µg/kg		----	<10	<10	----	----
Monocrotophos	6923-22-4	10	µg/kg		----	<10	<10	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH51 0.7V	BH52 0.0-0.5A	BH52 0.5-0.8A	BH52 0.0-0.5B	BH52 0.5-0.8B
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-036	ES1504836-037	ES1504836-038	ES1504836-039	ES1504836-040
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	<10	<10	----	----
Parathion-methyl	298-00-0	10	µg/kg		----	<10	<10	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	<10	<10	----	----
Prothiofos	34643-46-4	10	µg/kg		----	<10	<10	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg		----	<0.50	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	<0.50	<0.50	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	<0.50	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	<0.50	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	<0.50	<0.50	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	<0.50	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	<0.50	<0.50	----	----
gamma-BHC	58-89-9	0.25	µg/kg		----	<0.25	<0.25	----	----
Methoxychlor	72-43-5	0.50	µg/kg		----	<0.50	<0.50	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	<0.25	<0.25	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	<0.25	<0.25	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		----	<0.25	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	<0.50	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	<5.0	<5.0	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH51 0.7V	BH52 0.0-0.5A	BH52 0.5-0.8A	BH52 0.0-0.5B	BH52 0.5-0.8B
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-036	ES1504836-037	ES1504836-038	ES1504836-039	ES1504836-040
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	<5.0	<5.0	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	<5	<5	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	<5	<5	----	----
Acenaphthylene	208-96-8	4	µg/kg		----	<4	<4	----	----
Acenaphthene	83-32-9	4	µg/kg		----	<4	<4	----	----
Fluorene	86-73-7	4	µg/kg		----	<4	<4	----	----
Phenanthrene	85-01-8	4	µg/kg		----	<4	<4	----	----
Anthracene	120-12-7	4	µg/kg		----	<4	<4	----	----
Fluoranthene	206-44-0	4	µg/kg		----	<4	<4	----	----
Pyrene	129-00-0	4	µg/kg		----	<4	<4	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	<4	<4	----	----
Chrysene	218-01-9	4	µg/kg		----	<4	<4	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	<4	<4	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	<4	<4	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	<4	<4	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	<4	<4	----	----
Perylene	198-55-0	4	µg/kg		----	<4	<4	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	<4	<4	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	<4	<4	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	<4	<4	----	----
Coronene	191-07-1	5	µg/kg		----	<5	<5	----	----
^ **Sum of PAHs**	----	4	µg/kg		----	<4	<4	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**76.1**	----	----	----	----
Toluene-D8	2037-26-5	0.1	%		**98.3**	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**102**	----	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	**97.2**	**92.7**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH51 0.7V	BH52 0.0-0.5A	BH52 0.5-0.8A	BH52 0.0-0.5B	BH52 0.5-0.8B
			Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504836-036	ES1504836-037	ES1504836-038	ES1504836-039	ES1504836-040
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	67.1	66.4	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	63.5	69.5	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	70.3	85.3	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	80.1	85.2	----	----
Anthracene-d10	1719-06-8	0.1	%	----	77.8	85.3	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	85.8	103	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH52 0.3V	BH52 0.7V	BH53 0.0-0.5A	BH53 0.5-1.0A	BH53 0.0-0.5B
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-041	ES1504836-042	ES1504836-043	ES1504836-044	ES1504836-045
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	----	**70**
+150µm	----	1	%		----	----	----	----	**50**
+300µm	----	1	%		----	----	----	----	**17**
+425µm	----	1	%		----	----	----	----	**10**
+600µm	----	1	%		----	----	----	----	**7**
+1180µm	----	1	%		----	----	----	----	**6**
+2.36mm	----	1	%		----	----	----	----	**4**
+4.75mm	----	1	%		----	----	----	----	<1
+9.5mm	----	1	%		----	----	----	----	<1
+19.0mm	----	1	%		----	----	----	----	<1
+37.5mm	----	1	%		----	----	----	----	<1
+75.0mm	----	1	%		----	----	----	----	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**18.4**	**17.9**	**27.0**	**21.5**	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	----	**19**
Silt (2-60 µm)	----	1	%		----	----	----	----	**11**
Sand (0.06-2.00 mm)	----	1	%		----	----	----	----	**66**
Gravel (>2mm)	----	1	%		----	----	----	----	**4**
Cobbles (>6cm)	----	1	%		----	----	----	----	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	----	**2.68**
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	**13200**	**18200**	----
Iron	7439-89-6	50	mg/kg		----	----	**22800**	**34500**	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	<0.50	<0.50	----
Arsenic	7440-38-2	1.00	mg/kg		----	----	**15.6**	**8.58**	----
Cadmium	7440-43-9	0.1	mg/kg		----	----	<0.1	<0.1	----
Chromium	7440-47-3	1.0	mg/kg		----	----	**25.0**	**26.0**	----
Copper	7440-50-8	1.0	mg/kg		----	----	**20.0**	**29.2**	----
Cobalt	7440-48-4	0.5	mg/kg		----	----	**12.6**	**17.5**	----
Lead	7439-92-1	1.0	mg/kg		----	----	**6.4**	**10.5**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH52 0.3V	BH52 0.7V	BH53 0.0-0.5A	BH53 0.5-1.0A	BH53 0.0-0.5B
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-041	ES1504836-042	ES1504836-043	ES1504836-044	ES1504836-045
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	**497**	**175**	----
Nickel	7440-02-0	1.0	mg/kg		----	----	**13.6**	**18.4**	----
Selenium	7782-49-2	0.1	mg/kg		----	----	**0.5**	**0.8**	----
Silver	7440-22-4	0.1	mg/kg		----	----	<0.1	<0.1	----
Vanadium	7440-62-2	2.0	mg/kg		----	----	**64.8**	**66.8**	----
Zinc	7440-66-6	1.0	mg/kg		----	----	**33.6**	**51.2**	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	**0.01**	<0.01	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	<0.1	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	<0.1	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	<0.1	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	**210**	**140**	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	**210**	**140**	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	**243**	**283**	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	**4.0**	**4.4**	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	**0.33**	**0.15**	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	<3	<3	----
>C16 - C34 Fraction	----	3	mg/kg		----	----	**8**	<3	----
>C34 - C40 Fraction	----	5	mg/kg		----	----	<5	<5	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	**8**	<3	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	<3	----	----	----
C10 - C14 Fraction	----	3	mg/kg		----	----	<3	<3	----
C15 - C28 Fraction	----	3	mg/kg		----	----	**4**	<3	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH52 0.3V	BH52 0.7V	BH53 0.0-0.5A	BH53 0.5-1.0A	BH53 0.0-0.5B
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-041	ES1504836-042	ES1504836-043	ES1504836-044	ES1504836-045
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	<5	<5	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	4	<3	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	<3	----	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	----	----
Toluene	108-88-3	0.2	mg/kg		<0.2	<0.2	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	<0.2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	<0.2	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	<0.2	----	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	<1	<1	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	<1	<1	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	<0.5	<0.5	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	<10	<10	----
Carbophenothion	786-19-6	10	µg/kg		----	----	<10	<10	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	<10.0	<10.0	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	<10	<10	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	<10	<10	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	<10	<10	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	<10	<10	----
Diazinon	333-41-5	10	µg/kg		----	----	<10	<10	----
Dichlorvos	62-73-7	10	µg/kg		----	----	<10	<10	----
Dimethoate	60-51-5	10	µg/kg		----	----	<10	<10	----
Ethion	563-12-2	10	µg/kg		----	----	<10	<10	----
Fenamiphos	22224-92-6	10	µg/kg		----	----	<10	<10	----
Fenthion	55-38-9	10	µg/kg		----	----	<10	<10	----
Malathion	121-75-5	10	µg/kg		----	----	<10	<10	----
Azinphos Methyl	86-50-0	10	µg/kg		----	----	<10	<10	----
Monocrotophos	6923-22-4	10	µg/kg		----	----	<10	<10	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH52 0.3V	BH52 0.7V	BH53 0.0-0.5A	BH53 0.5-1.0A	BH53 0.0-0.5B
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-041	ES1504836-042	ES1504836-043	ES1504836-044	ES1504836-045
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	<10	<10	----
Parathion-methyl	298-00-0	10	µg/kg		----	----	<10	<10	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	<10	<10	----
Prothiofos	34643-46-4	10	µg/kg		----	----	<10	<10	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	<0.50	<0.50	----
alpha-BHC	319-84-6	0.50	µg/kg		----	----	<0.50	<0.50	----
beta-BHC	319-85-7	0.50	µg/kg		----	----	<0.50	<0.50	----
delta-BHC	319-86-8	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	<0.50	<0.50	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	<0.50	**0.61**	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	----	<0.50	**0.61**	----
Dieldrin	60-57-1	0.50	µg/kg		----	----	<0.50	<0.50	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	<0.50	<0.50	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	<0.50	<0.50	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	<0.50	<0.50	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin	72-20-8	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	<0.50	<0.50	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	<0.50	<0.50	----
Heptachlor	76-44-8	0.50	µg/kg		----	----	<0.50	<0.50	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	<0.50	<0.50	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	<0.50	<0.50	----
gamma-BHC	58-89-9	0.25	µg/kg		----	----	<0.25	**0.39**	----
Methoxychlor	72-43-5	0.50	µg/kg		----	----	<0.50	<0.50	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	<0.25	<0.25	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	<0.25	<0.25	----
^ Total Chlordane (sum)	----	0.25	µg/kg		----	----	<0.25	<0.25	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	<0.50	<0.50	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	<5.0	<5.0	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH52 0.3V	BH52 0.7V	BH53 0.0-0.5A	BH53 0.5-1.0A	BH53 0.0-0.5B
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-041	ES1504836-042	ES1504836-043	ES1504836-044	ES1504836-045
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	<5.0	<5.0	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	<5.0	<5.0	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	<5	<5	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	<5	<5	----
Acenaphthylene	208-96-8	4	µg/kg		----	----	<4	<4	----
Acenaphthene	83-32-9	4	µg/kg		----	----	<4	<4	----
Fluorene	86-73-7	4	µg/kg		----	----	<4	<4	----
Phenanthrene	85-01-8	4	µg/kg		----	----	<4	<4	----
Anthracene	120-12-7	4	µg/kg		----	----	<4	<4	----
Fluoranthene	206-44-0	4	µg/kg		----	----	<4	<4	----
Pyrene	129-00-0	4	µg/kg		----	----	<4	<4	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	<4	<4	----
Chrysene	218-01-9	4	µg/kg		----	----	<4	<4	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	<4	<4	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	<4	<4	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	<4	<4	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	<4	<4	----
Perylene	198-55-0	4	µg/kg		----	----	<4	<4	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	<4	<4	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	<4	<4	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	<4	<4	----
Coronene	191-07-1	5	µg/kg		----	----	<5	<5	----
^ **Sum of PAHs**	----	4	µg/kg		----	----	<4	<4	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**73.3**	**75.1**	----	----	----
Toluene-D8	2037-26-5	0.1	%		**92.7**	**94.2**	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**97.4**	**96.4**	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	**48.8**	**85.0**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH52 0.3V	BH52 0.7V	BH53 0.0-0.5A	BH53 0.5-1.0A	BH53 0.0-0.5B
			Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504836-041	ES1504836-042	ES1504836-043	ES1504836-044	ES1504836-045
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	68.0	73.9	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	66.1	81.1	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	62.6	79.1	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	88.7	103	----
Anthracene-d10	1719-06-8	0.1	%	----	----	91.4	87.6	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	108	99.8	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH53 0.5-1.0B	BH53 0.3V	BH53 0.7V	BH54 0.0-0.5A	BH54 0.5-1.0A
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504836-046	ES1504836-047	ES1504836-048	ES1504836-049	ES1504836-050
EA150: Particle Sizing									
+75µm	----	1	%		22	----	----	----	----
+150µm	----	1	%		19	----	----	----	----
+300µm	----	1	%		9	----	----	----	----
+425µm	----	1	%		4	----	----	----	----
+600µm	----	1	%		2	----	----	----	----
+1180µm	----	1	%		1	----	----	----	----
+2.36mm	----	1	%		<1	----	----	----	----
+4.75mm	----	1	%		<1	----	----	----	----
+9.5mm	----	1	%		<1	----	----	----	----
+19.0mm	----	1	%		<1	----	----	----	----
+37.5mm	----	1	%		<1	----	----	----	----
+75.0mm	----	1	%		<1	----	----	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	22.8	22.6	26.4	24.0
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		35	----	----	----	----
Silt (2-60 µm)	----	1	%		44	----	----	----	----
Sand (0.06-2.00 mm)	----	1	%		20	----	----	----	----
Gravel (>2mm)	----	1	%		1	----	----	----	----
Cobbles (>6cm)	----	1	%		<1	----	----	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		2.69	----	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	----	10300	14600
Iron	7439-89-6	50	mg/kg		----	----	----	21900	30400
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	----	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	----	----	8.91	9.35
Cadmium	7440-43-9	0.1	mg/kg		----	----	----	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	----	----	19.9	24.2
Copper	7440-50-8	1.0	mg/kg		----	----	----	16.9	30.0
Cobalt	7440-48-4	0.5	mg/kg		----	----	----	10.8	12.1
Lead	7439-92-1	1.0	mg/kg		----	----	----	6.6	9.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH53 0.5-1.0B	BH53 0.3V	BH53 0.7V	BH54 0.0-0.5A	BH54 0.5-1.0A
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-046	ES1504836-047	ES1504836-048	ES1504836-049	ES1504836-050
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	----	772	166
Nickel	7440-02-0	1.0	mg/kg		----	----	----	11.7	16.5
Selenium	7782-49-2	0.1	mg/kg		----	----	----	0.5	0.7
Silver	7440-22-4	0.1	mg/kg		----	----	----	<0.1	<0.1
Vanadium	7440-62-2	2.0	mg/kg		----	----	----	49.1	65.3
Zinc	7440-66-6	1.0	mg/kg		----	----	----	33.4	49.3
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	----	<0.01	0.01
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	----	<0.1	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	<0.1	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	<0.1	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	----	130	130
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	----	130	130
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	----	270	300
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	----	4.0	4.5
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	----	0.11	0.06
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	----	<3	<3
>C16 - C34 Fraction	----	3	mg/kg		----	----	----	<3	6
>C34 - C40 Fraction	----	5	mg/kg		----	----	----	<5	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	----	<3	6
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	<3	<3	----	----
C10 - C14 Fraction	----	3	mg/kg		----	----	----	<3	<3
C15 - C28 Fraction	----	3	mg/kg		----	----	----	<3	3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH53 0.5-1.0B	BH53 0.3V	BH53 0.7V	BH54 0.0-0.5A	BH54 0.5-1.0A
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-046	ES1504836-047	ES1504836-048	ES1504836-049	ES1504836-050
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	----	<5	<5
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	----	<3	3
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	<3	<3	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	<0.2	<0.2	----	----
Toluene	108-88-3	0.2	mg/kg		----	<0.2	<0.2	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	<0.2	<0.2	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	<0.2	<0.2	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	<0.2	<0.2	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	<0.5	<0.5	----	----
^ Sum of BTEX	----	0.2	mg/kg		----	<0.2	<0.2	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	----	<1	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	----	<1	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	----	<0.5	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	----	<10	<10
Carbophenothion	786-19-6	10	µg/kg		----	----	----	<10	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	----	<10.0	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	----	<10	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	----	<10	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	----	<10	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	----	<10	<10
Diazinon	333-41-5	10	µg/kg		----	----	----	<10	<10
Dichlorvos	62-73-7	10	µg/kg		----	----	----	<10	<10
Dimethoate	60-51-5	10	µg/kg		----	----	----	<10	<10
Ethion	563-12-2	10	µg/kg		----	----	----	<10	<10
Fenamiphos	22224-92-6	10	µg/kg		----	----	----	<10	<10
Fenthion	55-38-9	10	µg/kg		----	----	----	<10	<10
Malathion	121-75-5	10	µg/kg		----	----	----	<10	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	----	----	<10	<10
Monocrotophos	6923-22-4	10	µg/kg		----	----	----	<10	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH53 0.5-1.0B	BH53 0.3V	BH53 0.7V	BH54 0.0-0.5A	BH54 0.5-1.0A
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-046	ES1504836-047	ES1504836-048	ES1504836-049	ES1504836-050
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	----	<10	<10
Parathion-methyl	298-00-0	10	µg/kg		----	----	----	<10	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	----	<10	<10
Prothiofos	34643-46-4	10	µg/kg		----	----	----	<10	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	----	<0.50	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	----	----	<0.50	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	----	----	<0.50	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	----	----	<0.50	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	----	<0.50	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	----	<0.50	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	----	<0.50	<0.50
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	----	----	<0.50	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	----	----	<0.50	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	----	<0.50	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	----	<0.50	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	----	<0.50	<0.50
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	----	----	<0.50	<0.50
Endrin	72-20-8	0.50	µg/kg		----	----	----	<0.50	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	----	<0.50	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	----	<0.50	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	----	----	<0.50	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	----	<0.50	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	----	<0.50	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	----	----	<0.25	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	----	----	<0.50	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	----	<0.25	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	----	<0.25	<0.25
^ Total Chlordane (sum)	----	0.25	µg/kg		----	----	----	<0.25	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	----	<0.50	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	----	<5.0	<5.0

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH53 0.5-1.0B	BH53 0.3V	BH53 0.7V	BH54 0.0-0.5A	BH54 0.5-1.0A
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-046	ES1504836-047	ES1504836-048	ES1504836-049	ES1504836-050
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	----	<5.0	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	----	<5	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	----	<5	<5
Acenaphthylene	208-96-8	4	µg/kg		----	----	----	<4	<4
Acenaphthene	83-32-9	4	µg/kg		----	----	----	<4	<4
Fluorene	86-73-7	4	µg/kg		----	----	----	<4	<4
Phenanthrene	85-01-8	4	µg/kg		----	----	----	<4	<4
Anthracene	120-12-7	4	µg/kg		----	----	----	<4	<4
Fluoranthene	206-44-0	4	µg/kg		----	----	----	<4	<4
Pyrene	129-00-0	4	µg/kg		----	----	----	<4	<4
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	----	<4	<4
Chrysene	218-01-9	4	µg/kg		----	----	----	<4	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	----	<4	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	----	<4	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	----	<4	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	----	<4	<4
Perylene	198-55-0	4	µg/kg		----	----	----	<4	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	----	<4	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	----	<4	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	----	<4	<4
Coronene	191-07-1	5	µg/kg		----	----	----	<5	<5
^ **Sum of PAHs**	----	4	µg/kg		----	----	----	<4	<4
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	**80.7**	**88.1**	----	----
Toluene-D8	2037-26-5	0.1	%		----	**107**	**83.4**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	**110**	**89.5**	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	----	**94.6**	**101**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH53 0.5-1.0B	BH53 0.3V	BH53 0.7V	BH54 0.0-0.5A	BH54 0.5-1.0A
			Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504836-046	ES1504836-047	ES1504836-048	ES1504836-049	ES1504836-050
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	----	68.9	71.6
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	----	69.8	72.4
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	75.2	78.1
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	78.8	82.2
Anthracene-d10	1719-06-8	0.1	%	----	----	----	76.2	90.1
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	97.6	113

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH54 0.0-0.5B	BH54 0.5-1.0B	BH54 0.3V	BH54 0.7V	BH55 0.0-0.5A
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-051	ES1504836-052	ES1504836-053	ES1504836-054	ES1504836-055
EA150: Particle Sizing									
+75µm	----	1	%		**55**	**8**	----	----	----
+150µm	----	1	%		**24**	<1	----	----	----
+300µm	----	1	%		**10**	<1	----	----	----
+425µm	----	1	%		**8**	<1	----	----	----
+600µm	----	1	%		**7**	<1	----	----	----
+1180µm	----	1	%		**5**	<1	----	----	----
+2.36mm	----	1	%		**2**	<1	----	----	----
+4.75mm	----	1	%		**1**	<1	----	----	----
+9.5mm	----	1	%		<1	<1	----	----	----
+19.0mm	----	1	%		<1	<1	----	----	----
+37.5mm	----	1	%		<1	<1	----	----	----
+75.0mm	----	1	%		<1	<1	----	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	----	**22.0**	**23.6**	**19.9**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		**18**	**27**	----	----	----
Silt (2-60 µm)	----	1	%		**23**	**53**	----	----	----
Sand (0.06-2.00 mm)	----	1	%		**56**	**20**	----	----	----
Gravel (>2mm)	----	1	%		**3**	<1	----	----	----
Cobbles (>6cm)	----	1	%		<1	<1	----	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		**2.70**	**2.68**	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	----	----	**6550**
Iron	7439-89-6	50	mg/kg		----	----	----	----	**14900**
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	----	----	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	----	----	----	**15.2**
Cadmium	7440-43-9	0.1	mg/kg		----	----	----	----	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	----	----	----	**13.5**
Copper	7440-50-8	1.0	mg/kg		----	----	----	----	**6.5**
Cobalt	7440-48-4	0.5	mg/kg		----	----	----	----	**7.9**
Lead	7439-92-1	1.0	mg/kg		----	----	----	----	**3.8**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH54 0.0-0.5B	BH54 0.5-1.0B	BH54 0.3V	BH54 0.7V	BH55 0.0-0.5A
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504836-051	ES1504836-052	ES1504836-053	ES1504836-054	ES1504836-055
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	----	----	**790**
Nickel	7440-02-0	1.0	mg/kg		----	----	----	----	**6.9**
Selenium	7782-49-2	0.1	mg/kg		----	----	----	----	**0.4**
Silver	7440-22-4	0.1	mg/kg		----	----	----	----	<0.1
Vanadium	7440-62-2	2.0	mg/kg		----	----	----	----	**35.2**
Zinc	7440-66-6	1.0	mg/kg		----	----	----	----	**17.9**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	----	----	<0.01
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	----	----	**200**
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	----	----	**200**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	----	----	**236**
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	----	----	**3.4**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	----	----	**0.15**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	----	----	<3
>C16 - C34 Fraction	----	3	mg/kg		----	----	----	----	<3
>C34 - C40 Fraction	----	5	mg/kg		----	----	----	----	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	----	----	<3
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	<3	<3	----
C10 - C14 Fraction	----	3	mg/kg		----	----	----	----	<3
C15 - C28 Fraction	----	3	mg/kg		----	----	----	----	<3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH54 0.0-0.5B	BH54 0.5-1.0B	BH54 0.3V	BH54 0.7V	BH55 0.0-0.5A
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-051	ES1504836-052	ES1504836-053	ES1504836-054	ES1504836-055
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	----	----	<5
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	----	----	<3
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	<3	<3	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	<0.2	<0.2	----
Toluene	108-88-3	0.2	mg/kg		----	----	<0.2	<0.2	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	<0.2	<0.2	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	<0.2	<0.2	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	<0.2	<0.2	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	<0.5	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg		----	----	<0.2	<0.2	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	----	----	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	----	----	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	----	----	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	----	----	<10
Carbophenothion	786-19-6	10	µg/kg		----	----	----	----	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	----	----	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	----	----	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	----	----	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	----	----	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	----	----	<10
Diazinon	333-41-5	10	µg/kg		----	----	----	----	<10
Dichlorvos	62-73-7	10	µg/kg		----	----	----	----	<10
Dimethoate	60-51-5	10	µg/kg		----	----	----	----	<10
Ethion	563-12-2	10	µg/kg		----	----	----	----	<10
Fenamiphos	22224-92-6	10	µg/kg		----	----	----	----	<10
Fenthion	55-38-9	10	µg/kg		----	----	----	----	<10
Malathion	121-75-5	10	µg/kg		----	----	----	----	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	----	----	----	<10
Monocrotophos	6923-22-4	10	µg/kg		----	----	----	----	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH54 0.0-0.5B	BH54 0.5-1.0B	BH54 0.3V	BH54 0.7V	BH55 0.0-0.5A
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-051	ES1504836-052	ES1504836-053	ES1504836-054	ES1504836-055
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	----	----	<10
Parathion-methyl	298-00-0	10	µg/kg		----	----	----	----	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	----	----	<10
Prothiofos	34643-46-4	10	µg/kg		----	----	----	----	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	----	----	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	----	----	----	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	----	----	----	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	----	----	<0.50
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	----	----	----	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	----	----	----	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	----	----	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	----	----	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	----	----	<0.50
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	----	----	----	<0.50
Endrin	72-20-8	0.50	µg/kg		----	----	----	----	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	----	----	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	----	----	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	----	----	----	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	----	----	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	----	----	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	----	----	----	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	----	----	----	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	----	----	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	----	----	<0.25
^ Total Chlordane (sum)	----	0.25	µg/kg		----	----	----	----	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	----	----	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	----	----	<5.0

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH54 0.0-0.5B	BH54 0.5-1.0B	BH54 0.3V	BH54 0.7V	BH55 0.0-0.5A
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-051	ES1504836-052	ES1504836-053	ES1504836-054	ES1504836-055
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	----	----	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	----	----	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	----	----	<5
Acenaphthylene	208-96-8	4	µg/kg		----	----	----	----	<4
Acenaphthene	83-32-9	4	µg/kg		----	----	----	----	<4
Fluorene	86-73-7	4	µg/kg		----	----	----	----	<4
Phenanthrene	85-01-8	4	µg/kg		----	----	----	----	<4
Anthracene	120-12-7	4	µg/kg		----	----	----	----	<4
Fluoranthene	206-44-0	4	µg/kg		----	----	----	----	<4
Pyrene	129-00-0	4	µg/kg		----	----	----	----	<4
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	----	----	<4
Chrysene	218-01-9	4	µg/kg		----	----	----	----	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	----	----	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	----	----	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	----	----	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	----	----	<4
Perylene	198-55-0	4	µg/kg		----	----	----	----	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	----	----	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	----	----	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	----	----	<4
Coronene	191-07-1	5	µg/kg		----	----	----	----	<5
^ **Sum of PAHs**	----	4	µg/kg		----	----	----	----	<4
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	**86.3**	**74.0**	----
Toluene-D8	2037-26-5	0.1	%		----	----	**88.9**	**92.3**	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	**94.1**	**94.3**	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	----	----	**99.4**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH54 0.0-0.5B	BH54 0.5-1.0B	BH54 0.3V	BH54 0.7V	BH55 0.0-0.5A
			Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504836-051	ES1504836-052	ES1504836-053	ES1504836-054	ES1504836-055
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	----	----	72.1
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	----	----	91.0
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	----	91.2
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	----	84.2
Anthracene-d10	1719-06-8	0.1	%	----	----	----	----	84.7
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	----	91.1

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH55 0.5-0.9A	BH55 0.0-0.5B	BH55 0.5-0.9B	BH55 0.3V	BH55 0.7V
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-056	ES1504836-057	ES1504836-058	ES1504836-059	ES1504836-060
EA150: Particle Sizing									
+75µm	----	1	%		----	**82**	**22**	----	----
+150µm	----	1	%		----	**63**	**14**	----	----
+300µm	----	1	%		----	**22**	**6**	----	----
+425µm	----	1	%		----	**18**	**4**	----	----
+600µm	----	1	%		----	**17**	**3**	----	----
+1180µm	----	1	%		----	**12**	**2**	----	----
+2.36mm	----	1	%		----	**5**	**1**	----	----
+4.75mm	----	1	%		----	<1	<1	----	----
+9.5mm	----	1	%		----	<1	<1	----	----
+19.0mm	----	1	%		----	<1	<1	----	----
+37.5mm	----	1	%		----	<1	<1	----	----
+75.0mm	----	1	%		----	<1	<1	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**17.3**	----	----	**23.0**	**16.6**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	**12**	**34**	----	----
Silt (2-60 µm)	----	1	%		----	**6**	**42**	----	----
Sand (0.06-2.00 mm)	----	1	%		----	**75**	**22**	----	----
Gravel (>2mm)	----	1	%		----	**7**	**2**	----	----
Cobbles (>6cm)	----	1	%		----	<1	<1	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	**2.68**	**2.65**	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**12300**	----	----	----	----
Iron	7439-89-6	50	mg/kg		**22100**	----	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	----	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		**8.33**	----	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	----	----	----	----
Chromium	7440-47-3	1.0	mg/kg		**19.9**	----	----	----	----
Copper	7440-50-8	1.0	mg/kg		**14.3**	----	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		**10.0**	----	----	----	----
Lead	7439-92-1	1.0	mg/kg		**10.0**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH55 0.5-0.9A	BH55 0.0-0.5B	BH55 0.5-0.9B	BH55 0.3V	BH55 0.7V
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-056	ES1504836-057	ES1504836-058	ES1504836-059	ES1504836-060
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		**156**	----	----	----	----
Nickel	7440-02-0	1.0	mg/kg		**11.2**	----	----	----	----
Selenium	7782-49-2	0.1	mg/kg		**0.7**	----	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.1	----	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		**48.0**	----	----	----	----
Zinc	7440-66-6	1.0	mg/kg		**27.8**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		**160**	----	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		**160**	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		**280**	----	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		**4.3**	----	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		**0.19**	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	----	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		<3	----	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	----	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	<3	<3
C10 - C14 Fraction	----	3	mg/kg		<3	----	----	----	----
C15 - C28 Fraction	----	3	mg/kg		<3	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH55 0.5-0.9A	BH55 0.0-0.5B	BH55 0.5-0.9B	BH55 0.3V	BH55 0.7V
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-056	ES1504836-057	ES1504836-058	ES1504836-059	ES1504836-060
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	----	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		<3	----	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	<3	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	<0.2	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	<0.2	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	<0.2	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	<0.2	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	----	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	<0.2	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	----	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	----	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	----	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	----	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	----	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	----	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	----	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	----	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	----	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	----	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	----	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	----	----	----	----
Ethion	563-12-2	10	µg/kg		<10	----	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	----	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	----	----	----	----
Malathion	121-75-5	10	µg/kg		<10	----	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	----	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID: BH55 0.5-0.9A	BH55 0.0-0.5B	BH55 0.5-0.9B	BH55 0.3V	BH55 0.7V
				Client sampling date / time: 26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
				ES1504836-056	ES1504836-057	ES1504836-058	ES1504836-059	ES1504836-060
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued								
Parathion	56-38-2	10	µg/kg	<10	----	----	----	----
Parathion-methyl	298-00-0	10	µg/kg	<10	----	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	----	----	----	----
Prothiofos	34643-46-4	10	µg/kg	<10	----	----	----	----
EP131A: Organochlorine Pesticides								
Aldrin	309-00-2	0.50	µg/kg	<0.50	----	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg	<0.50	----	----	----	----
beta-BHC	319-85-7	0.50	µg/kg	<0.50	----	----	----	----
delta-BHC	319-86-8	0.50	µg/kg	<0.50	----	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	----	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	----	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	----	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	----	----	----	----
Dieldrin	60-57-1	0.50	µg/kg	<0.50	----	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	----	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	----	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	----	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	----	----	----	----
Endrin	72-20-8	0.50	µg/kg	<0.50	----	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	----	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	----	----	----	----
Heptachlor	76-44-8	0.50	µg/kg	<0.50	----	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	----	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg	<0.25	----	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg	<0.50	----	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	----	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	----	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg	<0.25	----	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg	<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)								
^ Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	----	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	----	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	----	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH55 0.5-0.9A	BH55 0.0-0.5B	BH55 0.5-0.9B	BH55 0.3V	BH55 0.7V
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-056	ES1504836-057	ES1504836-058	ES1504836-059	ES1504836-060
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	----	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	----	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	----	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	----	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	----	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	----	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	----	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	----	----	----	----
Pyrene	129-00-0	4	µg/kg		**5**	----	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	----	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	----	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	----	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	----	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	----	----	----	----
Perylene	198-55-0	4	µg/kg		<4	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	----	----	----	----
Coronene	191-07-1	5	µg/kg		<5	----	----	----	----
^ **Sum of PAHs**	----	4	µg/kg		**5**	----	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	**88.5**	**118**
Toluene-D8	2037-26-5	0.1	%		----	----	----	**87.0**	**100**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	**90.8**	**108**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**109**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH55 0.5-0.9A	BH55 0.0-0.5B	BH55 0.5-0.9B	BH55 0.3V	BH55 0.7V
			Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504836-056	ES1504836-057	ES1504836-058	ES1504836-059	ES1504836-060
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**69.8**	----	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**76.5**	----	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**70.0**	----	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**80.1**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**110**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	**113**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH56 0.0-0.5A	BH56 0.5-1.0A	BH56 0.0-0.5B	BH56 0.5-1.0A	BH56 0.3V
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504836-061	ES1504836-062	ES1504836-063	ES1504836-064	ES1504836-065
EA150: Particle Sizing									
+75µm	----	1	%		----	----	69	19	----
+150µm	----	1	%		----	----	33	11	----
+300µm	----	1	%		----	----	8	6	----
+425µm	----	1	%		----	----	4	4	----
+600µm	----	1	%		----	----	3	4	----
+1180µm	----	1	%		----	----	2	3	----
+2.36mm	----	1	%		----	----	1	2	----
+4.75mm	----	1	%		----	----	<1	<1	----
+9.5mm	----	1	%		----	----	<1	<1	----
+19.0mm	----	1	%		----	----	<1	<1	----
+37.5mm	----	1	%		----	----	<1	<1	----
+75.0mm	----	1	%		----	----	<1	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		27.0	25.8	----	----	24.8
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	18	31	----
Silt (2-60 µm)	----	1	%		----	----	9	44	----
Sand (0.06-2.00 mm)	----	1	%		----	----	72	23	----
Gravel (>2mm)	----	1	%		----	----	1	2	----
Cobbles (>6cm)	----	1	%		----	----	<1	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	2.65	2.69	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		6190	15600	----	----	----
Iron	7439-89-6	50	mg/kg		13300	28000	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		13.4	5.27	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	----	----	----
Chromium	7440-47-3	1.0	mg/kg		13.4	21.1	----	----	----
Copper	7440-50-8	1.0	mg/kg		6.8	33.9	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		7.8	17.1	----	----	----
Lead	7439-92-1	1.0	mg/kg		4.1	10.5	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH56 0.0-0.5A	BH56 0.5-1.0A	BH56 0.0-0.5B	BH56 0.5-1.0A	BH56 0.3V
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-061	ES1504836-062	ES1504836-063	ES1504836-064	ES1504836-065
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		378	215	----	----	----
Nickel	7440-02-0	1.0	mg/kg		6.6	15.8	----	----	----
Selenium	7782-49-2	0.1	mg/kg		0.5	0.8	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.1	0.5	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		32.3	60.6	----	----	----
Zinc	7440-66-6	1.0	mg/kg		19.4	48.5	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	0.01	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		330	160	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		330	160	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		193	245	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		5.5	1.0	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		0.43	0.13	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	<3	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		6	<3	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	<5	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		6	<3	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		<3	<3	----	----	----
C15 - C28 Fraction	----	3	mg/kg		3	<3	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH56 0.0-0.5A	BH56 0.5-1.0A	BH56 0.0-0.5B	BH56 0.5-1.0A	BH56 0.3V
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504836-061	ES1504836-062	ES1504836-063	ES1504836-064	ES1504836-065
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	<5	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		**3**	<3	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	----	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	<1	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	<1	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	<0.5	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	<10	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	<10	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	<10.0	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	<10	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	<10	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	<10	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	<10	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	<10	----	----	----
Ethion	563-12-2	10	µg/kg		<10	<10	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	<10	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	<10	----	----	----
Malathion	121-75-5	10	µg/kg		<10	<10	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	<10	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	<10	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH56 0.0-0.5A	BH56 0.5-1.0A	BH56 0.0-0.5B	BH56 0.5-1.0A	BH56 0.3V
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-061	ES1504836-062	ES1504836-063	ES1504836-064	ES1504836-065
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	<10	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	<10	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	<10	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	<10	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	<0.50	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	<0.50	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	<0.50	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	<0.50	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	<0.50	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	<0.25	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	<0.50	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	<0.25	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	<0.25	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	<0.25	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	<0.50	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	<5.0	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH56 0.0-0.5A	BH56 0.5-1.0A	BH56 0.0-0.5B	BH56 0.5-1.0A	BH56 0.3V
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-061	ES1504836-062	ES1504836-063	ES1504836-064	ES1504836-065
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	<5.0	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	<5	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	<5	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	<4	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	<4	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	<4	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	<4	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	<4	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	<4	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	<4	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	<4	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	<4	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	<4	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	<4	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	<4	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	<4	----	----	----
Perylene	198-55-0	4	µg/kg		<4	<4	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	<4	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	<4	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	<4	----	----	----
Coronene	191-07-1	5	µg/kg		<5	<5	----	----	----
^ **Sum of PAHs**	----	4	µg/kg		<4	<4	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	----	**98.6**
Toluene-D8	2037-26-5	0.1	%		----	----	----	----	**104**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	----	**94.5**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**103**	**116**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH56 0.0-0.5A	BH56 0.5-1.0A	BH56 0.0-0.5B	BH56 0.5-1.0A	BH56 0.3V
			Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504836-061	ES1504836-062	ES1504836-063	ES1504836-064	ES1504836-065
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	75.2	67.4	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	73.6	61.0	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	58.8	55.8	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	79.0	82.6	----	----	----
Anthracene-d10	1719-06-8	0.1	%	98.8	123	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	104	123	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH56 0.7V	EB28 0.0-0.4A	EB28 0.3V	TRIPLICATE 15A	TRIPLICATE 15B
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-066	ES1504836-067	ES1504836-068	ES1504836-069	ES1504836-070
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		19.7	22.7	22.1	27.6	25.1
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	19900	----	6930	6510
Iron	7439-89-6	50	mg/kg		----	35200	----	16400	14400
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	<0.50	----	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	6.97	----	26.5	12.8
Cadmium	7440-43-9	0.1	mg/kg		----	<0.1	----	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	25.4	----	14.5	12.7
Copper	7440-50-8	1.0	mg/kg		----	36.4	----	6.7	5.4
Cobalt	7440-48-4	0.5	mg/kg		----	16.5	----	8.6	7.2
Lead	7439-92-1	1.0	mg/kg		----	11.2	----	4.4	3.9
Manganese	7439-96-5	10	mg/kg		----	182	----	467	537
Nickel	7440-02-0	1.0	mg/kg		----	18.5	----	7.7	6.5
Selenium	7782-49-2	0.1	mg/kg		----	1.0	----	0.6	0.5
Silver	7440-22-4	0.1	mg/kg		----	0.2	----	<0.1	<0.1
Vanadium	7440-62-2	2.0	mg/kg		----	59.1	----	35.1	27.7
Zinc	7440-66-6	1.0	mg/kg		----	60.8	----	20.4	17.8
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	0.01	----	<0.01	<0.01
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	<0.1	----	<0.1	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	----	<0.1	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	----	<0.1	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	150	----	210	180
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	150	----	210	180
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	284	----	246	215
EK255A SD Ammonia in Sediment									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH56 0.7V	EB28 0.0-0.4A	EB28 0.3V	TRIPLICATE 15A	TRIPLICATE 15B
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-066	ES1504836-067	ES1504836-068	ES1504836-069	ES1504836-070
EK255A SD Ammonia in Sediment - Continued									
Ammonia as N	7664-41-7	0.2	mg/kg		----	**4.8**	----	**4.8**	**4.3**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	**0.15**	----	**0.29**	**0.60**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	<3	----	<3	<3
>C16 - C34 Fraction	----	3	mg/kg		----	**4**	----	**4**	<3
>C34 - C40 Fraction	----	5	mg/kg		----	<5	----	<5	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	**4**	----	**4**	<3
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	----	<3	----	----
C10 - C14 Fraction	----	3	mg/kg		----	<3	----	<3	<3
C15 - C28 Fraction	----	3	mg/kg		----	<3	----	<3	<3
C29 - C36 Fraction	----	5	mg/kg		----	<5	----	<5	<5
^ **C10 - C36 Fraction (sum)**	----	3	mg/kg		----	<3	----	<3	<3
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	----	<3	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	<0.2	----	----
Toluene	108-88-3	0.2	mg/kg		<0.2	----	<0.2	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	----	<0.2	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	----	<0.2	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	----	<0.2	----	----
^ **Total Xylenes**	1330-20-7	0.5	mg/kg		<0.5	----	<0.5	----	----
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	----	<0.2	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	<1	----	<1	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	<1	----	<1	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	<0.5	----	<0.5	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	<10	----	<10	<10
Carbophenothion	786-19-6	10	µg/kg		----	<10	----	<10	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	<10.0	----	<10.0	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	<10	----	<10	<10

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH56 0.7V	EB28 0.0-0.4A	EB28 0.3V	TRIPLICATE 15A	TRIPLICATE 15B
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-066	ES1504836-067	ES1504836-068	ES1504836-069	ES1504836-070
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Chlorpyrifos	2921-88-2	10	µg/kg		----	<10	----	<10	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	<10	----	<10	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	<10	----	<10	<10
Diazinon	333-41-5	10	µg/kg		----	<10	----	<10	<10
Dichlorvos	62-73-7	10	µg/kg		----	<10	----	<10	<10
Dimethoate	60-51-5	10	µg/kg		----	<10	----	<10	<10
Ethion	563-12-2	10	µg/kg		----	<10	----	<10	<10
Fenamiphos	22224-92-6	10	µg/kg		----	<10	----	<10	<10
Fenthion	55-38-9	10	µg/kg		----	<10	----	<10	<10
Malathion	121-75-5	10	µg/kg		----	<10	----	<10	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	<10	----	<10	<10
Monocrotophos	6923-22-4	10	µg/kg		----	<10	----	<10	<10
Parathion	56-38-2	10	µg/kg		----	<10	----	<10	<10
Parathion-methyl	298-00-0	10	µg/kg		----	<10	----	<10	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	<10	----	<10	<10
Prothiofos	34643-46-4	10	µg/kg		----	<10	----	<10	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
Endrin	72-20-8	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	<0.50	----	<0.50	<0.50

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH56 0.7V	EB28 0.0-0.4A	EB28 0.3V	TRIPLICATE 15A	TRIPLICATE 15B
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
					ES1504836-066	ES1504836-067	ES1504836-068	ES1504836-069	ES1504836-070
EP131A: Organochlorine Pesticides - Continued									
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	<0.25	----	<0.25	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	<0.25	----	<0.25	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	<0.25	----	<0.25	<0.25
^ **Total Chlordane (sum)**	----	0.25	µg/kg		----	<0.25	----	<0.25	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		----	<5.0	----	<5.0	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	<5.0	----	<5.0	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	<5.0	----	<5.0	<5.0
Aroclor 1232	11141-16-5	5.0	µg/kg		----	<5.0	----	<5.0	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	<5.0	----	<5.0	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	<5.0	----	<5.0	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	<5.0	----	<5.0	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	<5.0	----	<5.0	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	<5	----	<5	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	<5	----	<5	<5
Acenaphthylene	208-96-8	4	µg/kg		----	<4	----	<4	<4
Acenaphthene	83-32-9	4	µg/kg		----	<4	----	<4	<4
Fluorene	86-73-7	4	µg/kg		----	<4	----	<4	<4
Phenanthrene	85-01-8	4	µg/kg		----	<4	----	<4	<4
Anthracene	120-12-7	4	µg/kg		----	<4	----	<4	<4
Fluoranthene	206-44-0	4	µg/kg		----	<4	----	<4	<4
Pyrene	129-00-0	4	µg/kg		----	<4	----	<4	<4
Benz(a)anthracene	56-55-3	4	µg/kg		----	<4	----	<4	<4
Chrysene	218-01-9	4	µg/kg		----	<4	----	<4	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	<4	----	<4	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	<4	----	<4	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		----	<4	----	<4	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		----	<4	----	<4	<4

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID: BH56 0.7V	EB28 0.0-0.4A	EB28 0.3V	TRIPLICATE 15A	TRIPLICATE 15B
				Client sampling date / time: 26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00
				ES1504836-066	ES1504836-067	ES1504836-068	ES1504836-069	ES1504836-070
EP132B: Polynuclear Aromatic Hydrocarbons - Continued								
Perylene	198-55-0	4	µg/kg	----	<4	----	<4	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg	----	<4	----	<4	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg	----	<4	----	<4	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	----	<4	----	<4	<4
Coronene	191-07-1	5	µg/kg	----	<5	----	<5	<5
^ **Sum of PAHs**	----	4	µg/kg	----	<4	----	<4	<4
EP080-SD: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**97.4**	----	**90.6**	----	----
Toluene-D8	2037-26-5	0.1	%	**110**	----	**104**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	**102**	----	**85.7**	----	----
EP090S: Organotin Surrogate								
Tripropyltin	----	0.1	%	----	**99.8**	----	**96.2**	**84.6**
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	**68.6**	----	**68.4**	**71.9**
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	**58.2**	----	**54.1**	**69.4**
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	**63.8**	----	**59.1**	**49.1**
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	**76.0**	----	**85.2**	**91.0**
Anthracene-d10	1719-06-8	0.1	%	----	**100**	----	**102**	**114**
4-Terphenyl-d14	1718-51-0	0.1	%	----	**94.1**	----	**97.0**	**114**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TRIPLICATE 16A	TRIPLICATE 16B	DUPLICATE 8A	TRIP BLANK 17	----
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	18-FEB-2015 15:00	----
Compound	CAS Number	LOR	Unit		ES1504836-071	ES1504836-072	ES1504836-073	ES1504836-074	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		23.0	21.2	17.9	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		13900	7260	12900	----	----
Iron	7439-89-6	50	mg/kg		29800	16600	25600	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	<0.50	----	----
Arsenic	7440-38-2	1.00	mg/kg		9.20	10.3	6.83	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	<0.1	----	----
Chromium	7440-47-3	1.0	mg/kg		22.5	13.5	22.1	----	----
Copper	7440-50-8	1.0	mg/kg		35.0	10.0	29.8	----	----
Cobalt	7440-48-4	0.5	mg/kg		18.6	7.9	10.3	----	----
Lead	7439-92-1	1.0	mg/kg		10.5	4.7	7.4	----	----
Manganese	7439-96-5	10	mg/kg		422	340	228	----	----
Nickel	7440-02-0	1.0	mg/kg		17.9	8.0	16.5	----	----
Selenium	7782-49-2	0.1	mg/kg		0.8	0.5	0.6	----	----
Silver	7440-22-4	0.1	mg/kg		<0.1	<0.1	<0.1	----	----
Vanadium	7440-62-2	2.0	mg/kg		64.2	36.3	58.9	----	----
Zinc	7440-66-6	1.0	mg/kg		53.0	23.5	40.9	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		0.01	<0.01	<0.01	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	<0.1	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	<0.1	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		180	280	210	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		180	280	210	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		288	268	352	----	----
EK255A SD Ammonia in Sediment									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	TRIPLICATE 16A	TRIPLICATE 16B	DUPLICATE 8A	TRIP BLANK 17	----
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	18-FEB-2015 15:00	----
Compound	CAS Number	LOR	Unit		ES1504836-071	ES1504836-072	ES1504836-073	ES1504836-074	----
EK255A SD Ammonia in Sediment - Continued									
Ammonia as N	7664-41-7	0.2	mg/kg		4.1	4.0	4.7	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		0.17	0.23	0.22	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	<3	<3	<3	----
>C16 - C34 Fraction	----	3	mg/kg		6	4	5	<3	----
>C34 - C40 Fraction	----	5	mg/kg		<5	<5	<5	<5	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		6	4	5	<3	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	<3	----
C10 - C14 Fraction	----	3	mg/kg		<3	<3	<3	<3	----
C15 - C28 Fraction	----	3	mg/kg		3	<3	<3	<3	----
C29 - C36 Fraction	----	5	mg/kg		<5	<5	<5	<5	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		3	<3	<3	<3	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	<3	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	<0.2	----
Toluene	108-88-3	0.2	mg/kg		----	----	----	<0.2	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	<0.2	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	<0.2	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	<0.2	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	----	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	<0.2	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	<1	<1	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	<1	<1	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	<0.5	<0.5	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	<10	<10	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	<10	<10	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	<10.0	<10.0	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	<10	<10	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	TRIPLICATE 16A	TRIPLICATE 16B	DUPLICATE 8A	TRIP BLANK 17	----
				Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	18-FEB-2015 15:00	----
					ES1504836-071	ES1504836-072	ES1504836-073	ES1504836-074	----
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Chlorpyrifos	2921-88-2	10	µg/kg		<10	<10	<10	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	<10	<10	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	<10	<10	----	----
Diazinon	333-41-5	10	µg/kg		<10	<10	<10	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	<10	<10	----	----
Dimethoate	60-51-5	10	µg/kg		<10	<10	<10	----	----
Ethion	563-12-2	10	µg/kg		<10	<10	<10	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	<10	<10	----	----
Fenthion	55-38-9	10	µg/kg		<10	<10	<10	----	----
Malathion	121-75-5	10	µg/kg		<10	<10	<10	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	<10	<10	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	<10	<10	----	----
Parathion	56-38-2	10	µg/kg		<10	<10	<10	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	<10	<10	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	<10	<10	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	<10	<10	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	<0.50	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	<0.50	<0.50	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TRIPLICATE 16A	TRIPLICATE 16B	DUPLICATE 8A	TRIP BLANK 17	----
			Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	18-FEB-2015 15:00	----
Compound	CAS Number	LOR	Unit	ES1504836-071	ES1504836-072	ES1504836-073	ES1504836-074	----
EP131A: Organochlorine Pesticides - Continued								
Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	<0.50	----	----
gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	<0.25	----	----
Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	<0.50	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	<0.25	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	<0.25	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg	<0.50	<0.50	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)								
^ Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	<5.0	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	<5.0	----	----
Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	<5.0	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	<5.0	----	----
EP132B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	5	µg/kg	<5	<5	<5	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	<5	----	----
Acenaphthylene	208-96-8	4	µg/kg	<4	<4	<4	----	----
Acenaphthene	83-32-9	4	µg/kg	<4	<4	<4	----	----
Fluorene	86-73-7	4	µg/kg	<4	<4	<4	----	----
Phenanthrene	85-01-8	4	µg/kg	<4	<4	<4	----	----
Anthracene	120-12-7	4	µg/kg	<4	<4	<4	----	----
Fluoranthene	206-44-0	4	µg/kg	<4	<4	<4	----	----
Pyrene	129-00-0	4	µg/kg	<4	<4	<4	----	----
Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	<4	----	----
Chrysene	218-01-9	4	µg/kg	<4	<4	<4	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	<4	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	<4	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	<4	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	<4	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	TRIPLICATE 16A	TRIPLICATE 16B	DUPLICATE 8A	TRIP BLANK 17	----
			Client sampling date / time	26-FEB-2015 15:00	26-FEB-2015 15:00	26-FEB-2015 15:00	18-FEB-2015 15:00	----
Compound	CAS Number	LOR	Unit	ES1504836-071	ES1504836-072	ES1504836-073	ES1504836-074	----
EP132B: Polynuclear Aromatic Hydrocarbons - Continued								
Perylene	198-55-0	4	µg/kg	<4	<4	<4	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	<4	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	<4	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	<4	----	----
Coronene	191-07-1	5	µg/kg	<5	<5	<5	----	----
^ Sum of PAHs	----	4	µg/kg	<4	<4	<4	----	----
EP080-SD: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	----	----	----	83.9	----
Toluene-D8	2037-26-5	0.1	%	----	----	----	98.9	----
4-Bromofluorobenzene	460-00-4	0.1	%	----	----	----	93.2	----
EP090S: Organotin Surrogate								
Tripropyltin	----	0.1	%	92.9	97.0	96.1	----	----
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	71.7	74.7	78.1	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	61.9	57.0	69.4	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	48.0	38.8	57.8	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	86.6	84.8	84.1	----	----
Anthracene-d10	1719-06-8	0.1	%	115	120	112	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	104	122	104	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 17	----	----	----	----
				Client sampling date / time	26-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1504836-075	----	----	----	----
EG020T: Total Metals by ICP-MS									
Antimony	7440-36-0	0.001	mg/L		<0.001	----	----	----	----
Arsenic	7440-38-2	0.001	mg/L		<0.001	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	----	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	----	----	----	----
Manganese	7439-96-5	0.001	mg/L		**0.002**	----	----	----	----
Nickel	7440-02-0	0.001	mg/L		<0.001	----	----	----	----
Silver	7440-22-4	0.001	mg/L		<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L		<0.005	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	----	----	----	----
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		<0.01	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	----	0.01	mg/L		<0.01	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		<0.01	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		<0.01	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L		<0.1	----	----	----	----
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser									
^ Total Nitrogen as N	----	0.1	mg/L		<0.1	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		<0.01	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	1	µg/L		<1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.5	µg/L		<0.5	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L		<0.5	----	----	----	----
beta-BHC	319-85-7	0.5	µg/L		<0.5	----	----	----	----
gamma-BHC	58-89-9	0.5	µg/L		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 17	----	----	----	----
				Client sampling date / time	26-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1504836-075	----	----	----	----
EP068A: Organochlorine Pesticides (OC) - Continued									
delta-BHC	319-86-8	0.5	µg/L		<0.5	----	----	----	----
Heptachlor	76-44-8	0.5	µg/L		<0.5	----	----	----	----
Aldrin	309-00-2	0.5	µg/L		<0.5	----	----	----	----
Heptachlor epoxide	1024-57-3	0.5	µg/L		<0.5	----	----	----	----
trans-Chlordane	5103-74-2	0.5	µg/L		<0.5	----	----	----	----
alpha-Endosulfan	959-98-8	0.5	µg/L		<0.5	----	----	----	----
cis-Chlordane	5103-71-9	0.5	µg/L		<0.5	----	----	----	----
Dieldrin	60-57-1	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDE	72-55-9	0.5	µg/L		<0.5	----	----	----	----
Endrin	72-20-8	0.5	µg/L		<0.5	----	----	----	----
beta-Endosulfan	33213-65-9	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDD	72-54-8	0.5	µg/L		<0.5	----	----	----	----
Endrin aldehyde	7421-93-4	0.5	µg/L		<0.5	----	----	----	----
Endosulfan sulfate	1031-07-8	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDT	50-29-3	2.0	µg/L		<2.0	----	----	----	----
Endrin ketone	53494-70-5	0.5	µg/L		<0.5	----	----	----	----
Methoxychlor	72-43-5	2.0	µg/L		<2.0	----	----	----	----
^ Total Chlordane (sum)	----	0.5	µg/L		<0.5	----	----	----	----
^ Sum of DDD + DDE + DDT	----	0.5	µg/L		<0.5	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L		<0.5	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.5	µg/L		<0.5	----	----	----	----
Demeton-S-methyl	919-86-8	0.5	µg/L		<0.5	----	----	----	----
Monocrotophos	6923-22-4	2.0	µg/L		<2.0	----	----	----	----
Dimethoate	60-51-5	0.5	µg/L		<0.5	----	----	----	----
Diazinon	333-41-5	0.5	µg/L		<0.5	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L		<0.5	----	----	----	----
Parathion-methyl	298-00-0	2.0	µg/L		<2.0	----	----	----	----
Malathion	121-75-5	0.5	µg/L		<0.5	----	----	----	----
Fenthion	55-38-9	0.5	µg/L		<0.5	----	----	----	----
Chlorpyrifos	2921-88-2	0.5	µg/L		<0.5	----	----	----	----
Parathion	56-38-2	2.0	µg/L		<2.0	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	µg/L		<0.5	----	----	----	----
Chlorfenvinphos	470-90-6	0.5	µg/L		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	RINSATE 17	----	----	----	----
			Client sampling date / time	26-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1504836-075	----	----	----	----
EP068B: Organophosphorus Pesticides (OP) - Continued								
Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	----	----	----	----
Fenamiphos	22224-92-6	0.5	µg/L	<0.5	----	----	----	----
Prothiofos	34643-46-4	0.5	µg/L	<0.5	----	----	----	----
Ethion	563-12-2	0.5	µg/L	<0.5	----	----	----	----
Carbophenothion	786-19-6	0.5	µg/L	<0.5	----	----	----	----
Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L	<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L	<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L	<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L	<1.0	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L	<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L	<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L	<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L	<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L	<50	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	RINSATE 17	----	----	----	----
			Client sampling date / time	26-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1504836-075	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L	<20	----	----	----	----
>C10 - C16 Fraction	>C10_C16	100	µg/L	<100	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L	<100	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L	<100	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L	<100	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L	<100	----	----	----	----
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	----	----	----	----
Toluene	108-88-3	2	µg/L	<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	----	----	----	----
^ **Total Xylenes**	1330-20-7	2	µg/L	<2	----	----	----	----
^ **Sum of BTEX**	----	1	µg/L	<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L	<5	----	----	----	----
EP090: Organotin Compounds								
Monobutyltin	78763-54-9	5	ngSn/L	<5	----	----	----	----
Dibutyltin	1002-53-5	5	ngSn/L	<5	----	----	----	----
Tributyltin	56573-85-4	2	ngSn/L	<2	----	----	----	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**87.2**	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**88.6**	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**79.8**	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.1	%	**33.7**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	**52.2**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	**38.0**	----	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**60.2**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**68.3**	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	RINSATE 17	----	----	----	----
			Client sampling date / time	26-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1504836-075	----	----	----	----
EP075(SIM)T: PAH Surrogates - Continued								
4-Terphenyl-d14	1718-51-0	0.1	%	74.1	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	92.5	----	----	----	----
Toluene-D8	2037-26-5	0.1	%	103	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	90.3	----	----	----	----
EP090S: Organotin Surrogate								
Tripropyltin	----	0.1	%	72.6	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
EP080-SD: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	67	137
Toluene-D8	2037-26-5	74	134
4-Bromofluorobenzene	460-00-4	73	137
EP090S: Organotin Surrogate			
Tripropyltin	----	35	130
EP130S: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	14.4	102
EP131S: OC Pesticide Surrogate			
Dibromo-DDE	21655-73-2	10	119
EP131T: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	10	106
EP132T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	55	135
Anthracene-d10	1719-06-8	70	136
4-Terphenyl-d14	1718-51-0	57	127

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	28.5	129
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	30	120
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	26.8	129
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10.0	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27.4	113
4-Terphenyl-d14	1718-51-0	32	112
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128
EP090S: Organotin Surrogate			
Tripropyltin	----	8.2	108

QUALITY CONTROL REPORT

Work Order	: **ES1504836**	Page	: 1 of 44
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 03-MAR-2015
Sampler	: GK	Issue Date	: 27-MAR-2015
Order number	: 245553		
		No. of samples received	: 75
Quote number	: SY/1021/14 V2	No. of samples analysed	: 75

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Ashesh Patel	Inorganic Chemist	Sydney Inorganics
Dianne Blane	Laboratory Coordinator (2IC)	Newcastle - Inorganics
Edwandy Fadjar	Organic Coordinator	Sydney Organics
Pabi Subba	Senior Organic Chemist	Sydney Organics
Ryan Story	2IC Organic Instrument Chemist	Brisbane Organics
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA055: Moisture Content (QC Lot: 3860539)									
ES1504836-003	BH42 1.0-1.6A	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	30.9	29.5	4.5	0% - 20%
ES1504836-020	BH49 0.5-0.8A	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	17.3	17.2	0.8	0% - 50%
EA055: Moisture Content (QC Lot: 3860540)									
ES1504836-035	BH51 0.3V	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	19.3	18.4	5.0	0% - 50%
ES1504836-050	BH54 0.5-1.0A	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	24.0	23.2	3.6	0% - 20%
EA055: Moisture Content (QC Lot: 3860541)									
ES1504836-065	BH56 0.3V	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	24.8	25.8	3.7	0% - 20%
ES1505379-002	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	3.4	3.9	15.1	No Limit
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3858205)									
ES1504836-001	BH42 0.0-0.5A	EG005-SD: Aluminium	7429-90-5	50	mg/kg	7980	7380	7.9	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	17600	15900	10.5	0% - 20%
ES1504836-031	BH51 0.0-0.5A	EG005-SD: Aluminium	7429-90-5	50	mg/kg	13100	11800	10.2	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	23200	22100	4.8	0% - 20%
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3858208)									
ES1504836-061	BH56 0.0-0.5A	EG005-SD: Aluminium	7429-90-5	50	mg/kg	6190	6460	4.2	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	13300	15300	14.0	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3858204)									
ES1504836-001	BH42 0.0-0.5A	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.5	0.4	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	9.9	7.8	23.2	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	15.9	15.0	6.0	0% - 50%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	13.8	9.6	35.9	0% - 50%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	6.1	4.4	32.6	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	9.7	7.4	27.1	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	24.2	20.2	18.1	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	10.4	9.50	9.3	0% - 50%
		EG020-SD: Manganese	7439-96-5	10	mg/kg	252	294	15.4	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	36.4	40.2	9.9	0% - 20%
ES1504836-031	BH51 0.0-0.5A	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.6	0.6	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	17.7	20.2	13.4	0% - 20%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3858204) - continued									
ES1504836-031	BH51 0.0-0.5A	EG020-SD: Chromium	7440-47-3	1.0	mg/kg	20.5	19.3	5.9	0% - 20%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	24.8	22.9	8.0	0% - 20%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	7.5	6.4	15.8	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	15.8	15.7	0.6	0% - 50%
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	39.0	35.3	9.9	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	9.06	14.7	47.6	0% - 50%
		EG020-SD: Manganese	7439-96-5	10	mg/kg	246	274	10.8	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	59.3	56.3	5.2	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3858207)									
ES1504836-061	BH56 0.0-0.5A	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.5	0.4	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	7.8	8.3	6.7	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	13.4	13.2	2.0	0% - 50%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	6.8	6.4	5.7	No Limit
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	4.1	3.8	5.9	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	6.6	6.8	2.4	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	19.4	20.3	4.9	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	13.4	14.8	9.9	0% - 50%
		EG020-SD: Manganese	7439-96-5	10	mg/kg	378	328	14.3	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	32.3	34.4	6.3	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3858203)									
ES1504836-001	BH42 0.0-0.5A	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit
ES1504836-031	BH51 0.0-0.5A	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	0.01	0.01	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3858206)									
ES1504836-061	BH56 0.0-0.5A	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3861836)									
ES1504836-001	BH42 0.0-0.5A	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1504836-026	BH50 0.5-0.9A	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3861838)									
ES1504836-061	BH56 0.0-0.5A	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3861837)									
ES1504836-001	BH42 0.0-0.5A	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1504836-026	BH50 0.5-0.9A	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3861839)									
ES1504836-061	BH56 0.0-0.5A	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1505732-002	Anonymous	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	6.2	6.0	1.9	0% - 20%
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3859763)									

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3859763) - continued									
ES1504836-001	BH42 0.0-0.5A	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	170	180	9.8	No Limit
ES1504836-026	BH50 0.5-0.9A	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	150	170	11.2	No Limit
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3860960)									
ES1504836-062	BH56 0.5-1.0A	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	160	180	12.4	No Limit
ES1504998-050	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	190	170	11.5	No Limit
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3859764)									
ES1504836-001	BH42 0.0-0.5A	EK067G: Total Phosphorus as P	----	2	mg/kg	184	197	7.1	0% - 20%
ES1504836-026	BH50 0.5-0.9A	EK067G: Total Phosphorus as P	----	2	mg/kg	416	404	3.0	0% - 20%
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3859765)									
ES1504836-061	BH56 0.0-0.5A	EK067G: Total Phosphorus as P	----	2	mg/kg	193	193	0.0	0% - 20%
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3860961)									
ES1504836-062	BH56 0.5-1.0A	EK067G: Total Phosphorus as P	----	2	mg/kg	245	218	12.0	0% - 20%
ES1504998-050	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	208	196	6.0	0% - 20%
EK255A SD: Ammonia in Sediment (QC Lot: 3850692)									
ES1504836-001	BH42 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	3.3	3.4	0.0	0% - 50%
ES1504836-031	BH51 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	4.6	4.6	0.0	0% - 20%
EK255A SD: Ammonia in Sediment (QC Lot: 3850693)									
ES1504836-061	BH56 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	5.5	5.4	0.0	0% - 20%
ES1504998-005	Anonymous	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	<0.2	0.2	0.0	No Limit
EP003: Total Organic Carbon (TOC) in Soil (QC Lot: 3860581)									
ES1504836-001	BH42 0.0-0.5A	EP003: Total Organic Carbon	----	0.02	%	0.24	0.22	8.1	0% - 50%
ES1504836-031	BH51 0.0-0.5A	EP003: Total Organic Carbon	----	0.02	%	0.12	0.12	0.0	No Limit
EP003: Total Organic Carbon (TOC) in Soil (QC Lot: 3860582)									
ES1504836-061	BH56 0.0-0.5A	EP003: Total Organic Carbon	----	0.02	%	0.43	0.44	2.5	0% - 20%
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3847155)									
ES1504836-001	BH42 0.0-0.5A	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	3	3	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	3	3	0.0	No Limit
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
ES1504836-031	BH51 0.0-0.5A	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3847158)									
ES1504836-061	BH56 0.0-0.5A	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	6	7	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	6	7	15.4	No Limit
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3847158) - continued									
ES1504998-059	Anonymous	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	4	4	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	4	4	0.0	No Limit
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3847155)									
ES1504836-001	BH42 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
ES1504836-031	BH51 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3847158)									
ES1504836-061	BH56 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	3	4	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	3	4	28.6	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
ES1504998-059	Anonymous	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3847411)									
ES1504836-007	BH42 0.3V	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
ES1504836-035	BH51 0.3V	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3847420)									
ES1504836-065	BH56 0.3V	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
ES1504998-069	Anonymous	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
EP080-SD: BTEXN (QC Lot: 3847411)									
ES1504836-007	BH42 0.3V	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
ES1504836-035	BH51 0.3V	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP080-SD: BTEXN (QC Lot: 3847411) - continued									
ES1504836-035	BH51 0.3V	EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP080-SD: BTEXN (QC Lot: 3847420)									
ES1504836-065	BH56 0.3V	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
ES1504998-069	Anonymous	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP090: Organotin Compounds (QC Lot: 3845946)									
ES1504836-001	BH42 0.0-0.5A	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
ES1504836-031	BH51 0.0-0.5A	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
EP090: Organotin Compounds (QC Lot: 3845947)									
ES1504836-061	BH56 0.0-0.5A	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3847138)									
ES1504836-001	BH42 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3847138) - continued									
ES1504836-001	BH42 0.0-0.5A	EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
ES1504836-031	BH51 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3847143)									
ES1504836-061	BH56 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3847143) - continued									
ES1504836-061	BH56 0.0-0.5A	EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
ES1504998-059	Anonymous	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
EP131A: Organochlorine Pesticides (QC Lot: 3847139)									
ES1504836-001	BH42 0.0-0.5A	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP131A: Organochlorine Pesticides (QC Lot: 3847139) - continued									
ES1504836-001	BH42 0.0-0.5A	EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
ES1504836-031	BH51 0.0-0.5A	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
EP131A: Organochlorine Pesticides (QC Lot: 3847145)									
ES1504836-061	BH56 0.0-0.5A	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP131A: Organochlorine Pesticides (QC Lot: 3847145) - continued									
ES1504836-061	BH56 0.0-0.5A	EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
ES1504998-059	Anonymous	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP131A: Organochlorine Pesticides (QC Lot: 3847145) - continued									
ES1504998-059	Anonymous	EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 3847140)									
ES1504836-001	BH42 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
ES1504836-031	BH51 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 3847146)									
ES1504836-061	BH56 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
ES1504998-059	Anonymous	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3847154)									
ES1504836-001	BH42 0.0-0.5A	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3847154) - continued									
ES1504836-001	BH42 0.0-0.5A	EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit
ES1504836-031	BH51 0.0-0.5A	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3847154) - continued									
ES1504836-031	BH51 0.0-0.5A	EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3847157)									
ES1504836-061	BH56 0.0-0.5A	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	4	0.0	No Limit
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit
ES1504998-059	Anonymous	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3847157) - continued									
ES1504998-059	Anonymous	EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020T: Total Metals by ICP-MS (QC Lot: 3850667)									
ES1504836-075	RINSATE 17	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Manganese	7439-96-5	0.001	mg/L	0.002	0.003	0.0	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.0	No Limit
EW1500806-001	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	0.0011	0.0009	15.6	0% - 50%
		EG020A-T: Antimony	7440-36-0	0.001	mg/L	0.001	0.001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	0.006	0.006	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	0.024	0.023	5.4	0% - 20%
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Manganese	7439-96-5	0.001	mg/L	0.006	0.006	0.0	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	0.020	0.021	0.0	0% - 50%
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	0.029	0.025	14.1	No Limit
EG020T: Total Metals by ICP-MS (QC Lot: 3850668)									
ES1504836-075	RINSATE 17	EG020B-T: Silver	7440-22-4	0.001	mg/L	<0.001	<0.001	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3861655)									
ES1504836-075	RINSATE 17	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EK055G: Ammonia as N by Discrete Analyser (QC Lot: 3852013)									
ES1504836-075	RINSATE 17	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.01	0.0	No Limit
ES1505632-002	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	2.78	2.78	0.0	0% - 20%
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3844879)									
ES1504836-075	RINSATE 17	EK057G: Nitrite as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3852012)									
ES1504836-075	RINSATE 17	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3852012) - continued									
ES1505473-001	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	437	474	8.1	0% - 20%
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3852007)									
ES1504836-075	RINSATE 17	EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	<0.1	<0.1	0.0	No Limit
ES1505463-001	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	68.0	59.8	12.9	0% - 20%
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3852008)									
ES1504836-075	RINSATE 17	EK067G: Total Phosphorus as P	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1505463-001	Anonymous	EK067G: Total Phosphorus as P	----	0.01	mg/L	10.3	10.0	2.9	0% - 20%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3850139)									
ES1505268-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
ES1505268-002	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3850139)									
ES1505268-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
ES1505268-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 3850139)									
ES1505268-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
ES1505268-002	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3858205)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	126	86	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	110	70	130
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3858208)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	131	86	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	112	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3858204)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	----	----	----	----
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	116	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	103	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	112	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	110	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	114	84	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	97.8	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	99.4	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	118	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	118	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	----	----	----	----
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	110	87	131
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	117	83	137
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3858207)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	----	----	----	----
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	112	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	103	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	113	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	113	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	115	84	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3858207) - continued								
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	94.7	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	99.3	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	120	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	122	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	2.10 mg/kg	146	64	148
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	108	87	131
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	117	83	137
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3858203)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.090 mg/kg	80.6	72	116
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3858206)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.090 mg/kg	82.2	72	116
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3861836)								
EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	101	82	120
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3861838)								
EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	99.9	82	120
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3861837)								
EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	96.6	89	115
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3861839)								
EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	97.6	89	115
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3859763)								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	<20	1000 mg/kg	91.5	64	114
				----	500 mg/kg	104	70	122
				----	100 mg/kg	106	70	127
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3860960)								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	<20	1000 mg/kg	94.8	64	114
				----	100 mg/kg	100	70	127
				----	500 mg/kg	105	70	122
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3859764)								
EK067G: Total Phosphorus as P	----	2	mg/kg	<2	442 mg/kg	88.5	68	116
				----	100 mg/kg	104	69	123
				----	44.2 mg/kg	101	64	124

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3859765)								
EK067G: Total Phosphorus as P	----	2	mg/kg	<2	442 mg/kg	97.4	68	116
				----	44.2 mg/kg	105	64	124
				----	100 mg/kg	104	69	123
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3860961)								
EK067G: Total Phosphorus as P	----	2	mg/kg	<2	442 mg/kg	93.8	68	116
				----	100 mg/kg	106	69	123
				----	44.2 mg/kg	97.2	64	124
EK255A SD: Ammonia in Sediment (QCLot: 3850692)								
EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	<0.2	0.1 mg/kg	105	70	130
EK255A SD: Ammonia in Sediment (QCLot: 3850693)								
EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	<0.2	0.1 mg/kg	108	70	130
EP003: Total Organic Carbon (TOC) in Soil (QCLot: 3860581)								
EP003: Total Organic Carbon	----	0.02	%	<0.02	0.11 %	106	70	130
EP003: Total Organic Carbon (TOC) in Soil (QCLot: 3860582)								
EP003: Total Organic Carbon	----	0.02	%	<0.02	0.11 %	105	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3847155)								
EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	6.25 mg/kg	95.4	70	130
EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	8.75 mg/kg	90.3	74	138
EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	3.75 mg/kg	97.0	63	131
EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3847158)								
EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	6.25 mg/kg	93.9	70	130
EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	8.75 mg/kg	95.0	74	138
EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	3.75 mg/kg	101	63	131
EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3847155)								
EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	5 mg/kg	81.4	78	118
EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	7.5 mg/kg	93.9	84	118
EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	5 mg/kg	90.8	73	119
EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3847158)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3847158) - continued								
EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	5 mg/kg	94.7	78	118
EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	7.5 mg/kg	94.3	84	118
EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	5 mg/kg	107	73	119
EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3847411)								
EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	6.2 mg/kg	78.7	61	133
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3847420)								
EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	6.2 mg/kg	81.3	61	133
EP080-SD: BTEXN (QCLot: 3847411)								
EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	0.2 mg/kg	98.5	66	122
EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	0.2 mg/kg	100	69	122
EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.2 mg/kg	94.1	66	126
EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	0.4 mg/kg	97.4	59	129
EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.2 mg/kg	101	66	126
EP080-SD: BTEXN (QCLot: 3847420)								
EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	0.2 mg/kg	97.0	66	122
EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	0.2 mg/kg	105	69	122
EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.2 mg/kg	100	66	126
EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	0.4 mg/kg	104	59	129
EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.2 mg/kg	107	66	126
EP090: Organotin Compounds (QCLot: 3845946)								
EP090: Monobutyltin	78763-54-9	1.0	µgSn/kg	<1	1.25 µgSn/kg	94.7	36	128
EP090: Dibutyltin	1002-53-5	1.0	µgSn/kg	<1	1.25 µgSn/kg	99.2	42	132
EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	1.25 µgSn/kg	91.6	52	139
EP090: Organotin Compounds (QCLot: 3845947)								
EP090: Monobutyltin	78763-54-9	1.0	µgSn/kg	<1	1.25 µgSn/kg	105	36	128
EP090: Dibutyltin	1002-53-5	1.0	µgSn/kg	<1	1.25 µgSn/kg	106	42	132
EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	1.25 µgSn/kg	99.1	52	139
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3847138)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3847138) - continued								
EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	50 µg/kg	99.3	45	139
EP130: Carbophenothion	786-19-6	10	µg/kg	<10	50 µg/kg	84.2	47	117
EP130: Chlorfenvinphos (E)	18708-86-6	10	µg/kg	<10.0	5 µg/kg	102	48	156
EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	50 µg/kg	77.0	62	136
EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	50 µg/kg	95.9	57	137
EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	50 µg/kg	92.0	57	121
EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	50 µg/kg	80.3	20.4	142
EP130: Diazinon	333-41-5	10	µg/kg	<10	50 µg/kg	85.9	57	121
EP130: Dichlorvos	62-73-7	10	µg/kg	<10	50 µg/kg	79.3	47	115
EP130: Dimethoate	60-51-5	10	µg/kg	<10	50 µg/kg	80.2	55	133
EP130: Ethion	563-12-2	10	µg/kg	<10	50 µg/kg	92.9	54	130
EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	50 µg/kg	93.7	57	131
EP130: Fenthion	55-38-9	10	µg/kg	<10	50 µg/kg	87.9	38	130
EP130: Malathion	121-75-5	10	µg/kg	<10	50 µg/kg	96.8	62	138
EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	50 µg/kg	93.7	33	137
EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	50 µg/kg	85.9	50	148
EP130: Parathion	56-38-2	10	µg/kg	<10	50 µg/kg	92.7	64	140
EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	50 µg/kg	95.6	56	136
EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	50 µg/kg	94.8	50	132
EP130: Prothiofos	34643-46-4	10	µg/kg	<10	50 µg/kg	97.4	55	135
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3847143)								
EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	50 µg/kg	82.2	45	139
EP130: Carbophenothion	786-19-6	10	µg/kg	<10	50 µg/kg	78.3	47	117
EP130: Chlorfenvinphos (E)	18708-86-6	10	µg/kg	<10.0	5 µg/kg	73.6	48	156
EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	50 µg/kg	85.8	62	136
EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	50 µg/kg	78.3	57	137
EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	50 µg/kg	78.2	57	121
EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	50 µg/kg	74.7	20.4	142
EP130: Diazinon	333-41-5	10	µg/kg	<10	50 µg/kg	72.6	57	121

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3847143) - continued								
EP130: Dichlorvos	62-73-7	10	µg/kg	<10	50 µg/kg	76.0	47	115
EP130: Dimethoate	60-51-5	10	µg/kg	<10	50 µg/kg	83.9	55	133
EP130: Ethion	563-12-2	10	µg/kg	<10	50 µg/kg	78.8	54	130
EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	50 µg/kg	84.1	57	131
EP130: Fenthion	55-38-9	10	µg/kg	<10	50 µg/kg	70.4	38	130
EP130: Malathion	121-75-5	10	µg/kg	<10	50 µg/kg	75.3	62	138
EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	50 µg/kg	73.7	33	137
EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	50 µg/kg	75.0	50	148
EP130: Parathion	56-38-2	10	µg/kg	<10	50 µg/kg	77.4	64	140
EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	50 µg/kg	84.6	56	136
EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	50 µg/kg	71.6	50	132
EP130: Prothiofos	34643-46-4	10	µg/kg	<10	50 µg/kg	79.4	55	135
EP131A: Organochlorine Pesticides (QCLot: 3847139)								
EP131A: Aldrin	309-00-2	0.5	µg/kg	<0.50	5 µg/kg	64.4	38	150
EP131A: alpha-BHC	319-84-6	0.5	µg/kg	<0.50	5 µg/kg	77.5	17.6	156
EP131A: beta-BHC	319-85-7	0.5	µg/kg	<0.50	5 µg/kg	76.9	30.5	152
EP131A: delta-BHC	319-86-8	0.5	µg/kg	<0.50	5 µg/kg	88.5	37	151
EP131A: 4.4`-DDD	72-54-8	0.5	µg/kg	<0.50	5 µg/kg	82.9	25.9	150
EP131A: 4.4`-DDE	72-55-9	0.5	µg/kg	<0.50	5 µg/kg	69.0	35	129
EP131A: 4.4`-DDT	50-29-3	0.5	µg/kg	<0.50	5 µg/kg	99.2	23.4	163
EP131A: Sum of DDD + DDE + DDT	----	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Dieldrin	60-57-1	0.5	µg/kg	<0.50	5 µg/kg	85.8	30.2	140
EP131A: alpha-Endosulfan	959-98-8	0.5	µg/kg	<0.50	5 µg/kg	63.2	38	140
EP131A: beta-Endosulfan	33213-65-9	0.5	µg/kg	<0.50	5 µg/kg	83.4	32	152
EP131A: Endosulfan sulfate	1031-07-8	0.5	µg/kg	<0.50	5 µg/kg	93.0	36	162
EP131A: Endosulfan (sum)	115-29-7	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Endrin	72-20-8	0.5	µg/kg	<0.50	5 µg/kg	101	25.8	166
EP131A: Endrin aldehyde	7421-93-4	0.5	µg/kg	<0.50	5 µg/kg	45.9	20.1	116
EP131A: Endrin ketone	53494-70-5	0.5	µg/kg	<0.50	5 µg/kg	64.9	13.4	151

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP131A: Organochlorine Pesticides (QCLot: 3847139) - continued								
EP131A: Heptachlor	76-44-8	0.5	µg/kg	<0.50	5 µg/kg	71.9	39	173
EP131A: Heptachlor epoxide	1024-57-3	0.5	µg/kg	<0.50	5 µg/kg	80.0	34	148
EP131A: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/kg	<0.50	5 µg/kg	70.6	26.1	152
EP131A: gamma-BHC	58-89-9	0.5	µg/kg	<0.50	5 µg/kg	70.8	31.2	159
EP131A: Methoxychlor	72-43-5	0.5	µg/kg	<0.50	5 µg/kg	95.1	36	160
EP131A: cis-Chlordane	5103-71-9	0.5	µg/kg	<0.50	5 µg/kg	69.9	36	142
EP131A: trans-Chlordane	5103-74-2	0.5	µg/kg	<0.50	5 µg/kg	81.1	29.5	138
EP131A: Total Chlordane (sum)	----	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Organochlorine Pesticides (QCLot: 3847145)								
EP131A: Aldrin	309-00-2	0.5	µg/kg	<0.50	5 µg/kg	47.0	38	150
EP131A: alpha-BHC	319-84-6	0.5	µg/kg	<0.50	5 µg/kg	56.1	17.6	156
EP131A: beta-BHC	319-85-7	0.5	µg/kg	<0.50	5 µg/kg	53.7	30.5	152
EP131A: delta-BHC	319-86-8	0.5	µg/kg	<0.50	5 µg/kg	53.6	37	151
EP131A: 4.4`-DDD	72-54-8	0.5	µg/kg	<0.50	5 µg/kg	44.2	25.9	150
EP131A: 4.4`-DDE	72-55-9	0.5	µg/kg	<0.50	5 µg/kg	43.9	35	129
EP131A: 4.4`-DDT	50-29-3	0.5	µg/kg	<0.50	5 µg/kg	70.6	23.4	163
EP131A: Sum of DDD + DDE + DDT	----	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Dieldrin	60-57-1	0.5	µg/kg	<0.50	5 µg/kg	51.4	30.2	140
EP131A: alpha-Endosulfan	959-98-8	0.5	µg/kg	<0.50	5 µg/kg	59.1	38	140
EP131A: beta-Endosulfan	33213-65-9	0.5	µg/kg	<0.50	5 µg/kg	48.7	32	152
EP131A: Endosulfan sulfate	1031-07-8	0.5	µg/kg	<0.50	5 µg/kg	55.8	36	162
EP131A: Endosulfan (sum)	115-29-7	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Endrin	72-20-8	0.5	µg/kg	<0.50	5 µg/kg	76.9	25.8	166
EP131A: Endrin aldehyde	7421-93-4	0.5	µg/kg	<0.50	5 µg/kg	35.7	20.1	116
EP131A: Endrin ketone	53494-70-5	0.5	µg/kg	<0.50	5 µg/kg	39.8	13.4	151
EP131A: Heptachlor	76-44-8	0.5	µg/kg	<0.50	5 µg/kg	74.4	39	173
EP131A: Heptachlor epoxide	1024-57-3	0.5	µg/kg	<0.50	5 µg/kg	50.4	34	148
EP131A: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/kg	<0.50	5 µg/kg	45.0	26.1	152
EP131A: gamma-BHC	58-89-9	0.5	µg/kg	<0.50	5 µg/kg	48.3	31.2	159

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP131A: Organochlorine Pesticides (QCLot: 3847145) - continued								
EP131A: Methoxychlor	72-43-5	0.5	µg/kg	<0.50	5 µg/kg	63.6	36	160
EP131A: cis-Chlordane	5103-71-9	0.5	µg/kg	<0.50	5 µg/kg	38.6	36	142
EP131A: trans-Chlordane	5103-74-2	0.5	µg/kg	<0.50	5 µg/kg	47.9	29.5	138
EP131A: Total Chlordane (sum)	----	0.5	µg/kg	<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3847140)								
EP131B: Total Polychlorinated biphenyls	----	5	µg/kg	<5.0	50 µg/kg	66.2	44	136
EP131B: Aroclor 1016	12674-11-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1221	11104-28-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1232	11141-16-5	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1242	53469-21-9	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1248	12672-29-6	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1254	11097-69-1	5	µg/kg	<5.0	50 µg/kg	66.2	44	136
EP131B: Aroclor 1260	11096-82-5	5	µg/kg	<5.0	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3847146)								
EP131B: Total Polychlorinated biphenyls	----	5	µg/kg	<5.0	50 µg/kg	67.3	44	136
EP131B: Aroclor 1016	12674-11-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1221	11104-28-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1232	11141-16-5	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1242	53469-21-9	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1248	12672-29-6	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1254	11097-69-1	5	µg/kg	<5.0	50 µg/kg	67.3	44	136
EP131B: Aroclor 1260	11096-82-5	5	µg/kg	<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3847154)								
EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	25 µg/kg	84.9	67	133
EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	25 µg/kg	92.3	63	135
EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	25 µg/kg	85.0	68	132
EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	25 µg/kg	82.2	67	133
EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	25 µg/kg	76.7	69	131
EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	25 µg/kg	90.7	66	138
EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	25 µg/kg	79.6	67	133

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3847154) - continued								
EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	25 µg/kg	91.4	64	130
EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	25 µg/kg	89.3	67	133
EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	25 µg/kg	84.7	65	133
EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	25 µg/kg	89.9	70	134
EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	25 µg/kg	109	63	133
EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	25 µg/kg	94.3	67	133
EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	25 µg/kg	91.0	64	130
EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	25 µg/kg	86.1	72	130
EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	25 µg/kg	89.6	70	132
EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	25 µg/kg	85.6	65	127
EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	25 µg/kg	81.1	67	135
EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	25 µg/kg	78.3	62	126
EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	25 µg/kg	98.1	66	134
EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3847157)								
EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	25 µg/kg	95.2	67	133
EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	25 µg/kg	110	63	135
EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	25 µg/kg	88.4	68	132
EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	25 µg/kg	85.8	67	133
EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	25 µg/kg	88.7	69	131
EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	25 µg/kg	88.1	66	138
EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	25 µg/kg	86.3	67	133
EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	25 µg/kg	99.4	64	130
EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	25 µg/kg	93.0	67	133
EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	25 µg/kg	87.1	65	133
EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	25 µg/kg	91.9	70	134
EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	25 µg/kg	91.7	63	133
EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	25 µg/kg	105	67	133

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3847157) - continued								
EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	25 µg/kg	96.3	64	130
EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	25 µg/kg	93.0	72	130
EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	25 µg/kg	92.0	70	132
EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	25 µg/kg	81.2	65	127
EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	25 µg/kg	94.1	67	135
EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	25 µg/kg	84.6	62	126
EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	25 µg/kg	80.5	66	134
EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 3850667)								
EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	----	----	----	----
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	89.1	79	121
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	93.8	83	113
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	95.5	84	116
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	95.4	83	117
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	92.8	84	116
EG020A-T: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	94.4	85	115
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	96.6	84	116
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	86.9	77	117
EG020T: Total Metals by ICP-MS (QCLot: 3850668)								
EG020B-T: Silver	7440-22-4	0.001	mg/L	<0.001	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3861655)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	95.8	77	115
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3852013)								
EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	1.0 mg/L	101	86	112
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3844879)								
EK057G: Nitrite as N	----	0.01	mg/L	<0.01	0.5 mg/L	98.8	83	119
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3852012)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3852012) - continued								
EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	0.5 mg/L	102	87	119
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3852007)								
EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	<0.1	10 mg/L	80.1	66	114
				----	5 mg/L	93.4	66	119
				----	1.0 mg/L	82.3	66	126
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3852008)								
EK067G: Total Phosphorus as P	----	0.01	mg/L	----	0.442 mg/L	95.8	63	123
				----	1.0 mg/L	111	66	124
				<0.01	4.42 mg/L	91.0	67	117
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3846936)								
EP066: Total Polychlorinated biphenyls	----	1	µg/L	<1	10 µg/L	79.1	61.6	107
EP068A: Organochlorine Pesticides (OC) (QCLot: 3846935)								
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	5 µg/L	97.6	65	107
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	5 µg/L	90.9	51	119
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	5 µg/L	100	63	113
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	5 µg/L	97.8	62	112
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	5 µg/L	93.0	60	106
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	5 µg/L	97.7	58	108
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	5 µg/L	94.5	58	114
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	5 µg/L	101	59	111
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	5 µg/L	101	62	114
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	5 µg/L	110	64	114
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	5 µg/L	99.4	62	114
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	5 µg/L	98.0	59	111
EP068: 4.4`-DDE	72-55-9	0.5	µg/L	<0.5	5 µg/L	102	63	111
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	5 µg/L	105	61	119
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	5 µg/L	90.3	71	119
EP068: 4.4`-DDD	72-54-8	0.5	µg/L	<0.5	5 µg/L	89.4	70	118
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	5 µg/L	86.9	62	112
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	5 µg/L	107	53	113

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 3846935) - continued								
EP068: 4.4`-DDT	50-29-3	2.0	µg/L	<2.0	5 µg/L	103	52	120
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	5 µg/L	91.4	51	117
EP068: Methoxychlor	72-43-5	2.0	µg/L	<2.0	5 µg/L	99.6	53	127
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3846935)								
EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	5 µg/L	103	52	122
EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	5 µg/L	95.1	51	123
EP068: Monocrotophos	6923-22-4	0.5	µg/L	<2.0	5 µg/L	32.0	10	89.1
EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	5 µg/L	84.4	61	119
EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	5 µg/L	82.1	67	113
EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	5 µg/L	107	60	116
EP068: Parathion-methyl	298-00-0	2.0	µg/L	<2.0	5 µg/L	107	64	120
EP068: Malathion	121-75-5	0.5	µg/L	<0.5	5 µg/L	108	67	115
EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	5 µg/L	106	64	110
EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	5 µg/L	101	63	109
EP068: Parathion	56-38-2	2.0	µg/L	<2.0	5 µg/L	93.3	63	121
EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	5 µg/L	101	60	110
EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	5 µg/L	99.6	68	114
EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	5 µg/L	102	61	109
EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	5 µg/L	109	63	117
EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	5 µg/L	93.2	63	111
EP068: Ethion	563-12-2	0.5	µg/L	<0.5	5 µg/L	98.1	65	115
EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	5 µg/L	99.2	55	115
EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	5 µg/L	89.0	44	124
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3846938)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	<1.0	5 µg/L	66.9	58.6	119
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	<1.0	5 µg/L	79.2	63.6	114
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	<1.0	5 µg/L	71.5	62.2	113
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	<1.0	5 µg/L	81.8	63.9	115
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	<1.0	5 µg/L	78.8	62.6	116

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3846938) - continued								
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	<1.0	5 µg/L	76.4	64.3	116
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	<1.0	5 µg/L	85.2	63.6	118
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	<1.0	5 µg/L	93.4	63.1	118
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	<1.0	5 µg/L	85.1	64.1	117
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	<1.0	5 µg/L	86.2	62.5	116
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.2	µg/L	<1.0	5 µg/L	81.7	61.7	119
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	<1.0	5 µg/L	86.2	61.7	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	<0.5	5 µg/L	75.0	63.3	117
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.2	µg/L	<1.0	5 µg/L	64.3	59.9	118
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.2	µg/L	<1.0	5 µg/L	68.2	61.2	117
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.2	µg/L	<1.0	5 µg/L	64.6	59.1	118
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3846937)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	2000 µg/L	89.1	59	129
EP071: C15 - C28 Fraction	----	100	µg/L	<100	3000 µg/L	102	71	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	2000 µg/L	98.5	62	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3850139)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	83.3	75	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3846937)								
EP071: >C10 - C16 Fraction	>C10_C16	100	µg/L	<100	2500 µg/L	101	58.9	131
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	3500 µg/L	98.6	73.9	138
EP071: >C34 - C40 Fraction	----	50	µg/L	<100	1500 µg/L	101	67	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3850139)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	86.0	75	127
EP080: BTEXN (QCLot: 3850139)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	88.7	70	124
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	95.0	65	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	93.1	70	120
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	90.9	69	121
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	93.2	72	122

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP080: BTEXN (QCLot: 3850139) - continued								
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	103	70	124
EP090: Organotin Compounds (QCLot: 3847099)								
EP090H: Monobutyltin	78763-54-9	2	ngSn/L	<5	50 ngSn/L	99.9	25	139
EP090H: Dibutyltin	1002-53-5	2	ngSn/L	<5	50 ngSn/L	# 120	50	114
EP090H: Tributyltin	56573-85-4	1	ngSn/L	<2	50 ngSn/L	107	39	120

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3858204)							
ES1504836-002	BH42 0.5-1.0A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	102	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	102	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	98.3	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	108	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	98.9	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	104	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	106	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3858207)							
ES1504836-062	BH56 0.5-1.0A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	101	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	102	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	92.0	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	106	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	99.3	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	103	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	101	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3858203)							
ES1504836-001	BH42 0.0-0.5A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	118	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3858206)							
ES1504836-061	BH56 0.0-0.5A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	121	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3861836)							
ES1504836-001	BH42 0.0-0.5A	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	98.6	70	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3861838)							
ES1504836-061	BH56 0.0-0.5A	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	97.5	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3861837)							
ES1504836-001	BH42 0.0-0.5A	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	109	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3861839)							
ES1504836-061	BH56 0.0-0.5A	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	110	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3859763)							
ES1504836-001	BH42 0.0-0.5A	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	97.0	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3860960)							
ES1504836-062	BH56 0.5-1.0A	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	97.8	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3859764)							
ES1504836-001	BH42 0.0-0.5A	EK067G: Total Phosphorus as P	----	100 mg/kg	93.9	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3859765)							
ES1504836-061	BH56 0.0-0.5A	EK067G: Total Phosphorus as P	----	100 mg/kg	99.3	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3860961)							
ES1504836-062	BH56 0.5-1.0A	EK067G: Total Phosphorus as P	----	100 mg/kg	86.2	70	130
EK255A SD: Ammonia in Sediment (QCLot: 3850692)							
ES1504836-001	BH42 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	# Not Determined	70	130
EK255A SD: Ammonia in Sediment (QCLot: 3850693)							
ES1504836-061	BH56 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	# Not Determined	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3847155)							
ES1504836-001	BH42 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	94.3	70	130
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	80.8	70	130
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	110	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3847158)							
ES1504836-061	BH56 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	100	70	130
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	90.2	70	130
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	108	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3847411)							
ES1504836-007	BH42 0.3V	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	115	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3847420)							
ES1504836-065	BH56 0.3V	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	93.6	70	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP080-SD: BTEXN (QCLot: 3847411)							
ES1504836-007	BH42 0.3V	EP080-SD: Benzene	71-43-2	0.5 mg/kg	90.6	70	130
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	98.1	70	130
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	106	70	130
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	106	70	130
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	106	70	130
EP080-SD: BTEXN (QCLot: 3847420)							
ES1504836-065	BH56 0.3V	EP080-SD: Benzene	71-43-2	0.5 mg/kg	79.1	70	130
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	73.8	70	130
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	81.3	70	130
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	79.6	70	130
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	83.6	70	130
EP090: Organotin Compounds (QCLot: 3845946)							
ES1504836-002	BH42 0.5-1.0A	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	# 7.8	35	130
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	83.1	20	130
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	85.9	20	130
EP090: Organotin Compounds (QCLot: 3845947)							
ES1504836-062	BH56 0.5-1.0A	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	# 27.2	35	130
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	112	20	130
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	98.0	20	130
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3847138)							
ES1504836-001	BH42 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	71.4	36	144
		EP130: Carbophenothion	786-19-6	50 µg/kg	72.8	38	120
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	62.6	49	157
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	75.1	53	145
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	71.4	60	140
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	79.1	56	126
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	74.6	9.7	148
		EP130: Diazinon	333-41-5	50 µg/kg	74.5	60	122
		EP130: Dichlorvos	62-73-7	50 µg/kg	76.3	33	123
		EP130: Dimethoate	60-51-5	50 µg/kg	80.3	36	142
		EP130: Ethion	563-12-2	50 µg/kg	71.7	48	136
		EP130: Fenamiphos	22224-92-6	50 µg/kg	74.4	42	136
		EP130: Fenthion	55-38-9	50 µg/kg	65.4	35	131
		EP130: Malathion	121-75-5	50 µg/kg	77.0	55	141

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3847138) - continued							
ES1504836-001	BH42 0.0-0.5A	EP130: Azinphos Methyl	86-50-0	50 µg/kg	81.4	23.5	132
		EP130: Monocrotophos	6923-22-4	50 µg/kg	82.7	35	153
		EP130: Parathion	56-38-2	50 µg/kg	74.6	57	147
		EP130: Parathion-methyl	298-00-0	50 µg/kg	75.1	48	140
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	88.4	45	137
		EP130: Prothiofos	34643-46-4	50 µg/kg	73.1	51	137
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3847143)							
ES1504836-061	BH56 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	77.6	36	144
		EP130: Carbophenothion	786-19-6	50 µg/kg	78.4	38	120
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	86.5	49	157
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	92.7	53	145
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	74.9	60	140
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	82.8	56	126
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	79.1	9.7	148
		EP130: Diazinon	333-41-5	50 µg/kg	79.2	60	122
		EP130: Dichlorvos	62-73-7	50 µg/kg	76.0	33	123
		EP130: Dimethoate	60-51-5	50 µg/kg	86.0	36	142
		EP130: Ethion	563-12-2	50 µg/kg	79.4	48	136
		EP130: Fenamiphos	22224-92-6	50 µg/kg	82.3	42	136
		EP130: Fenthion	55-38-9	50 µg/kg	73.8	35	131
		EP130: Malathion	121-75-5	50 µg/kg	81.5	55	141
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	91.9	23.5	132
		EP130: Monocrotophos	6923-22-4	50 µg/kg	91.0	35	153
		EP130: Parathion	56-38-2	50 µg/kg	79.9	57	147
		EP130: Parathion-methyl	298-00-0	50 µg/kg	82.8	48	140
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	93.2	45	137
		EP130: Prothiofos	34643-46-4	50 µg/kg	74.9	51	137
EP131A: Organochlorine Pesticides (QCLot: 3847139)							
ES1504836-001	BH42 0.0-0.5A	EP131A: Aldrin	309-00-2	5 µg/kg	43.4	23.4	153
		EP131A: alpha-BHC	319-84-6	5 µg/kg	41.6	17.6	156
		EP131A: beta-BHC	319-85-7	5 µg/kg	58.2	24.9	153
		EP131A: delta-BHC	319-86-8	5 µg/kg	92.0	25.2	147
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	60.1	25.9	150
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	51.9	31.2	125
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	110	23.4	163
		EP131A: Dieldrin	60-57-1	5 µg/kg	65.4	30.2	140
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	56.1	28.8	135

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP131A: Organochlorine Pesticides (QCLot: 3847139) - continued							
ES1504836-001	BH42 0.0-0.5A	EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	70.0	22.6	141
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	78.3	16.1	156
		EP131A: Endrin	72-20-8	5 µg/kg	72.5	17.7	162
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	40.3	20.1	116
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	51.8	13.4	151
		EP131A: Heptachlor	76-44-8	5 µg/kg	78.4	23.8	170
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	52.6	28.3	140
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	44.5	17.7	144
		EP131A: gamma-BHC	58-89-9	5 µg/kg	48.4	21.8	158
		EP131A: Methoxychlor	72-43-5	5 µg/kg	85.6	24.4	158
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	57.4	27.3	139
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	85.6	29.5	138
EP131A: Organochlorine Pesticides (QCLot: 3847145)							
ES1504836-061	BH56 0.0-0.5A	EP131A: Aldrin	309-00-2	5 µg/kg	31.3	23.4	153
		EP131A: alpha-BHC	319-84-6	5 µg/kg	40.6	17.6	156
		EP131A: beta-BHC	319-85-7	5 µg/kg	44.2	24.9	153
		EP131A: delta-BHC	319-86-8	5 µg/kg	45.8	25.2	147
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	39.2	25.9	150
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	42.7	31.2	125
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	78.0	23.4	163
		EP131A: Dieldrin	60-57-1	5 µg/kg	45.0	30.2	140
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	50.9	28.8	135
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	45.9	22.6	141
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	57.4	16.1	156
		EP131A: Endrin	72-20-8	5 µg/kg	64.2	17.7	162
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	46.6	20.1	116
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	35.0	13.4	151
		EP131A: Heptachlor	76-44-8	5 µg/kg	76.7	23.8	170
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	38.9	28.3	140
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	32.6	17.7	144
		EP131A: gamma-BHC	58-89-9	5 µg/kg	40.8	21.8	158
		EP131A: Methoxychlor	72-43-5	5 µg/kg	66.5	24.4	158
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	38.7	27.3	139
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	48.8	29.5	138
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3847140)							
ES1504836-001	BH42 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	83.8	44	136
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	83.8	44	136

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3847146)							
ES1504836-061	BH56 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	52.5	44	136
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	52.5	44	136
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3847154)							
ES1504836-001	BH42 0.0-0.5A	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	102	70	130
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	95.0	70	130
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	111	70	130
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	108	70	130
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	96.7	70	130
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	117	70	130
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	94.3	70	130
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	103	70	130
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	102	70	130
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	116	70	130
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	115	70	130
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	107	70	130
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	100	70	130
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	88.8	70	130
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	92.4	70	130
		EP132B-SD: Perylene	198-55-0	25 µg/kg	87.6	70	130
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	77.9	70	130
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	78.7	70	130
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	74.3	70	130
		EP132B-SD: Coronene	191-07-1	25 µg/kg	103	70	130
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3847157)							
ES1504836-061	BH56 0.0-0.5A	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	81.5	70	130
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	99.7	70	130
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	78.3	70	130
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	81.8	70	130
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	79.7	70	130
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	87.0	70	130
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	83.9	70	130
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	86.1	70	130
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	83.7	70	130
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	97.7	70	130
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	85.6	70	130

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Recovery Limits (%) Low	Recovery Limits (%) High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3847157) - continued							
ES1504836-061	BH56 0.0-0.5A	EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	89.2	70	130
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	89.0	70	130
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	88.2	70	130
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	91.3	70	130
		EP132B-SD: Perylene	198-55-0	25 µg/kg	87.5	70	130
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	81.7	70	130
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	78.6	70	130
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	77.2	70	130
		EP132B-SD: Coronene	191-07-1	25 µg/kg	89.2	70	130

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Recovery Limits (%) Low	Recovery Limits (%) High
EG020T: Total Metals by ICP-MS (QCLot: 3850667)							
ES1504998-071	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	91.6	70	130
		EG020A-T: Cadmium	7440-43-9	0.250 mg/L	92.8	70	130
		EG020A-T: Chromium	7440-47-3	1 mg/L	94.7	70	130
		EG020A-T: Copper	7440-50-8	1 mg/L	93.7	70	130
		EG020A-T: Lead	7439-92-1	1 mg/L	94.8	70	130
		EG020A-T: Manganese	7439-96-5	1 mg/L	99.3	70	130
		EG020A-T: Nickel	7440-02-0	1 mg/L	92.0	70	130
		EG020A-T: Zinc	7440-66-6	1 mg/L	96.6	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3861655)							
ES1505172-001	Anonymous	EG035T: Mercury	7439-97-6	0.010 mg/L	83.4	70	130
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3852013)							
ES1504836-075	RINSATE 17	EK055G: Ammonia as N	7664-41-7	1 mg/L	101	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3844879)							
ES1504836-075	RINSATE 17	EK057G: Nitrite as N	----	0.5 mg/L	102	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3852012)							
ES1504836-075	RINSATE 17	EK059G: Nitrite + Nitrate as N	----	0.5 mg/L	103	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3852007)							
ES1504998-071	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	5 mg/L	93.2	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3852008)							
ES1504998-071	Anonymous	EK067G: Total Phosphorus as P	----	1.0 mg/L	109	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3850139)							

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3850139) - continued							
ES1505268-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	107	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3850139)							
ES1505268-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	106	70	130
EP080: BTEXN (QCLot: 3850139)							
ES1505268-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	77.7	70	130
		EP080: Toluene	108-88-3	25 µg/L	81.3	70	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	82.9	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	78.3	70	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	83.7	70	130
		EP080: Naphthalene	91-20-3	25 µg/L	97.9	70	130

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

The quality control term Matrix Spike (MS) and Matrix Spike Duplicate (MSD) refers to intralaboratory split samples spiked with a representative set of target analytes. The purpose of these QC parameters are to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report							
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP090: Organotin Compounds (QCLot: 3845946)										
ES1504836-002	BH42 0.5-1.0A	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	# 7.8	----	35	130	----	----
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	83.1	----	20	130	----	----
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	85.9	----	20	130	----	----
EP090: Organotin Compounds (QCLot: 3845947)										
ES1504836-062	BH56 0.5-1.0A	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	# 27.2	----	35	130	----	----
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	112	----	20	130	----	----
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	98.0	----	20	130	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3847138)										
ES1504836-001	BH42 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	71.4	----	36	144	----	----
		EP130: Carbophenothion	786-19-6	50 µg/kg	72.8	----	38	120	----	----
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	62.6	----	49	157	----	----
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	75.1	----	53	145	----	----
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	71.4	----	60	140	----	----
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	79.1	----	56	126	----	----
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	74.6	----	9.7	148	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3847138) - continued										
ES1504836-001	BH42 0.0-0.5A	EP130: Diazinon	333-41-5	50 µg/kg	74.5	----	60	122	----	----
		EP130: Dichlorvos	62-73-7	50 µg/kg	76.3	----	33	123	----	----
		EP130: Dimethoate	60-51-5	50 µg/kg	80.3	----	36	142	----	----
		EP130: Ethion	563-12-2	50 µg/kg	71.7	----	48	136	----	----
		EP130: Fenamiphos	22224-92-6	50 µg/kg	74.4	----	42	136	----	----
		EP130: Fenthion	55-38-9	50 µg/kg	65.4	----	35	131	----	----
		EP130: Malathion	121-75-5	50 µg/kg	77.0	----	55	141	----	----
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	81.4	----	23.5	132	----	----
		EP130: Monocrotophos	6923-22-4	50 µg/kg	82.7	----	35	153	----	----
		EP130: Parathion	56-38-2	50 µg/kg	74.6	----	57	147	----	----
		EP130: Parathion-methyl	298-00-0	50 µg/kg	75.1	----	48	140	----	----
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	88.4	----	45	137	----	----
		EP130: Prothiofos	34643-46-4	50 µg/kg	73.1	----	51	137	----	----
EP131A: Organochlorine Pesticides (QCLot: 3847139)										
ES1504836-001	BH42 0.0-0.5A	EP131A: Aldrin	309-00-2	5 µg/kg	43.4	----	23.4	153	----	----
		EP131A: alpha-BHC	319-84-6	5 µg/kg	41.6	----	17.6	156	----	----
		EP131A: beta-BHC	319-85-7	5 µg/kg	58.2	----	24.9	153	----	----
		EP131A: delta-BHC	319-86-8	5 µg/kg	92.0	----	25.2	147	----	----
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	60.1	----	25.9	150	----	----
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	51.9	----	31.2	125	----	----
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	110	----	23.4	163	----	----
		EP131A: Dieldrin	60-57-1	5 µg/kg	65.4	----	30.2	140	----	----
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	56.1	----	28.8	135	----	----
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	70.0	----	22.6	141	----	----
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	78.3	----	16.1	156	----	----
		EP131A: Endrin	72-20-8	5 µg/kg	72.5	----	17.7	162	----	----
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	40.3	----	20.1	116	----	----
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	51.8	----	13.4	151	----	----
		EP131A: Heptachlor	76-44-8	5 µg/kg	78.4	----	23.8	170	----	----
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	52.6	----	28.3	140	----	----
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	44.5	----	17.7	144	----	----
		EP131A: gamma-BHC	58-89-9	5 µg/kg	48.4	----	21.8	158	----	----
		EP131A: Methoxychlor	72-43-5	5 µg/kg	85.6	----	24.4	158	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP131A: Organochlorine Pesticides (QCLot: 3847139) - continued										
ES1504836-001	BH42 0.0-0.5A	EP131A: cis-Chlordane	5103-71-9	5 µg/kg	57.4	----	27.3	139	----	----
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	85.6	----	29.5	138	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3847140)										
ES1504836-001	BH42 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	83.8	----	44	136	----	----
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	83.8	----	44	136	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3847143)										
ES1504836-061	BH56 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	77.6	----	36	144	----	----
		EP130: Carbophenothion	786-19-6	50 µg/kg	78.4	----	38	120	----	----
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	86.5	----	49	157	----	----
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	92.7	----	53	145	----	----
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	74.9	----	60	140	----	----
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	82.8	----	56	126	----	----
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	79.1	----	9.7	148	----	----
		EP130: Diazinon	333-41-5	50 µg/kg	79.2	----	60	122	----	----
		EP130: Dichlorvos	62-73-7	50 µg/kg	76.0	----	33	123	----	----
		EP130: Dimethoate	60-51-5	50 µg/kg	86.0	----	36	142	----	----
		EP130: Ethion	563-12-2	50 µg/kg	79.4	----	48	136	----	----
		EP130: Fenamiphos	22224-92-6	50 µg/kg	82.3	----	42	136	----	----
		EP130: Fenthion	55-38-9	50 µg/kg	73.8	----	35	131	----	----
		EP130: Malathion	121-75-5	50 µg/kg	81.5	----	55	141	----	----
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	91.9	----	23.5	132	----	----
		EP130: Monocrotophos	6923-22-4	50 µg/kg	91.0	----	35	153	----	----
		EP130: Parathion	56-38-2	50 µg/kg	79.9	----	57	147	----	----
		EP130: Parathion-methyl	298-00-0	50 µg/kg	82.8	----	48	140	----	----
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	93.2	----	45	137	----	----
		EP130: Prothiofos	34643-46-4	50 µg/kg	74.9	----	51	137	----	----
EP131A: Organochlorine Pesticides (QCLot: 3847145)										
ES1504836-061	BH56 0.0-0.5A	EP131A: Aldrin	309-00-2	5 µg/kg	31.3	----	23.4	153	----	----
		EP131A: alpha-BHC	319-84-6	5 µg/kg	40.6	----	17.6	156	----	----
		EP131A: beta-BHC	319-85-7	5 µg/kg	44.2	----	24.9	153	----	----
		EP131A: delta-BHC	319-86-8	5 µg/kg	45.8	----	25.2	147	----	----
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	39.2	----	25.9	150	----	----
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	42.7	----	31.2	125	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP131A: Organochlorine Pesticides (QCLot: 3847145) - continued										
ES1504836-061	BH56 0.0-0.5A	EP131A: 4.4`-DDT	50-29-3	5 µg/kg	78.0	----	23.4	163	----	----
		EP131A: Dieldrin	60-57-1	5 µg/kg	45.0	----	30.2	140	----	----
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	50.9	----	28.8	135	----	----
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	45.9	----	22.6	141	----	----
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	57.4	----	16.1	156	----	----
		EP131A: Endrin	72-20-8	5 µg/kg	64.2	----	17.7	162	----	----
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	46.6	----	20.1	116	----	----
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	35.0	----	13.4	151	----	----
		EP131A: Heptachlor	76-44-8	5 µg/kg	76.7	----	23.8	170	----	----
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	38.9	----	28.3	140	----	----
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	32.6	----	17.7	144	----	----
		EP131A: gamma-BHC	58-89-9	5 µg/kg	40.8	----	21.8	158	----	----
		EP131A: Methoxychlor	72-43-5	5 µg/kg	66.5	----	24.4	158	----	----
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	38.7	----	27.3	139	----	----
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	48.8	----	29.5	138	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3847146)										
ES1504836-061	BH56 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	52.5	----	44	136	----	----
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	52.5	----	44	136	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3847154)										
ES1504836-001	BH42 0.0-0.5A	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	102	----	70	130	----	----
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	95.0	----	70	130	----	----
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	111	----	70	130	----	----
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	108	----	70	130	----	----
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	96.7	----	70	130	----	----
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	117	----	70	130	----	----
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	94.3	----	70	130	----	----
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	103	----	70	130	----	----
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	102	----	70	130	----	----
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	116	----	70	130	----	----
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	115	----	70	130	----	----
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	107	----	70	130	----	----
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	100	----	70	130	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3847154) - continued										
ES1504836-001	BH42 0.0-0.5A	EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	88.8	----	70	130	----	----
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	92.4	----	70	130	----	----
		EP132B-SD: Perylene	198-55-0	25 µg/kg	87.6	----	70	130	----	----
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	77.9	----	70	130	----	----
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	78.7	----	70	130	----	----
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	74.3	----	70	130	----	----
		EP132B-SD: Coronene	191-07-1	25 µg/kg	103	----	70	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3847155)										
ES1504836-001	BH42 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	94.3	----	70	130	----	----
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	80.8	----	70	130	----	----
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	110	----	70	130	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3847157)										
ES1504836-061	BH56 0.0-0.5A	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	81.5	----	70	130	----	----
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	99.7	----	70	130	----	----
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	78.3	----	70	130	----	----
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	81.8	----	70	130	----	----
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	79.7	----	70	130	----	----
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	87.0	----	70	130	----	----
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	83.9	----	70	130	----	----
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	86.1	----	70	130	----	----
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	83.7	----	70	130	----	----
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	97.7	----	70	130	----	----
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	85.6	----	70	130	----	----
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	89.2	----	70	130	----	----
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	89.0	----	70	130	----	----
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	88.2	----	70	130	----	----
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	91.3	----	70	130	----	----
		EP132B-SD: Perylene	198-55-0	25 µg/kg	87.5	----	70	130	----	----
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	81.7	----	70	130	----	----
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	78.6	----	70	130	----	----
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	77.2	----	70	130	----	----
		EP132B-SD: Coronene	191-07-1	25 µg/kg	89.2	----	70	130	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3847158)										
ES1504836-061	BH56 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	100	----	70	130	----	----
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	90.2	----	70	130	----	----
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	108	----	70	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3847411)										
ES1504836-007	BH42 0.3V	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	115	----	70	130	----	----
EP080-SD: BTEXN (QCLot: 3847411)										
ES1504836-007	BH42 0.3V	EP080-SD: Benzene	71-43-2	0.5 mg/kg	90.6	----	70	130	----	----
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	98.1	----	70	130	----	----
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	106	----	70	130	----	----
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	106	----	70	130	----	----
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	106	----	70	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3847420)										
ES1504836-065	BH56 0.3V	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	93.6	----	70	130	----	----
EP080-SD: BTEXN (QCLot: 3847420)										
ES1504836-065	BH56 0.3V	EP080-SD: Benzene	71-43-2	0.5 mg/kg	79.1	----	70	130	----	----
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	73.8	----	70	130	----	----
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	81.3	----	70	130	----	----
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	79.6	----	70	130	----	----
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	83.6	----	70	130	----	----
EK255A SD: Ammonia in Sediment (QCLot: 3850692)										
ES1504836-001	BH42 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	# Not Determined	----	70	130	----	----
EK255A SD: Ammonia in Sediment (QCLot: 3850693)										
ES1504836-061	BH56 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	# Not Determined	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3858203)										
ES1504836-001	BH42 0.0-0.5A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	118	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3858204)										
ES1504836-002	BH42 0.5-1.0A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	102	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	102	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	98.3	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	108	----	70	130	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3858204) - continued										
ES1504836-002	BH42 0.5-1.0A	EG020-SD: Lead	7439-92-1	250 mg/kg	98.9	----	70	130	----	----
		EG020-SD: Nickel	7440-02-0	50 mg/kg	104	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	106	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3858206)										
ES1504836-061	BH56 0.0-0.5A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	121	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3858207)										
ES1504836-062	BH56 0.5-1.0A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	101	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	102	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	92.0	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	106	----	70	130	----	----
		EG020-SD: Lead	7439-92-1	250 mg/kg	99.3	----	70	130	----	----
		EG020-SD: Nickel	7440-02-0	50 mg/kg	103	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	101	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3859763)										
ES1504836-001	BH42 0.0-0.5A	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	97.0	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3859764)										
ES1504836-001	BH42 0.0-0.5A	EK067G: Total Phosphorus as P	----	100 mg/kg	93.9	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3859765)										
ES1504836-061	BH56 0.0-0.5A	EK067G: Total Phosphorus as P	----	100 mg/kg	99.3	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3860960)										
ES1504836-062	BH56 0.5-1.0A	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	97.8	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3860961)										
ES1504836-062	BH56 0.5-1.0A	EK067G: Total Phosphorus as P	----	100 mg/kg	86.2	----	70	130	----	----
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3861836)										
ES1504836-001	BH42 0.0-0.5A	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	98.6	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3861837)										
ES1504836-001	BH42 0.0-0.5A	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	109	----	70	130	----	----
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3861838)										
ES1504836-061	BH56 0.0-0.5A	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	97.5	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3861839)										
ES1504836-061	BH56 0.0-0.5A	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	110	----	70	130	----	----

Sub-Matrix: **WATER**

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

Sub-Matrix: **WATER**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3844879)										
ES1504836-075	RINSATE 17	EK057G: Nitrite as N	----	0.5 mg/L	102	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3850139)										
ES1505268-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	107	----	70	130	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3850139)										
ES1505268-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	106	----	70	130	----	----
EP080: BTEXN (QCLot: 3850139)										
ES1505268-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	77.7	----	70	130	----	----
		EP080: Toluene	108-88-3	25 µg/L	81.3	----	70	130	----	----
		EP080: Ethylbenzene	100-41-4	25 µg/L	82.9	----	70	130	----	----
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	78.3	----	70	130	----	----
		EP080: ortho-Xylene	95-47-6	25 µg/L	83.7	----	70	130	----	----
		EP080: Naphthalene	91-20-3	25 µg/L	97.9	----	70	130	----	----
EG020T: Total Metals by ICP-MS (QCLot: 3850667)										
ES1504998-071	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	91.6	----	70	130	----	----
		EG020A-T: Cadmium	7440-43-9	0.250 mg/L	92.8	----	70	130	----	----
		EG020A-T: Chromium	7440-47-3	1 mg/L	94.7	----	70	130	----	----
		EG020A-T: Copper	7440-50-8	1 mg/L	93.7	----	70	130	----	----
		EG020A-T: Lead	7439-92-1	1 mg/L	94.8	----	70	130	----	----
		EG020A-T: Manganese	7439-96-5	1 mg/L	99.3	----	70	130	----	----
		EG020A-T: Nickel	7440-02-0	1 mg/L	92.0	----	70	130	----	----
		EG020A-T: Zinc	7440-66-6	1 mg/L	96.6	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3852007)										
ES1504998-071	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	5 mg/L	93.2	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3852008)										
ES1504998-071	Anonymous	EK067G: Total Phosphorus as P	----	1.0 mg/L	109	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3852012)										
ES1504836-075	RINSATE 17	EK059G: Nitrite + Nitrate as N	----	0.5 mg/L	103	----	70	130	----	----
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3852013)										
ES1504836-075	RINSATE 17	EK055G: Ammonia as N	7664-41-7	1 mg/L	101	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3861655)										
ES1505172-001	Anonymous	EG035T: Mercury	7439-97-6	0.010 mg/L	83.4	----	70	130	----	----

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1504836**	Page	: 1 of 24
Client	: AURECON AUSTRALASIA PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 03-MAR-2015
Sampler	: GK	Issue Date	: 27-MAR-2015
Order number	: 245553		
		No. of samples received	: 75
Quote number	: SY/1021/14 V2	No. of samples analysed	: 75

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with recommended holding times (USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content							
Soil Glass Jar - Unpreserved (EA055-103)							
BH42 0.0-0.5A, BH42 0.5-1.0A, BH42 1.0-1.6A, BH42 0.3V, BH42 0.7V, BH42 1.3V, BH44 0.0-0.5A, BH44 0.3V, BH47 0.0-0.7A, BH47 0.3V, BH48 0.0-0.6A, BH48 0.3V, BH49 0.0-0.5A, BH49 0.5-0.8A, BH49 0.3V, BH49 0.7V, BH50 0.0-0.5A, BH50 0.5-0.9A, BH50 0.3V, BH50 0.7V, BH51 0.0-0.5A, BH51 0.5-0.9A, BH51 0.3V, BH51 0.7V, BH52 0.0-0.5A, BH52 0.5-0.8A, BH52 0.3V, BH52 0.7V, BH53 0.0-0.5A, BH53 0.5-1.0A, BH53 0.3V, BH53 0.7V, BH54 0.0-0.5A, BH54 0.5-1.0A, BH54 0.3V, BH54 0.7V, BH55 0.0-0.5A, BH55 0.5-0.9A, BH55 0.3V, BH55 0.7V, BH56 0.0-0.5A, BH56 0.5-1.0A, BH56 0.3V, BH56 0.7V, EB28 0.0-0.4A, EB28 0.3V, TRIPLICATE 15A, TRIPLICATE 15B, TRIPLICATE 16A, TRIPLICATE 16B, DUPLICATE 8A	**26-FEB-2015**	**----**	----	----	**16-MAR-2015**	12-MAR-2015	×

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA150: Particle Sizing								
Snap Lock Bag (EA150H)								
BH42 0.0-0.5B,	BH42 0.5-1.0B,	**26-FEB-2015**	**---**	25-AUG-2015	----	**23-MAR-2015**	25-AUG-2015	✓
BH42 1.0-1.6B,	BH44 0.0-0.5B,							
BH47 0.0-0.7B,	BH48 0.0-0.6B,							
BH49 0.0-0.5B,	BH49 0.5-0.8B,							
BH50 0.0-0.5B,	BH50 0.5-0.9B,							
BH51 0.0-0.5B,	BH51 0.5-0.9B,							
BH52 0.0-0.5B,	BH52 0.5-0.8B,							
BH53 0.0-0.5B,	BH53 0.5-1.0B,							
BH54 0.0-0.5B,	BH54 0.5-1.0B,							
BH55 0.0-0.5B,	BH55 0.5-0.9B,							
BH56 0.0-0.5B,	BH56 0.5-1.0A							
EA150: Soil Classification based on Particle Size								
Snap Lock Bag (EA150H)								
BH42 0.0-0.5B,	BH42 0.5-1.0B,	**26-FEB-2015**	**---**	25-AUG-2015	----	**23-MAR-2015**	25-AUG-2015	✓
BH42 1.0-1.6B,	BH44 0.0-0.5B,							
BH47 0.0-0.7B,	BH48 0.0-0.6B,							
BH49 0.0-0.5B,	BH49 0.5-0.8B,							
BH50 0.0-0.5B,	BH50 0.5-0.9B,							
BH51 0.0-0.5B,	BH51 0.5-0.9B,							
BH52 0.0-0.5B,	BH52 0.5-0.8B,							
BH53 0.0-0.5B,	BH53 0.5-1.0B,							
BH54 0.0-0.5B,	BH54 0.5-1.0B,							
BH55 0.0-0.5B,	BH55 0.5-0.9B,							
BH56 0.0-0.5B,	BH56 0.5-1.0A							
EA152: Soil Particle Density								
Snap Lock Bag (EA152)								
BH42 0.0-0.5B,	BH42 0.5-1.0B,	**26-FEB-2015**	**---**	25-AUG-2015	----	**26-MAR-2015**	25-AUG-2015	✓
BH42 1.0-1.6B,	BH44 0.0-0.5B,							
BH47 0.0-0.7B,	BH48 0.0-0.6B,							
BH49 0.0-0.5B,	BH49 0.5-0.8B,							
BH50 0.0-0.5B,	BH50 0.5-0.9B,							
BH51 0.0-0.5B,	BH51 0.5-0.9B,							
BH52 0.0-0.5B,	BH52 0.5-0.8B,							
BH53 0.0-0.5B,	BH53 0.5-1.0B,							
BH54 0.0-0.5B,	BH54 0.5-1.0B,							
BH55 0.0-0.5B,	BH55 0.5-0.9B,							
BH56 0.0-0.5B,	BH56 0.5-1.0A							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005-SD: Total Metals in Sediments by ICP-AES								
Soil Glass Jar - Unpreserved (EG005-SD)								
BH42 0.0-0.5A,	BH42 0.5-1.0A,	**26-FEB-2015**	**13-MAR-2015**	25-AUG-2015	✓	**14-MAR-2015**	25-AUG-2015	✓
BH42 1.0-1.6A,	BH44 0.0-0.5A,							
BH47 0.0-0.7A,	BH48 0.0-0.6A,							
BH49 0.0-0.5A,	BH49 0.5-0.8A,							
BH50 0.0-0.5A,	BH50 0.5-0.9A,							
BH51 0.0-0.5A,	BH51 0.5-0.9A,							
BH52 0.0-0.5A,	BH52 0.5-0.8A,							
BH53 0.0-0.5A,	BH53 0.5-1.0A,							
BH54 0.0-0.5A,	BH54 0.5-1.0A,							
BH55 0.0-0.5A,	BH55 0.5-0.9A,							
BH56 0.0-0.5A,	BH56 0.5-1.0A,							
EB28 0.0-0.4A,	TRIPLICATE 15A,							
TRIPLICATE 15B,	TRIPLICATE 16A,							
TRIPLICATE 16B,	DUPLICATE 8A							
EG020-SD: Total Metals in Sediments by ICPMS								
Soil Glass Jar - Unpreserved (EG020-SD)								
BH42 0.0-0.5A,	BH42 0.5-1.0A,	**26-FEB-2015**	**13-MAR-2015**	25-AUG-2015	✓	**14-MAR-2015**	25-AUG-2015	✓
BH42 1.0-1.6A,	BH44 0.0-0.5A,							
BH47 0.0-0.7A,	BH48 0.0-0.6A,							
BH49 0.0-0.5A,	BH49 0.5-0.8A,							
BH50 0.0-0.5A,	BH50 0.5-0.9A,							
BH51 0.0-0.5A,	BH51 0.5-0.9A,							
BH52 0.0-0.5A,	BH52 0.5-0.8A,							
BH53 0.0-0.5A,	BH53 0.5-1.0A,							
BH54 0.0-0.5A,	BH54 0.5-1.0A,							
BH55 0.0-0.5A,	BH55 0.5-0.9A,							
BH56 0.0-0.5A,	BH56 0.5-1.0A,							
EB28 0.0-0.4A,	TRIPLICATE 15A,							
TRIPLICATE 15B,	TRIPLICATE 16A,							
TRIPLICATE 16B,	DUPLICATE 8A							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T-LL)								
BH42 0.0-0.5A,	BH42 0.5-1.0A,	**26-FEB-2015**	**13-MAR-2015**	26-MAR-2015	✓	**16-MAR-2015**	26-MAR-2015	✓
BH42 1.0-1.6A,	BH44 0.0-0.5A,							
BH47 0.0-0.7A,	BH48 0.0-0.6A,							
BH49 0.0-0.5A,	BH49 0.5-0.8A,							
BH50 0.0-0.5A,	BH50 0.5-0.9A,							
BH51 0.0-0.5A,	BH51 0.5-0.9A,							
BH52 0.0-0.5A,	BH52 0.5-0.8A,							
BH53 0.0-0.5A,	BH53 0.5-1.0A,							
BH54 0.0-0.5A,	BH54 0.5-1.0A,							
BH55 0.0-0.5A,	BH55 0.5-0.9A,							
BH56 0.0-0.5A,	BH56 0.5-1.0A,							
EB28 0.0-0.4A,	TRIPLICATE 15A,							
TRIPLICATE 15B,	TRIPLICATE 16A,							
TRIPLICATE 16B,	DUPLICATE 8A							
EK057G: Nitrite as N by Discrete Analyser								
Soil Glass Jar - Unpreserved (EK057G)								
BH42 0.0-0.5A,	BH42 0.5-1.0A,	**26-FEB-2015**	**17-MAR-2015**	25-AUG-2015	✓	**17-MAR-2015**	25-AUG-2015	✓
BH42 1.0-1.6A,	BH44 0.0-0.5A,							
BH47 0.0-0.7A,	BH48 0.0-0.6A,							
BH49 0.0-0.5A,	BH49 0.5-0.8A,							
BH50 0.0-0.5A,	BH50 0.5-0.9A,							
BH51 0.0-0.5A,	BH51 0.5-0.9A,							
BH52 0.0-0.5A,	BH52 0.5-0.8A,							
BH53 0.0-0.5A,	BH53 0.5-1.0A,							
BH54 0.0-0.5A,	BH54 0.5-1.0A,							
BH55 0.0-0.5A,	BH55 0.5-0.9A,							
BH56 0.0-0.5A,	BH56 0.5-1.0A,							
EB28 0.0-0.4A,	TRIPLICATE 15A,							
TRIPLICATE 15B,	TRIPLICATE 16A,							
TRIPLICATE 16B,	DUPLICATE 8A							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser								
Soil Glass Jar - Unpreserved (EK059G)								
BH42 0.0-0.5A,	BH42 0.5-1.0A,	**26-FEB-2015**	**17-MAR-2015**	25-AUG-2015	✓	**17-MAR-2015**	25-AUG-2015	✓
BH42 1.0-1.6A,	BH44 0.0-0.5A,							
BH47 0.0-0.7A,	BH48 0.0-0.6A,							
BH49 0.0-0.5A,	BH49 0.5-0.8A,							
BH50 0.0-0.5A,	BH50 0.5-0.9A,							
BH51 0.0-0.5A,	BH51 0.5-0.9A,							
BH52 0.0-0.5A,	BH52 0.5-0.8A,							
BH53 0.0-0.5A,	BH53 0.5-1.0A,							
BH54 0.0-0.5A,	BH54 0.5-1.0A,							
BH55 0.0-0.5A,	BH55 0.5-0.9A,							
BH56 0.0-0.5A,	BH56 0.5-1.0A,							
EB28 0.0-0.4A,	TRIPLICATE 15A,							
TRIPLICATE 15B,	TRIPLICATE 16A,							
TRIPLICATE 16B,	DUPLICATE 8A							
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser								
Soil Glass Jar - Unpreserved (EK061G)								
BH42 0.0-0.5A,	BH42 0.5-1.0A,	**26-FEB-2015**	**16-MAR-2015**	25-AUG-2015	✓	**16-MAR-2015**	25-AUG-2015	✓
BH42 1.0-1.6A,	BH44 0.0-0.5A,							
BH47 0.0-0.7A,	BH48 0.0-0.6A,							
BH49 0.0-0.5A,	BH49 0.5-0.8A,							
BH50 0.0-0.5A,	BH50 0.5-0.9A,							
BH51 0.0-0.5A,	BH51 0.5-0.9A,							
BH52 0.0-0.5A,	BH52 0.5-0.8A,							
BH53 0.0-0.5A,	BH53 0.5-1.0A,							
BH54 0.0-0.5A,	BH54 0.5-1.0A,							
BH55 0.0-0.5A,	BH55 0.5-0.9A,							
BH56 0.0-0.5A,	BH56 0.5-1.0A,							
EB28 0.0-0.4A,	TRIPLICATE 15A,							
TRIPLICATE 15B,	TRIPLICATE 16A,							
TRIPLICATE 16B,	DUPLICATE 8A							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK067G: Total Phosphorus as P by Discrete Analyser								
Soil Glass Jar - Unpreserved (EK067G)								
BH42 0.0-0.5A,	BH42 0.5-1.0A,	**26-FEB-2015**	**16-MAR-2015**	25-AUG-2015	✓	**16-MAR-2015**	25-AUG-2015	✓
BH42 1.0-1.6A,	BH44 0.0-0.5A,							
BH47 0.0-0.7A,	BH48 0.0-0.6A,							
BH49 0.0-0.5A,	BH49 0.5-0.8A,							
BH50 0.0-0.5A,	BH50 0.5-0.9A,							
BH51 0.0-0.5A,	BH51 0.5-0.9A,							
BH52 0.0-0.5A,	BH52 0.5-0.8A,							
BH53 0.0-0.5A,	BH53 0.5-1.0A,							
BH54 0.0-0.5A,	BH54 0.5-1.0A,							
BH55 0.0-0.5A,	BH55 0.5-0.9A,							
BH56 0.0-0.5A,	BH56 0.5-1.0A,							
EB28 0.0-0.4A,	TRIPLICATE 15A,							
TRIPLICATE 15B,	TRIPLICATE 16A,							
TRIPLICATE 16B,	DUPLICATE 8A							
EK255A SD Ammonia in Sediment								
Soil Glass Jar - Unpreserved (EK255A SD)								
BH42 0.0-0.5A,	BH42 0.5-1.0A,	**26-FEB-2015**	**----**	----	----	**09-MAR-2015**	25-AUG-2015	✓
BH42 1.0-1.6A,	BH44 0.0-0.5A,							
BH47 0.0-0.7A,	BH48 0.0-0.6A,							
BH49 0.0-0.5A,	BH49 0.5-0.8A,							
BH50 0.0-0.5A,	BH50 0.5-0.9A,							
BH51 0.0-0.5A,	BH51 0.5-0.9A,							
BH52 0.0-0.5A,	BH52 0.5-0.8A,							
BH53 0.0-0.5A,	BH53 0.5-1.0A,							
BH54 0.0-0.5A,	BH54 0.5-1.0A,							
BH55 0.0-0.5A,	BH55 0.5-0.9A,							
BH56 0.0-0.5A,	BH56 0.5-1.0A,							
EB28 0.0-0.4A,	TRIPLICATE 15A,							
TRIPLICATE 15B,	TRIPLICATE 16A,							
TRIPLICATE 16B,	DUPLICATE 8A							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP003: Total Organic Carbon (TOC) in Soil								
Pulp Bag (EP003)								
BH42 0.0-0.5A,	BH42 0.5-1.0A,	**26-FEB-2015**	**16-MAR-2015**	26-MAR-2015	✓	**17-MAR-2015**	26-MAR-2015	✓
BH42 1.0-1.6A,	BH44 0.0-0.5A,							
BH47 0.0-0.7A,	BH48 0.0-0.6A,							
BH49 0.0-0.5A,	BH49 0.5-0.8A,							
BH50 0.0-0.5A,	BH50 0.5-0.9A,							
BH51 0.0-0.5A,	BH51 0.5-0.9A,							
BH52 0.0-0.5A,	BH52 0.5-0.8A,							
BH53 0.0-0.5A,	BH53 0.5-1.0A,							
BH54 0.0-0.5A,	BH54 0.5-1.0A,							
BH55 0.0-0.5A,	BH55 0.5-0.9A,							
BH56 0.0-0.5A,	BH56 0.5-1.0A,							
EB28 0.0-0.4A,	TRIPLICATE 15A,							
TRIPLICATE 15B,	TRIPLICATE 16A,							
TRIPLICATE 16B,	DUPLICATE 8A							
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP071-SD)								
TRIP BLANK 17		**18-FEB-2015**	**11-MAR-2015**	04-MAR-2015	×	**16-MAR-2015**	20-APR-2015	✓
Soil Glass Jar - Unpreserved (EP071-SD)								
BH56 0.0-0.5A,	BH56 0.5-1.0A,	**26-FEB-2015**	**11-MAR-2015**	12-MAR-2015	✓	**16-MAR-2015**	20-APR-2015	✓
EB28 0.0-0.4A,	TRIPLICATE 15A,							
TRIPLICATE 15B,	TRIPLICATE 16A,							
TRIPLICATE 16B,	DUPLICATE 8A							
Soil Glass Jar - Unpreserved (EP071-SD)								
BH42 0.0-0.5A,	BH42 0.5-1.0A,	**26-FEB-2015**	**11-MAR-2015**	12-MAR-2015	✓	**17-MAR-2015**	20-APR-2015	✓
BH42 1.0-1.6A,	BH44 0.0-0.5A,							
BH47 0.0-0.7A,	BH48 0.0-0.6A,							
BH49 0.0-0.5A,	BH49 0.5-0.8A,							
BH50 0.0-0.5A,	BH50 0.5-0.9A,							
BH51 0.0-0.5A,	BH51 0.5-0.9A,							
BH52 0.0-0.5A,	BH52 0.5-0.8A,							
BH53 0.0-0.5A,	BH53 0.5-1.0A,							
BH54 0.0-0.5A,	BH54 0.5-1.0A,							
BH55 0.0-0.5A,	BH55 0.5-0.9A							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080-SD: BTEXN							
Soil Glass Jar - Unpreserved (EP080-SD)							
TRIP BLANK 17	**18-FEB-2015**	**09-MAR-2015**	04-MAR-2015	×	**12-MAR-2015**	04-MAR-2015	×
Soil Glass Jar - Unpreserved (EP080-SD)							
BH42 0.3V, BH42 0.7V, BH42 1.3V, BH44 0.3V, BH47 0.3V, BH48 0.3V, BH49 0.3V, BH49 0.7V, BH50 0.3V, BH50 0.7V, BH51 0.3V, BH51 0.7V, BH52 0.3V, BH52 0.7V, BH53 0.3V, BH53 0.7V, BH54 0.3V, BH54 0.7V, BH55 0.3V, BH55 0.7V, BH56 0.3V, BH56 0.7V, EB28 0.3V	**26-FEB-2015**	**09-MAR-2015**	12-MAR-2015	✓	**12-MAR-2015**	12-MAR-2015	✓
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080-SD)							
TRIP BLANK 17	**18-FEB-2015**	**09-MAR-2015**	04-MAR-2015	×	**12-MAR-2015**	04-MAR-2015	×
Soil Glass Jar - Unpreserved (EP080-SD)							
BH42 0.3V, BH42 0.7V, BH42 1.3V, BH44 0.3V, BH47 0.3V, BH48 0.3V, BH49 0.3V, BH49 0.7V, BH50 0.3V, BH50 0.7V, BH51 0.3V, BH51 0.7V, BH52 0.3V, BH52 0.7V, BH53 0.3V, BH53 0.7V, BH54 0.3V, BH54 0.7V, BH55 0.3V, BH55 0.7V, BH56 0.3V, BH56 0.7V, EB28 0.3V	**26-FEB-2015**	**09-MAR-2015**	12-MAR-2015	✓	**12-MAR-2015**	12-MAR-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP090: Organotin Compounds								
Soil Glass Jar - Unpreserved (EP090)								
BH56 0.0-0.5A,	BH56 0.5-1.0A,	**26-FEB-2015**	**11-MAR-2015**	12-MAR-2015	✓	**17-MAR-2015**	20-APR-2015	✓
EB28 0.0-0.4A,	TRIPLICATE 15A,							
TRIPLICATE 15B,	TRIPLICATE 16A,							
TRIPLICATE 16B,	DUPLICATE 8A							
Soil Glass Jar - Unpreserved (EP090)								
BH42 0.0-0.5A,	BH42 0.5-1.0A,	**26-FEB-2015**	**11-MAR-2015**	12-MAR-2015	✓	**18-MAR-2015**	20-APR-2015	✓
BH42 1.0-1.6A,	BH44 0.0-0.5A,							
BH47 0.0-0.7A,	BH48 0.0-0.6A,							
BH49 0.0-0.5A,	BH49 0.5-0.8A,							
BH50 0.0-0.5A,	BH50 0.5-0.9A,							
BH51 0.0-0.5A,	BH51 0.5-0.9A,							
BH52 0.0-0.5A,	BH52 0.5-0.8A,							
BH53 0.0-0.5A,	BH53 0.5-1.0A,							
BH54 0.0-0.5A,	BH54 0.5-1.0A,							
BH55 0.0-0.5A,	BH55 0.5-0.9A							
EP130A: Organophosphorus Pesticides (Ultra-trace)								
Soil Glass Jar - Unpreserved (EP130)								
BH42 0.0-0.5A,	BH42 0.5-1.0A,	**26-FEB-2015**	**11-MAR-2015**	12-MAR-2015	✓	**16-MAR-2015**	20-APR-2015	✓
BH42 1.0-1.6A,	BH44 0.0-0.5A,							
BH47 0.0-0.7A,	BH48 0.0-0.6A,							
BH49 0.0-0.5A,	BH49 0.5-0.8A,							
BH50 0.0-0.5A,	BH50 0.5-0.9A,							
BH51 0.0-0.5A,	BH51 0.5-0.9A,							
BH52 0.0-0.5A,	BH52 0.5-0.8A,							
BH53 0.0-0.5A,	BH53 0.5-1.0A,							
BH54 0.0-0.5A,	BH54 0.5-1.0A,							
BH55 0.0-0.5A,	BH55 0.5-0.9A,							
BH56 0.0-0.5A,	BH56 0.5-1.0A,							
EB28 0.0-0.4A,	TRIPLICATE 15A,							
TRIPLICATE 15B,	TRIPLICATE 16A,							
TRIPLICATE 16B,	DUPLICATE 8A							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP131A: Organochlorine Pesticides								
Soil Glass Jar - Unpreserved (EP131A)								
BH42 0.0-0.5A,	BH42 0.5-1.0A,	**26-FEB-2015**	**11-MAR-2015**	12-MAR-2015	✓	**16-MAR-2015**	20-APR-2015	✓
BH42 1.0-1.6A,	BH44 0.0-0.5A,							
BH47 0.0-0.7A,	BH48 0.0-0.6A,							
BH49 0.0-0.5A,	BH49 0.5-0.8A,							
BH50 0.0-0.5A,	BH50 0.5-0.9A,							
BH51 0.0-0.5A,	BH51 0.5-0.9A,							
BH52 0.0-0.5A,	BH52 0.5-0.8A,							
BH53 0.0-0.5A,	BH53 0.5-1.0A,							
BH54 0.0-0.5A,	BH54 0.5-1.0A,							
BH55 0.0-0.5A,	BH55 0.5-0.9A,							
BH56 0.0-0.5A,	BH56 0.5-1.0A,							
EB28 0.0-0.4A,	TRIPLICATE 15A,							
TRIPLICATE 15B,	TRIPLICATE 16A,							
TRIPLICATE 16B,	DUPLICATE 8A							
EP131B: Polychlorinated Biphenyls (as Aroclors)								
Soil Glass Jar - Unpreserved (EP131B)								
BH42 0.0-0.5A,	BH42 0.5-1.0A,	**26-FEB-2015**	**11-MAR-2015**	12-MAR-2015	✓	**16-MAR-2015**	20-APR-2015	✓
BH42 1.0-1.6A,	BH44 0.0-0.5A,							
BH47 0.0-0.7A,	BH48 0.0-0.6A,							
BH49 0.0-0.5A,	BH49 0.5-0.8A,							
BH50 0.0-0.5A,	BH50 0.5-0.9A,							
BH51 0.0-0.5A,	BH51 0.5-0.9A,							
BH52 0.0-0.5A,	BH52 0.5-0.8A,							
BH53 0.0-0.5A,	BH53 0.5-1.0A,							
BH54 0.0-0.5A,	BH54 0.5-1.0A,							
BH55 0.0-0.5A,	BH55 0.5-0.9A,							
BH56 0.0-0.5A,	BH56 0.5-1.0A,							
EB28 0.0-0.4A,	TRIPLICATE 15A,							
TRIPLICATE 15B,	TRIPLICATE 16A,							
TRIPLICATE 16B,	DUPLICATE 8A							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP132B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP132B-SD)							
BH56 0.0-0.5A, BH56 0.5-1.0A, EB28 0.0-0.4A, TRIPLICATE 15A, TRIPLICATE 15B, TRIPLICATE 16A, TRIPLICATE 16B, DUPLICATE 8A	**26-FEB-2015**	**11-MAR-2015**	12-MAR-2015	✓	**16-MAR-2015**	20-APR-2015	✓
Soil Glass Jar - Unpreserved (EP132B-SD)							
BH42 0.0-0.5A, BH42 0.5-1.0A, BH42 1.0-1.6A, BH44 0.0-0.5A, BH47 0.0-0.7A, BH48 0.0-0.6A, BH49 0.0-0.5A, BH49 0.5-0.8A, BH50 0.0-0.5A, BH50 0.5-0.9A, BH51 0.0-0.5A, BH51 0.5-0.9A, BH52 0.0-0.5A, BH52 0.5-0.8A, BH53 0.0-0.5A, BH53 0.5-1.0A, BH54 0.0-0.5A, BH54 0.5-1.0A, BH55 0.0-0.5A, BH55 0.5-0.9A	**26-FEB-2015**	**11-MAR-2015**	12-MAR-2015	✓	**17-MAR-2015**	20-APR-2015	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG020A-T)							
RINSATE 17	**26-FEB-2015**	**09-MAR-2015**	25-AUG-2015	✓	**09-MAR-2015**	25-AUG-2015	✓
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG020B-T)							
RINSATE 17	**26-FEB-2015**	**09-MAR-2015**	25-AUG-2015	✓	**09-MAR-2015**	25-AUG-2015	✓
EG035T: Total Recoverable Mercury by FIMS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG035T)							
RINSATE 17	**26-FEB-2015**	**----**	----	----	**17-MAR-2015**	26-MAR-2015	✓
EK055G: Ammonia as N by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK055G)							
RINSATE 17	**26-FEB-2015**	**---**	26-MAR-2015	----	**10-MAR-2015**	26-MAR-2015	✓
EK057G: Nitrite as N by Discrete Analyser							
Clear Plastic Bottle - Natural (EK057G)							
RINSATE 17	**26-FEB-2015**	**---**	28-FEB-2015	----	**04-MAR-2015**	28-FEB-2015	×
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK059G)							
RINSATE 17	**26-FEB-2015**	**---**	26-MAR-2015	----	**10-MAR-2015**	26-MAR-2015	✓
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK061G)							
RINSATE 17	**26-FEB-2015**	**10-MAR-2015**	26-MAR-2015	✓	**10-MAR-2015**	26-MAR-2015	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK067G: Total Phosphorus as P by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK067G)							
RINSATE 17	**26-FEB-2015**	**10-MAR-2015**	26-MAR-2015	✓	**10-MAR-2015**	26-MAR-2015	✓
EP066: Polychlorinated Biphenyls (PCB)							
Amber Glass Bottle - Unpreserved (EP066)							
RINSATE 17	**26-FEB-2015**	**05-MAR-2015**	05-MAR-2015	✓	**07-MAR-2015**	14-APR-2015	✓
EP068A: Organochlorine Pesticides (OC)							
Amber Glass Bottle - Unpreserved (EP068)							
RINSATE 17	**26-FEB-2015**	**05-MAR-2015**	05-MAR-2015	✓	**08-MAR-2015**	14-APR-2015	✓
EP068B: Organophosphorus Pesticides (OP)							
Amber Glass Bottle - Unpreserved (EP068)							
RINSATE 17	**26-FEB-2015**	**05-MAR-2015**	05-MAR-2015	✓	**08-MAR-2015**	14-APR-2015	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
RINSATE 17	**26-FEB-2015**	**05-MAR-2015**	05-MAR-2015	✓	**07-MAR-2015**	14-APR-2015	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
RINSATE 17	**26-FEB-2015**	**05-MAR-2015**	05-MAR-2015	✓	**07-MAR-2015**	14-APR-2015	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
RINSATE 17	**26-FEB-2015**	**07-MAR-2015**	12-MAR-2015	✓	**07-MAR-2015**	12-MAR-2015	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber VOC Vial - Sulfuric Acid (EP080)							
RINSATE 17	**26-FEB-2015**	**07-MAR-2015**	12-MAR-2015	✓	**07-MAR-2015**	12-MAR-2015	✓
EP090: Organotin Compounds							
Amber Glass Bottle - Unpreserved (EP090H)							
RINSATE 17	**26-FEB-2015**	**05-MAR-2015**	05-MAR-2015	✓	**06-MAR-2015**	14-APR-2015	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Ammonia in Sediments	EK255A SD	4	40	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Moisture Content	EA055-103	6	59	**10.2**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	4	31	**12.9**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	3	28	**10.7**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	4	34	**11.8**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	4	34	**11.8**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	3	27	**11.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	4	34	**11.8**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	4	34	**11.8**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	4	42	**9.5**	**9.5**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	3	28	**10.7**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	3	28	**10.7**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	3	28	**10.7**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	3	28	**10.7**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	5	43	**11.6**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	4	36	**11.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	4	32	**12.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Ammonia in Sediments	EK255A SD	2	40	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	2	31	**6.5**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	2	28	**7.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	2	34	**5.9**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	2	34	**5.9**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	2	27	**7.4**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	2	34	**5.9**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	2	34	**5.9**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	6	42	**14.3**	**14.3**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	28	**7.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	28	**7.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	28	**7.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	2	28	**7.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	9	43	**20.9**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	2	36	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	2	32	**6.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Method Blanks (MB)							
Ammonia in Sediments	EK255A SD	2	40	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	2	31	6.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	2	28	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	2	34	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	2	34	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	2	27	7.4	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	2	34	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	2	34	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	2	42	4.8	4.8	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	28	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	28	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	28	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	2	28	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	3	43	7.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	2	36	5.6	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	2	32	6.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia in Sediments	EK255A SD	2	40	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	2	31	6.5	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	2	28	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	2	34	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	2	34	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	2	27	7.4	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	2	34	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	2	34	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	2	42	4.8	4.8	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	28	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	28	7.1	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	3	43	7.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	2	36	5.6	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	2	32	6.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Ammonia as N by Discrete analyser	EK055G	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	9	11.1	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP) - Continued							
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	2	19	**10.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	9	**11.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	3	**33.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Ammonia as N by Discrete analyser	EK055G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Compounds (Soluble)	EP090H	1	2	**50.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	5	**20.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	4	**25.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	6	**16.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	3	19	**15.8**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	3	**33.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	3	20	**15.0**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	11	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Ammonia as N by Discrete analyser	EK055G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Compounds (Soluble)	EP090H	1	2	**50.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	5	**20.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	4	**25.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	6	**16.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	3	**33.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	11	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia as N by Discrete analyser	EK055G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Matrix Spikes (MS) - Continued							
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055-103	SOIL	In-house. A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Particle Size Analysis by Hydrometer	EA150H	SOIL	Particle Size Analysis by Hydrometer according to AS1289.3.6.3 - 2003
Soil Particle Density	* EA152	SOIL	Soil Particle Density by AS 1289.3.5.1-2006 : Methods of testing soils for engineering purposes - Soil classification tests - Determination of the soil particle density of a soil - Standard method
Total Fe and Al in Sediments by ICPAES	EG005-SD	SOIL	In house: Referenced to APHA 21st ed., 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3). LORs per NODG
Total Metals in Sediments by ICPMS	EG020-SD	SOIL	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector. Analyte list and LORs per NODG.
Total Mercury by FIMS (Low Level)	EG035T-LL	SOIL	In house: Referenced to AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Nitrite as N - Soluble by Discrete Analyser	EK057G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3- B. Nitrite in a water extract is determined by direct colourimetry by Discrete Analyser.
Nitrate as N - Soluble by Discrete Analyser	EK058G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3--F. Nitrate in the 1:5 soil:water extract is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results.
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3- F. Combined oxidised Nitrogen (NO2+NO3) in a water extract is determined by Chemical Reduction, and direct colourimetry by Discrete Analyser.
TKN as N By Discrete Analyser	EK061G	SOIL	In house: Referenced to APHA 21st ed., 4500-Norg-D Soil samples are digested using Kjeldahl digestion followed by determination by Discrete Analyser.
Total Nitrogen as N (TKN + NOx) By Discrete Analyser	EK062G	SOIL	In house: Referenced to APHA 21st ed., 4500 Norg/NO3- Total Nitrogen is determined as the sum of TKN and Oxidised Nitrrogen, each determined seperately as N.
Total Phosporus By Discrete Analyser	EK067G	SOIL	In house: Referenced to APHA 21st ed., 4500 P-B&F This procedure involves sulfuric acid digestion and quantification using Discrete Analyser.
Ammonia in Sediments	EK255A SD	SOIL	Rayment and Higginson (1992) Method 7C1 and 7C2. This method measures exchangeable ammonium which is defined by the amount of ammonium released by shaking sediment with an un-buffered 2M potassium chloride solution.

Analytical Methods	Method	Matrix	Method Descriptions
Total Organic Carbon	EP003	SOIL	In-house C-IR17. Dried and pulverised sample is reacted with acid to remove inorganic Carbonates, then combusted in a LECO furnace in the presence of strong oxidants / catalysts. The evolved (Organic) Carbon (as CO2) is automaticaly measured by infra-red detector.
TPH - Semivolatile Fraction	EP071-SD	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 504)
TRH Volatiles/BTEX in Sediments	EP080-SD	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve.
Organotin Analysis	EP090	SOIL	(USEPA SW 846 - 8270D) Prepared sample extracts are analysed by GC/MS coupled with high volume injection, and quanitified against an established calibration curve.
Organophosphorus Pesticides (Ultra-trace)	EP130	SOIL	USEPA Method 3640 (GPC cleanup), 8141 (GC/FPD - Capillary Column) This technique is compliant with NEPM (2013) Schedule B(3) (Method 505)
Organochlorine Pesticides (Ultra-trace)	EP131A	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (2013) Schedule B(3) (Method 504)
PCB's (Ultra-trace)	EP131B	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (2013) Schedule B(3) (Method 504)
PAHs in Sediments by GCMS(SIM)	EP132B-SD	SOIL	USEPA 8270 GCMS Capillary column, SIM mode using large volume programmed temperature vaporisation injection.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Metals by ICP-MS - Suite B	EG020B-T	WATER	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Mercury by FIMS	EG035T	WATER	In house: Referenced to AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Ammonia as N by Discrete analyser	EK055G	WATER	In house: Referenced to APHA 21st ed., 4500-NH3 G Ammonia is determined by direct colorimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Nitrite as N by Discrete Analyser	EK057G	WATER	In house: Referenced to APHA 21st ed., 4500-NO2- B. Nitrite is determined by direct colourimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Nitrate as N by Discrete Analyser	EK058G	WATER	In house: Referenced to APHA 21st ed., 4500-NO3- F. Nitrate is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results. This method is compliant with NEPM (2013) Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	WATER	In house: Referenced to APHA 21st ed., 4500-NO3- F. Combined oxidised Nitrogen (NO2+NO3) is determined by Chemical Reduction and direct colourimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	WATER	In house: Referenced to APHA 21st ed., 4500-Norg D (In house). An aliquot of sample is digested using a high temperature Kjeldahl digestion to convert nitrogenous compounds to ammonia. Ammonia is determined colorimetrically by discrete analyser. This method is compliant with NEPM (2013) Schedule B(3)
Total Nitrogen as N (TKN + Nox) By Discrete Analyser	EK062G	WATER	In house: Referenced to APHA 21st ed., 4500-Norg / 4500-NO3-. This method is compliant with NEPM (2013) Schedule B(3)
Total Phosphorus as P By Discrete Analyser	EK067G	WATER	In house: Referenced to APHA 21st ed., 4500-P H, Jirka et al (1976), Zhang et al (2006). This procedure involves sulphuric acid digestion of a sample aliquot to break phosphorus down to orthophosphate. The orthophosphate reacts with ammonium molybdate and antimony potassium tartrate to form a complex which is then reduced and its concentration measured at 880nm using discrete analyser. This method is compliant with NEPM (2013) Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Pesticides by GCMS	EP068	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
Organotin Compounds (Soluble)	EP090H	WATER	(USEPA SW 846 - 8270D, ALS QWI-ORG/EP090) Sample extracts (ALS QWI-ORG/035) are analysed by GC/MS coupled with high volume injection (10-50µL). Quantitation is achieved using internal standard and average response factor quantitation techniques against an established five-point curve. Butyltin results are reported in either "as tin" units eg. ng Sn/L or "ng TBT+/L". The analytical standards are prepared in "as tin" units. Sample results are converted to TBT+ results as required.

Preparation Methods	Method	Matrix	Method Descriptions
TKN/TP Digestion	EK061/EK067	SOIL	APHA 21st ed., 4500 Norg- D; APHA 21st ed., 4500 P - H. Macro Kjeldahl digestion.
1:5 solid / water leach for soluble analytes	EN34	SOIL	10 g of soil is mixed with 50 mL of distilled water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids/ Sample Cleanup	ORG17A-UTP	SOIL	In-house, Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. Samples are extracted, concentrated (by KD) and exchanged into an appropriate solvent for GPC and florisil cleanup as required.

Preparation Methods	Method	Matrix	Method Descriptions
Tumbler Extraction of Solids for LVI (Non-concentrating)	ORG17D	SOIL	In house: 10g of sample, Na2SO4 and surrogate are extracted with 50mL 1:1 DCM/Acetone by end over end tumbling. An aliquot is concentrated by nitrogen blowdown to a reduced volume for analysis if required.
Organotin Sample Preparation	ORG35	SOIL	In house. 20g sample is spiked with surrogate and leached in a methanol:acetic acid:UHP water mix and vacuum filtered. Reagents and solvents are added to the sample and the mixture tumbled. The butyltin compounds are simultaneously derivatised and extracted. The extract is further extracted with petroleum ether. The resultant extracts are combined and concentrated for analysis.
TKN/TP Digestion	EK061/EK067	WATER	APHA 21st ed., 4500 Norg - D; APHA 21st ed., 4500 P - H. This method is compliant with NEPM (2013) Schedule B(3)
Digestion for Total Recoverable Metals	EN25	WATER	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (2013) Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (2013) Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Organotin Sample Preparation	ORG34H	WATER	(IN HOUSE, ALS QWI-ORG/35) A specified volume (determined by the detection limit requirement) of sample is spiked with surrogate, acidified and vacuum filtered. Reagents and solvent are added to the sample and the mixture tumbled for 20 minutes. The butyltin compounds is derivitisated, extracted and the subtitution reaction is completed. The extracts is transferred to a separatory funnel and further extracted two times using petroleum ether. The resultant extracts are combined and concentrated to the desired volume for analysis.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW 846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EK255A SD: Ammonia in Sediment	ES1504836-001	BH42 0.0-0.5A	**Ammonia as N**	7664-41-7	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EK255A SD: Ammonia in Sediment	ES1504836-061	BH56 0.0-0.5A	**Ammonia as N**	7664-41-7	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP090: Organotin Compounds	ES1504836-002	BH42 0.5-1.0A	**Monobutyltin**	78763-54-9	7.8 %	35-130%	**Recovery less than lower data quality objective**
EP090: Organotin Compounds	ES1504836-062	BH56 0.5-1.0A	**Monobutyltin**	78763-54-9	27.2 %	35-130%	**Recovery less than lower data quality objective**

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP090: Organotin Compounds	4636623-002	----	**Dibutyltin**	1002-53-5	120 %	50-114%	**Recovery greater than upper control limit**

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Duplicate outliers occur.**

Regular Sample Surrogates

- **For all regular sample matrices, no surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

Matrix: **SOIL**

Method	*Extraction / Preparation*			*Analysis*		
Container / Client Sample ID(s)	*Date extracted*	*Due for extraction*	***Days overdue***	*Date analysed*	*Due for analysis*	***Days overdue***
EA055: Moisture Content						

Matrix: **SOIL**

Method / Container / Client Sample ID(s)	Extraction / Preparation: Date extracted	Extraction / Preparation: Due for extraction	Extraction / Preparation: Days overdue	Analysis: Date analysed	Analysis: Due for analysis	Analysis: Days overdue
EA055: Moisture Content - Analysis Holding Time Compliance						
Soil Glass Jar - Unpreserved						
BH42 0.0-0.5A, BH42 0.5-1.0A, BH42 1.0-1.6A, BH42 0.3V, BH42 0.7V, BH42 1.3V, BH44 0.0-0.5A, BH44 0.3V, BH47 0.0-0.7A, BH47 0.3V, BH48 0.0-0.6A, BH48 0.3V, BH49 0.0-0.5A, BH49 0.5-0.8A, BH49 0.3V, BH49 0.7V, BH50 0.0-0.5A, BH50 0.5-0.9A, BH50 0.3V, BH50 0.7V, BH51 0.0-0.5A, BH51 0.5-0.9A, BH51 0.3V, BH51 0.7V, BH52 0.0-0.5A, BH52 0.5-0.8A, BH52 0.3V, BH52 0.7V, BH53 0.0-0.5A, BH53 0.5-1.0A, BH53 0.3V, BH53 0.7V, BH54 0.0-0.5A, BH54 0.5-1.0A, BH54 0.3V, BH54 0.7V, BH55 0.0-0.5A, BH55 0.5-0.9A, BH55 0.3V, BH55 0.7V, BH56 0.0-0.5A, BH56 0.5-1.0A, BH56 0.3V, BH56 0.7V, EB28 0.0-0.4A, EB28 0.3V, TRIPLICATE 15A, TRIPLICATE 15B, TRIPLICATE 16A, TRIPLICATE 16B, DUPLICATE 8A	----	----	----	16-MAR-2015	12-MAR-2015	**4**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013						
Soil Glass Jar - Unpreserved						
TRIP BLANK 17	11-MAR-2015	04-MAR-2015	**7**	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons						
Soil Glass Jar - Unpreserved						
TRIP BLANK 17	09-MAR-2015	04-MAR-2015	**5**	12-MAR-2015	04-MAR-2015	**8**
Soil Glass Jar - Unpreserved						
TRIP BLANK 17	11-MAR-2015	04-MAR-2015	**7**	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons						
Soil Glass Jar - Unpreserved						
TRIP BLANK 17	09-MAR-2015	04-MAR-2015	**5**	12-MAR-2015	04-MAR-2015	**8**
EP080-SD: BTEXN						

Matrix: **SOIL**

Method / Container / Client Sample ID(s)	Extraction / Preparation: Date extracted	Extraction / Preparation: Due for extraction	Extraction / Preparation: Days overdue	Analysis: Date analysed	Analysis: Due for analysis	Analysis: Days overdue
EP080-SD: BTEXN - Analysis Holding Time Compliance						
Soil Glass Jar - Unpreserved						
TRIP BLANK 17	09-MAR-2015	04-MAR-2015	**5**	12-MAR-2015	04-MAR-2015	**8**

Matrix: **WATER**

Method / Container / Client Sample ID(s)	Extraction / Preparation: Date extracted	Extraction / Preparation: Due for extraction	Extraction / Preparation: Days overdue	Analysis: Date analysed	Analysis: Due for analysis	Analysis: Days overdue
EK057G: Nitrite as N by Discrete Analyser						
Clear Plastic Bottle - Natural						
RINSATE 17	----	----	----	04-MAR-2015	28-FEB-2015	**4**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

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☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 7
ORDER NUMBER: 245553		
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt	Yes	No	N/A
Random Sample Temperature on Receipt		C	
Other comment			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	Kelly Schafer	KSchafer	AM
DATE/TIME: 27-Feb-15	DATE/TIME: 27-Feb-15 1730	DATE/TIME: 2-3-15 1600	DATE/TIME: 3-3-15 09-15

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION										Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	BH24 0.0-0.2 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1		1						
2	BH24 0.0-0.2 B	27/02/2015	S	Bag (White label)	1		1	1						
				TOTAL	3	1	1	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

150ml A Jars and 500ml Amber sent direct to Brisbane for TOC/TBT

Environmental Division Sydney

Work Order

ES1504998

Telephone : +61-2-8784 8555

ALS Environmental

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☐NEWCASTLE 6 Rees Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
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☐SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 (2) 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comments:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		27-Feb-15	27-Feb-15		

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
3	BH26 0.0-0.2 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1		1						
4	BH26 0.0-0.2 B	27/02/2015	S	Bag (White label)	1		1	1						
				TOTAL	3	1	1	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody seal intact? Yes No N/A Cooling Method: Ice Gel Ice Bricks None CoC / Sample labels present and match? Yes No N/A Samples received within recommended holding times? Yes No N/A Any comments?
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 7	
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		27-Feb-15	27-Feb-15		

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
5	BH31 0.0-0.5A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
6	BH31 0.5-1.0A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
7	BH31 1.0-1.3 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
8	BH31 0.0-0.5B	27/02/2015	S	Bag (White label)	1		1							
9	BH31 0.5-1.0B	27/02/2015	S	Bag (White label)	1		1							
10	BH31 0.3V	27/02/2015	S	Glass Jar (150 ml)	1			1						
11	BH31 0.7V	27/02/2015	S	Glass Jar (150 ml)	1			1						
12	BH31 1.3 V	27/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	11	3	2	3						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody seal intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Cooler Present and Intact? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Receipt Sample Temperature on Receipt: 21.2 °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 16	Free of Contamination? Yes No N/A
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*		
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
27-Feb-15	27-Feb-15		

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
✓ 13	BH33 0.0-0.5 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
✓ 14	BH33 0.5-1.0 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
✓ 15	BH33 1.0 - 1.5 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
✓ 16	BH33 1.5-1.8 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
17	BH33 0.0-0.5 B	27/02/2015	S	Bag (White label)	1		1							
18	BH33 0.5-1.0 B	27/02/2015	S	Bag (White label)	1		1							
19	BH33 1.0-1.5 B	27/02/2015	S	Bag (White label)	1		1							
20	BH33 0.3V	27/02/2015	S	Glass Jar (150 ml)	1			1						
21	BH33 0.7V	27/02/2015	S	Glass Jar (150 ml)	1			1						
22	BH33 1.3V	27/02/2015	S	Glass Jar (150 ml)	1			1						
23	BH33 1.7V	27/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	15	4	3	4						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact: Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice brick present upon receipt: Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt (°C): 15.6
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Cooling Method:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*		
DATE/TIME: 27-Feb-15	DATE/TIME: 27-Feb-15	DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH				Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
24	BH34 0.0-0.5 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
25	BH34 0.5-1.0 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
26	BH34 1.0-1.6 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
27	BH34 0.0-0.5 B	27/02/2015	S	Bag (White label)	1		1								
28	BH34 0.5-1.0 B	27/02/2015	S	Bag (White label)	1		1								
29	BH34 1.0-1.6 B	27/02/2015	S	Bag (White label)	1		1								
30	BH34 0.3V	27/02/2015	S	Glass Jar (150 ml)	1			1							
31	BH34 0.7V	27/02/2015	S	Glass Jar (150 ml)	1			1							
32	BH34 1.3V	27/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	12	3	3	3							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 07 7471 5600 E: gladstone@alsglobal.com
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Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hea Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
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Ph: 02 8784 5555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: [illegible]
WELLINGTON 2 [illegible] Street Wellington NSW 2820
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comments:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		27-Feb-15	27-Feb-15		

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
33	BH35 0.0-0.7 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
34	BH35 0.0-0.7 B	27/02/2015	S	Bag (White label)	1		1							
35	BH35 0.3V	27/02/2015	S	Glass Jar (150 ml)	1			1						
36	BH35 0.7V	27/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	5	1	1	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	**FOR LABORATORY USE ONLY (Circle)** Security seal Intact / Broken / None; Ice bricks present / Ice packs present / No ice; Cooling Method: Ice / Ice bricks / Ice packs / None; Temperature of Receipt (°C)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)** COC: 1 2 3 4 5 6 7	
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 (7)	
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006		

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		27-Feb-15	27-Feb-15		

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
37	BH36 0.0-0.4 A	27/02/2015	S	Glass Jar (250 ml and 160 ml)	2	1									
38	BH38 0.3V	27/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	3	1		1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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GLADSTONE 1/3 Kitchener Drive Callemondah QLD 4680 Ph: 07 4971 6900 E: gladstone@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6	
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 27-Feb-15	DATE/TIME: 27-Feb-15
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY:	RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
39	BH39 0.0-0.5 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
40	BH39 0.5-1.0 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
41	BH39 1.0-1.5 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
42	BH39 1.5-1.8 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
43	BH39 0.0-0.5 B	27/02/2015	S	Bag (White label)	1		1								
44	BH39 0.5-1.0 B	27/02/2015	S	Bag (White label)	1		1								
45	BH39 0.0-0.5 B	27/02/2015	S	Bag (White label)	1		1								
46	BH39 1.5-1.8 B	27/02/2015	S	Bag (White label)	1		1								
47	BH39 0.3V	27/02/2015	S	Glass Jar (150 ml)	1			1							
48	BH39 0.7V	27/02/2015	S	Glass Jar (150 ml)	1			1							
49	BH39 1.3V	27/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	13	4	4	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody seal intact	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (9)	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (9)	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		27-Feb-15	27-Feb-15

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS – MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
50	BH40 0.0-0.5 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
51	BH40 0.5-1.0 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
52	BH40 1.0-1.2 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
53	BH40 0.5-1.0 B	27/02/2015	S	Bag (White label)	1		1								
54	BH40 0.3V	27/02/2015	S	Glass Jar (150 ml)	1			1							
55	BH40 0.7V	27/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	8	3	1	1							

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Free ice / frozen ice / pack present on receipt? N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Random Sample Temperature on Receipt
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6	Other comments
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	DATE/TIME: 27-Feb-15	DATE/TIME: 27-Feb-16
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			RELINQUISHED BY: DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			RECEIVED BY: DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
56	BH41 0.0-0.5 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
57	BH41 0.0-0.5 B	27/02/2015	S	Bag (White label)	1		1							
58	BH41 0.3V	27/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: ponkenthal@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date):	5 day turnaround
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6	11
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6	19
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

FOR LABORATORY USE ONLY (Circle)

Quality Specimen	Yes	No	N/A
Free ice / frozen ice bricks presentation	Yes	No	N/A
Cooling	Yes	No	N/A
Random Sample Temperature Receipt			
Dioxin Comment			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*		
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
27-Feb-15	27-Feb-15		

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
59	BH43 0.0-0.5 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
60	BH43 0.0-0.5 B	27/02/2015	S	Bag (White label)	1		1							
61	BH43 0.3V	27/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5800 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MOOREBANK 27 Dunlop Road Moorebank NSW 2170 Ph: 02 8784 8555 E: moorebank@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Stony Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody seal intact on cooler/box upon receipt? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Random sample temperature on receipt (°C):
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6	Cooling Method:
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6	

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		27-Feb-15	27-Feb-15		

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
62	BH45 0.0-0.5 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
63	BH45 0.5-0.8 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
64	BH45 0.0-0.5 B	27/02/2015	S	Bag (White label)	1		1								
65	BH45 0.3V	27/02/2015	S	Glass Jar (150 ml)	1			1							
66	BH45 0.7V	27/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	6	2	1	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 6 day turnaround	Security Seal Intact: Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Temperature on Receipt:
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6	Receipt Confirmed via Email: Yes / No
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6	Free ice supplied: Yes / No

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		27-Feb-15	27-Feb-15		

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS - MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
67	BH46 0.0-0.6 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
68	BH46 0.0-0.6 B	27/02/2015	S	Bag (White label)	1		1							
69	BH46 0.3V	27/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) **Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround		Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Preservation Correct / Container Appropriate? Yes / No
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6	Parcel Sample Temperature on Receipt:
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6	Other Comments:

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		27-Feb-15	27-Feb-15		

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	Rinsate Suite	Trip blank suite	
70	~~Triplicate 18~~ TRIP BLANK	27/02/2015	S	Glass Jar (250 ml)	1	✓							1	
✓ 71	Rinsate 18	27/02/2015	W	Bottle	8							1		
				TOTAL	8							1		

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround		
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000				
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7		
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 7		
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8008			
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer	RELINQUISHED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 27-Feb-15	DATE/TIME: 27-Feb-15 1730	DATE/TIME: 2-3-15 1600
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com				RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com				DATE/TIME: 3/3/15 9am

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S)				ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	BH24 0.0-0.2 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1		1						
2	BH24 0.0-0.2 B	27/02/2015	S	Bag (White label)	1		1	1						
				TOTAL	3	1	1	2						

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150ml A Jars and 500ml Amber sent direct to Brisbane for TOC/TBT

Environmental Division
Sydney
Work Order
ES1504998

Telephone : +61-2-8784 8555

CERTIFICATE OF ANALYSIS

Work Order	: **ES1504998**	Page	: 1 of 88
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553		
C-O-C number	: ----	Date Samples Received	: 03-MAR-2015
Sampler	: GK	Issue Date	: 30-MAR-2015
Site	: ----		
		No. of samples received	: 71
Quote number	: SY/1021/14 V2	No. of samples analysed	: 71

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **ASS: EA029 (SPOCAS): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO3) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from kg/t dry weight to kg/m3 in-situ soil, multiply reported results x wet bulk density of soil in t/m3.**
- **ASS: EA037 (Rapid Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme**
- **Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.**
- **EA037 ASS Field Screening: NATA accreditation does not cover performance of this service.**
- **EG005T: Poor precision was obtained for Aluminium on sample ES1504998 #052. Results have been confirmed by re-extraction and reanalysis.**
- **EG020: Positive result for sample ES1504998 #071 for Cd has been confirmed by reanalysis.**
- **EP090: Sample 'BH369 0.5-1.0A' shows poor matrix spike recovery for Monobutyltin due to matrix interference.**
- **EP090H: High failing LCS deemed acceptable as all associated analyte results are less than LOR.**

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Dianne Blane	Laboratory Coordinator (2IC)	Newcastle - Inorganics
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics
		Sydney Organics
Pabi Subba	Senior Organic Chemist	Sydney Organics
Ryan Story	2IC Organic Instrument Chemist	Brisbane Organics
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils
Shobhna Chandra	Metals Coordinator	Sydney Inorganics
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH24 0.0-0.2A	BH24 0.0-0.2B	BH26 0.0-0.2A	BH26 0.0-0.2B	BH31 0.0-0.5A
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504998-001	ES1504998-002	ES1504998-003	ES1504998-004	ES1504998-005
EA150: Particle Sizing									
+75µm	----	1	%		----	88	----	97	----
+150µm	----	1	%		----	87	----	96	----
+300µm	----	1	%		----	83	----	94	----
+425µm	----	1	%		----	75	----	87	----
+600µm	----	1	%		----	61	----	78	----
+1180µm	----	1	%		----	48	----	73	----
+2.36mm	----	1	%		----	42	----	70	----
+4.75mm	----	1	%		----	34	----	64	----
+9.5mm	----	1	%		----	29	----	58	----
+19.0mm	----	1	%		----	20	----	41	----
+37.5mm	----	1	%		----	<1	----	<1	----
+75.0mm	----	1	%		----	<1	----	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		25.0	20.5	17.2	17.0	6.0
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	6	----	1	----
Silt (2-60 µm)	----	1	%		----	5	----	2	----
Sand (0.06-2.00 mm)	----	1	%		----	45	----	26	----
Gravel (>2mm)	----	1	%		----	44	----	71	----
Cobbles (>6cm)	----	1	%		----	<1	----	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	2.64	----	2.71	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		4590	----	2900	----	4860
Iron	7439-89-6	50	mg/kg		10200	----	8150	----	12000
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	----	<0.50	----	<0.50
Arsenic	7440-38-2	1.00	mg/kg		9.22	----	12.1	----	4.13
Cadmium	7440-43-9	0.1	mg/kg		<0.1	----	<0.1	----	<0.1
Chromium	7440-47-3	1.0	mg/kg		8.7	----	6.0	----	7.2
Copper	7440-50-8	1.0	mg/kg		6.0	----	3.1	----	5.1
Cobalt	7440-48-4	0.5	mg/kg		5.6	----	4.7	----	4.0
Lead	7439-92-1	1.0	mg/kg		2.6	----	2.3	----	3.7

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH24 0.0-0.2A	BH24 0.0-0.2B	BH26 0.0-0.2A	BH26 0.0-0.2B	BH31 0.0-0.5A
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-001	ES1504998-002	ES1504998-003	ES1504998-004	ES1504998-005
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		300	----	537	----	96
Nickel	7440-02-0	1.0	mg/kg		5.4	----	3.5	----	5.1
Selenium	7782-49-2	0.1	mg/kg		0.9	----	0.7	----	1.0
Silver	7440-22-4	0.1	mg/kg		<0.1	----	0.4	----	<0.1
Vanadium	7440-62-2	2.0	mg/kg		27.3	----	21.1	----	31.3
Zinc	7440-66-6	1.0	mg/kg		14.9	----	13.0	----	20.3
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	----	<0.01	----	<0.01
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	----	<0.1	----	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	<0.1	----	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	<0.1	----	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		250	----	70	----	<20
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		250	----	70	----	<20
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		172	----	216	----	149
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		6.8	----	0.7	----	<0.2
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		0.23	----	0.20	----	0.02
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	----	<3	----	<3
>C16 - C34 Fraction	----	3	mg/kg		<3	----	<3	----	<3
>C34 - C40 Fraction	----	5	mg/kg		<5	----	<5	----	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	----	<3	----	<3
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	<3	<3	<3	----
C10 - C14 Fraction	----	3	mg/kg		<3	----	<3	----	<3
C15 - C28 Fraction	----	3	mg/kg		<3	----	<3	----	<3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH24 0.0-0.2A	BH24 0.0-0.2B	BH26 0.0-0.2A	BH26 0.0-0.2B	BH31 0.0-0.5A
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-001	ES1504998-002	ES1504998-003	ES1504998-004	ES1504998-005
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	----	<5	----	<5
^ C10 - C36 Fraction (sum)	----	3	mg/kg		<3	----	<3	----	<3
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	<3	<3	<3	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	----
Toluene	108-88-3	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	----	<1	----	<1
Dibutyltin	1002-53-5	1	µgSn/kg		<1	----	<1	----	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	----	<0.5	----	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	----	<10	----	<10
Carbophenothion	786-19-6	10	µg/kg		<10	----	<10	----	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	----	<10.0	----	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	----	<10	----	<10
Chlorpyrifos	2921-88-2	10	µg/kg		<10	----	<10	----	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	----	<10	----	<10
Demeton-S-methyl	919-86-8	10	µg/kg		<10	----	<10	----	<10
Diazinon	333-41-5	10	µg/kg		<10	----	<10	----	<10
Dichlorvos	62-73-7	10	µg/kg		<10	----	<10	----	<10
Dimethoate	60-51-5	10	µg/kg		<10	----	<10	----	<10
Ethion	563-12-2	10	µg/kg		<10	----	<10	----	<10
Fenamiphos	22224-92-6	10	µg/kg		<10	----	<10	----	<10
Fenthion	55-38-9	10	µg/kg		<10	----	<10	----	<10
Malathion	121-75-5	10	µg/kg		<10	----	<10	----	<10
Azinphos Methyl	86-50-0	10	µg/kg		<10	----	<10	----	<10
Monocrotophos	6923-22-4	10	µg/kg		<10	----	<10	----	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH24 0.0-0.2A	BH24 0.0-0.2B	BH26 0.0-0.2A	BH26 0.0-0.2B	BH31 0.0-0.5A
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-001	ES1504998-002	ES1504998-003	ES1504998-004	ES1504998-005
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	----	<10	----	<10
Parathion-methyl	298-00-0	10	µg/kg		<10	----	<10	----	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	----	<10	----	<10
Prothiofos	34643-46-4	10	µg/kg		<10	----	<10	----	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
beta-BHC	319-85-7	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
delta-BHC	319-86-8	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
Dieldrin	60-57-1	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
Endrin	72-20-8	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
Heptachlor	76-44-8	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	----	<0.25	----	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	----	<0.25	----	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	----	<0.25	----	<0.25
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	----	<0.25	----	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	----	<0.50	----	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	----	<5.0	----	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	----	<5.0	----	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	----	<5.0	----	<5.0

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH24 0.0-0.2A	BH24 0.0-0.2B	BH26 0.0-0.2A	BH26 0.0-0.2B	BH31 0.0-0.5A
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-001	ES1504998-002	ES1504998-003	ES1504998-004	ES1504998-005
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	----	<5.0	----	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	----	<5.0	----	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	----	<5.0	----	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	----	<5.0	----	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	----	<5.0	----	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	----	<5	----	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	----	<5	----	<5
Acenaphthylene	208-96-8	4	µg/kg		<4	----	<4	----	<4
Acenaphthene	83-32-9	4	µg/kg		<4	----	<4	----	<4
Fluorene	86-73-7	4	µg/kg		<4	----	<4	----	<4
Phenanthrene	85-01-8	4	µg/kg		<4	----	<4	----	<4
Anthracene	120-12-7	4	µg/kg		<4	----	<4	----	<4
Fluoranthene	206-44-0	4	µg/kg		<4	----	<4	----	<4
Pyrene	129-00-0	4	µg/kg		<4	----	<4	----	<4
Benz(a)anthracene	56-55-3	4	µg/kg		<4	----	<4	----	<4
Chrysene	218-01-9	4	µg/kg		<4	----	<4	----	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	----	<4	----	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	----	<4	----	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	----	<4	----	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	----	<4	----	<4
Perylene	198-55-0	4	µg/kg		<4	----	<4	----	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	----	<4	----	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	----	<4	----	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	----	<4	----	<4
Coronene	191-07-1	5	µg/kg		<5	----	<5	----	<5
^ **Sum of PAHs**	----	4	µg/kg		<4	----	<4	----	<4
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**79.0**	**88.1**	**97.0**	**87.3**	----
Toluene-D8	2037-26-5	0.1	%		**110**	**117**	**89.8**	**113**	----
4-Bromofluorobenzene	460-00-4	0.1	%		**118**	**117**	**94.9**	**112**	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**77.8**	----	**89.0**	----	**73.4**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH24 0.0-0.2A	BH24 0.0-0.2B	BH26 0.0-0.2A	BH26 0.0-0.2B	BH31 0.0-0.5A
			Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504998-001	ES1504998-002	ES1504998-003	ES1504998-004	ES1504998-005
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	66.7	----	73.0	----	69.1
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	55.3	----	55.5	----	63.8
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	75.0	----	71.5	----	60.2
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	80.0	----	80.4	----	79.2
Anthracene-d10	1719-06-8	0.1	%	101	----	118	----	112
4-Terphenyl-d14	1718-51-0	0.1	%	104	----	116	----	118

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH31 0.5-1.0A	BH31 1.0-1.3A	BH31 0.0-0.5B	BH31 0.5-1.0B	BH31 0.3V
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-006	ES1504998-007	ES1504998-008	ES1504998-009	ES1504998-010
EA150: Particle Sizing									
+75µm	----	1	%		----	----	**95**	**95**	----
+150µm	----	1	%		----	----	**93**	**94**	----
+300µm	----	1	%		----	----	**89**	**88**	----
+425µm	----	1	%		----	----	**83**	**78**	----
+600µm	----	1	%		----	----	**79**	**71**	----
+1180µm	----	1	%		----	----	**74**	**66**	----
+2.36mm	----	1	%		----	----	**69**	**60**	----
+4.75mm	----	1	%		----	----	**61**	**51**	----
+9.5mm	----	1	%		----	----	**53**	**40**	----
+19.0mm	----	1	%		----	----	**34**	**34**	----
+37.5mm	----	1	%		----	----	<1	<1	----
+75.0mm	----	1	%		----	----	<1	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**5.8**	**7.2**	----	----	**11.2**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	**2**	**2**	----
Silt (2-60 µm)	----	1	%		----	----	**3**	**3**	----
Sand (0.06-2.00 mm)	----	1	%		----	----	**24**	**34**	----
Gravel (>2mm)	----	1	%		----	----	**71**	**61**	----
Cobbles (>6cm)	----	1	%		----	----	<1	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	**2.68**	**2.68**	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**4690**	**3420**	----	----	----
Iron	7439-89-6	50	mg/kg		**9380**	**13800**	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		**2.02**	**5.02**	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	----	----	----
Chromium	7440-47-3	1.0	mg/kg		**9.8**	**8.9**	----	----	----
Copper	7440-50-8	1.0	mg/kg		**4.6**	**6.4**	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		**3.0**	**4.0**	----	----	----
Lead	7439-92-1	1.0	mg/kg		**4.4**	**4.9**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH31 0.5-1.0A	BH31 1.0-1.3A	BH31 0.0-0.5B	BH31 0.5-1.0B	BH31 0.3V
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-006	ES1504998-007	ES1504998-008	ES1504998-009	ES1504998-010
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		**60**	**95**	----	----	----
Nickel	7440-02-0	1.0	mg/kg		**4.0**	**4.7**	----	----	----
Selenium	7782-49-2	0.1	mg/kg		**0.7**	**1.0**	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.1	<0.1	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		**23.5**	**40.3**	----	----	----
Zinc	7440-66-6	1.0	mg/kg		**17.4**	**25.4**	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	<0.01	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		<20	<20	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		<20	<20	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		**142**	**161**	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		**0.2**	<0.2	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		**0.04**	**0.03**	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	<3	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		<3	<3	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	<5	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	<3	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		<3	<3	----	----	----
C15 - C28 Fraction	----	3	mg/kg		<3	<3	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH31 0.5-1.0A	BH31 1.0-1.3A	BH31 0.0-0.5B	BH31 0.5-1.0B	BH31 0.3V
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504998-006	ES1504998-007	ES1504998-008	ES1504998-009	ES1504998-010
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	<5	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		<3	<3	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	----	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	<1	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	<1	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	<0.5	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	<10	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	<10	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	<10.0	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	<10	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	<10	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	<10	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	<10	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	<10	----	----	----
Ethion	563-12-2	10	µg/kg		<10	<10	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	<10	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	<10	----	----	----
Malathion	121-75-5	10	µg/kg		<10	<10	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	<10	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	<10	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH31 0.5-1.0A	BH31 1.0-1.3A	BH31 0.0-0.5B	BH31 0.5-1.0B	BH31 0.3V
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-006	ES1504998-007	ES1504998-008	ES1504998-009	ES1504998-010
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	<10	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	<10	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	<10	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	<10	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	<0.50	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	<0.50	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	<0.50	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	<0.50	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	<0.50	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	<0.25	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	<0.50	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	<0.25	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	<0.25	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	<0.25	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	<0.50	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	<5.0	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH31 0.5-1.0A	BH31 1.0-1.3A	BH31 0.0-0.5B	BH31 0.5-1.0B	BH31 0.3V
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504998-006	ES1504998-007	ES1504998-008	ES1504998-009	ES1504998-010
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	<5.0	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	<5	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	<5	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	<4	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	<4	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	<4	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	<4	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	<4	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	<4	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	<4	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	<4	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	<4	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	<4	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	<4	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	<4	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	<4	----	----	----
Perylene	198-55-0	4	µg/kg		<4	<4	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	<4	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	<4	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	<4	----	----	----
Coronene	191-07-1	5	µg/kg		<5	<5	----	----	----
^ Sum of PAHs	----	4	µg/kg		<4	<4	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	----	**73.6**
Toluene-D8	2037-26-5	0.1	%		----	----	----	----	**84.0**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	----	**81.1**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**84.2**	**112**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH31 0.5-1.0A	BH31 1.0-1.3A	BH31 0.0-0.5B	BH31 0.5-1.0B	BH31 0.3V
			Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504998-006	ES1504998-007	ES1504998-008	ES1504998-009	ES1504998-010
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	68.6	83.4	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	50.6	77.2	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	71.9	100	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	84.4	76.0	----	----	----
Anthracene-d10	1719-06-8	0.1	%	99.5	113	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	107	115	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH31 0.7V	BH31 1.3V	BH33 0.0-0.5A	BH33 0.5-1.0A	BH33 1.0-1.5A
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504998-011	ES1504998-012	ES1504998-013	ES1504998-014	ES1504998-015
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		7.0	7.0	25.4	15.2	21.7
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	4030	4330	6080
Iron	7439-89-6	50	mg/kg		----	----	9540	10400	12500
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	<0.50	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	----	9.62	11.4	10.7
Cadmium	7440-43-9	0.1	mg/kg		----	----	<0.1	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	----	8.0	8.5	11.4
Copper	7440-50-8	1.0	mg/kg		----	----	3.4	3.8	5.8
Cobalt	7440-48-4	0.5	mg/kg		----	----	5.3	5.5	6.9
Lead	7439-92-1	1.0	mg/kg		----	----	2.8	2.8	3.9
Manganese	7439-96-5	10	mg/kg		----	----	402	451	377
Nickel	7440-02-0	1.0	mg/kg		----	----	3.8	4.8	6.5
Selenium	7782-49-2	0.1	mg/kg		----	----	0.9	0.9	1.1
Silver	7440-22-4	0.1	mg/kg		----	----	<0.1	<0.1	<0.1
Vanadium	7440-62-2	2.0	mg/kg		----	----	23.8	23.9	32.0
Zinc	7440-66-6	1.0	mg/kg		----	----	13.4	13.9	19.2
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	<0.01	<0.01	<0.01
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	<0.1	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	<0.1	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	<0.1	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	130	140	140
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	130	140	140
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	206	208	181
EK255A SD Ammonia in Sediment									

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH31 0.7V	BH31 1.3V	BH33 0.0-0.5A	BH33 0.5-1.0A	BH33 1.0-1.5A
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-011	ES1504998-012	ES1504998-013	ES1504998-014	ES1504998-015
EK255A SD Ammonia in Sediment - Continued									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	**1.1**	**1.2**	**1.1**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	**0.11**	**0.13**	**0.10**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	<3	<3	<3
>C16 - C34 Fraction	----	3	mg/kg		----	----	<3	<3	**3**
>C34 - C40 Fraction	----	5	mg/kg		----	----	<5	<5	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	<3	<3	**3**
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	<3	----	----	----
C10 - C14 Fraction	----	3	mg/kg		----	----	<3	<3	<3
C15 - C28 Fraction	----	3	mg/kg		----	----	<3	<3	<3
C29 - C36 Fraction	----	5	mg/kg		----	----	<5	<5	<5
^ **C10 - C36 Fraction (sum)**	----	3	mg/kg		----	----	<3	<3	<3
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	<3	----	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	----	----
Toluene	108-88-3	0.2	mg/kg		<0.2	<0.2	----	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	<0.2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	<0.2	----	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	<0.2	----	----	----
^ **Total Xylenes**	1330-20-7	0.5	mg/kg		<0.5	<0.5	----	----	----
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	<0.2	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	<1	<1	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	<1	<1	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	<0.5	<0.5	**5.2**
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	<10	<10	<10
Carbophenothion	786-19-6	10	µg/kg		----	----	<10	<10	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	<10.0	<10.0	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	<10	<10	<10

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH31 0.7V	BH31 1.3V	BH33 0.0-0.5A	BH33 0.5-1.0A	BH33 1.0-1.5A
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-011	ES1504998-012	ES1504998-013	ES1504998-014	ES1504998-015
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	<10	<10	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	<10	<10	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	<10	<10	<10
Diazinon	333-41-5	10	µg/kg		----	----	<10	<10	<10
Dichlorvos	62-73-7	10	µg/kg		----	----	<10	<10	<10
Dimethoate	60-51-5	10	µg/kg		----	----	<10	<10	<10
Ethion	563-12-2	10	µg/kg		----	----	<10	<10	<10
Fenamiphos	22224-92-6	10	µg/kg		----	----	<10	<10	<10
Fenthion	55-38-9	10	µg/kg		----	----	<10	<10	<10
Malathion	121-75-5	10	µg/kg		----	----	<10	<10	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	----	<10	<10	<10
Monocrotophos	6923-22-4	10	µg/kg		----	----	<10	<10	<10
Parathion	56-38-2	10	µg/kg		----	----	<10	<10	<10
Parathion-methyl	298-00-0	10	µg/kg		----	----	<10	<10	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	<10	<10	<10
Prothiofos	34643-46-4	10	µg/kg		----	----	<10	<10	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
Endrin	72-20-8	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	----	<0.50	<0.50	<0.50

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH31 0.7V	BH31 1.3V	BH33 0.0-0.5A	BH33 0.5-1.0A	BH33 1.0-1.5A
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-011	ES1504998-012	ES1504998-013	ES1504998-014	ES1504998-015
EP131A: Organochlorine Pesticides - Continued									
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	----	<0.25	<0.25	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	<0.25	<0.25	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	<0.25	<0.25	<0.25
^ **Total Chlordane (sum)**	----	0.25	µg/kg		----	----	<0.25	<0.25	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	<0.50	<0.50	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		----	----	<5.0	<5.0	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	<5.0	<5.0	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	<5.0	<5.0	<5.0
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	<5.0	<5.0	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	<5.0	<5.0	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	<5.0	<5.0	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	<5.0	<5.0	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	<5.0	<5.0	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	<5	<5	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	<5	<5	<5
Acenaphthylene	208-96-8	4	µg/kg		----	----	<4	<4	<4
Acenaphthene	83-32-9	4	µg/kg		----	----	<4	<4	<4
Fluorene	86-73-7	4	µg/kg		----	----	<4	<4	<4
Phenanthrene	85-01-8	4	µg/kg		----	----	<4	<4	<4
Anthracene	120-12-7	4	µg/kg		----	----	<4	<4	<4
Fluoranthene	206-44-0	4	µg/kg		----	----	<4	<4	<4
Pyrene	129-00-0	4	µg/kg		----	----	<4	<4	<4
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	<4	<4	<4
Chrysene	218-01-9	4	µg/kg		----	----	<4	<4	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	<4	<4	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	<4	<4	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	<4	<4	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	<4	<4	<4

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH31 0.7V	BH31 1.3V	BH33 0.0-0.5A	BH33 0.5-1.0A	BH33 1.0-1.5A
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504998-011	ES1504998-012	ES1504998-013	ES1504998-014	ES1504998-015
EP132B: Polynuclear Aromatic Hydrocarbons - Continued									
Perylene	198-55-0	4	µg/kg		----	----	<4	<4	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	<4	<4	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	<4	<4	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	<4	<4	<4
Coronene	191-07-1	5	µg/kg		----	----	<5	<5	<5
^ Sum of PAHs	----	4	µg/kg		----	----	<4	<4	<4
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		85.3	73.9	----	----	----
Toluene-D8	2037-26-5	0.1	%		103	89.5	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		108	81.3	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	103	106	104
EP130S: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%		----	----	78.0	66.7	82.4
EP131S: OC Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.1	%		----	----	71.2	56.6	72.3
EP131T: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	----	85.2	71.0	75.0
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		----	----	85.9	88.6	77.0
Anthracene-d10	1719-06-8	0.1	%		----	----	106	114	111
4-Terphenyl-d14	1718-51-0	0.1	%		----	----	107	118	122

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH33 1.5-1.8A	BH33 0.0-0.5B	BH33 0.5-1.0B	BH33 1.0-1.5B	BH33 0.3V
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-016	ES1504998-017	ES1504998-018	ES1504998-019	ES1504998-020
EA150: Particle Sizing									
+75µm	----	1	%		----	**86**	**91**	**79**	----
+150µm	----	1	%		----	**83**	**89**	**68**	----
+300µm	----	1	%		----	**68**	**68**	**50**	----
+425µm	----	1	%		----	**44**	**45**	**34**	----
+600µm	----	1	%		----	**32**	**37**	**28**	----
+1180µm	----	1	%		----	**26**	**34**	**27**	----
+2.36mm	----	1	%		----	**20**	**28**	**25**	----
+4.75mm	----	1	%		----	**10**	**17**	**19**	----
+9.5mm	----	1	%		----	**1**	**4**	<1	----
+19.0mm	----	1	%		----	<1	**2**	<1	----
+37.5mm	----	1	%		----	<1	<1	<1	----
+75.0mm	----	1	%		----	<1	<1	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**17.0**	----	----	----	**19.2**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	**7**	**4**	**10**	----
Silt (2-60 µm)	----	1	%		----	**4**	**4**	**7**	----
Sand (0.06-2.00 mm)	----	1	%		----	**67**	**62**	**58**	----
Gravel (>2mm)	----	1	%		----	**22**	**30**	**25**	----
Cobbles (>6cm)	----	1	%		----	<1	<1	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	**2.67**	**2.67**	**2.67**	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**5560**	----	----	----	----
Iron	7439-89-6	50	mg/kg		**10400**	----	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	----	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		**1.72**	----	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	----	----	----	----
Chromium	7440-47-3	1.0	mg/kg		**8.4**	----	----	----	----
Copper	7440-50-8	1.0	mg/kg		**8.9**	----	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		**8.4**	----	----	----	----
Lead	7439-92-1	1.0	mg/kg		**3.2**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH33 1.5-1.8A	BH33 0.0-0.5B	BH33 0.5-1.0B	BH33 1.0-1.5B	BH33 0.3V
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-016	ES1504998-017	ES1504998-018	ES1504998-019	ES1504998-020
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		**78**	----	----	----	----
Nickel	7440-02-0	1.0	mg/kg		**5.3**	----	----	----	----
Selenium	7782-49-2	0.1	mg/kg		**0.7**	----	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.1	----	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		**32.8**	----	----	----	----
Zinc	7440-66-6	1.0	mg/kg		**20.4**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		**40**	----	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		**40**	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		**189**	----	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		**1.4**	----	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		**0.04**	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	----	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		<3	----	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	----	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		<3	----	----	----	----
C15 - C28 Fraction	----	3	mg/kg		<3	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH33 1.5-1.8A	BH33 0.0-0.5B	BH33 0.5-1.0B	BH33 1.0-1.5B	BH33 0.3V
			Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504998-016	ES1504998-017	ES1504998-018	ES1504998-019	ES1504998-020
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued								
C29 - C36 Fraction	----	5	mg/kg	<5	----	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons								
C6 - C10 Fraction	C6_C10	3	mg/kg	----	----	----	----	<3
EP080-SD: BTEXN								
Benzene	71-43-2	0.2	mg/kg	----	----	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg	----	----	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg	----	----	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	----	----	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg	----	----	----	----	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg	----	----	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg	----	----	----	----	<0.2
EP090: Organotin Compounds								
Monobutyltin	78763-54-9	1	µgSn/kg	<1	----	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg	<1	----	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	----	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)								
Bromophos-ethyl	4824-78-6	10	µg/kg	<10	----	----	----	----
Carbophenothion	786-19-6	10	µg/kg	<10	----	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	----	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	----	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg	<10	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	----	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg	<10	----	----	----	----
Diazinon	333-41-5	10	µg/kg	<10	----	----	----	----
Dichlorvos	62-73-7	10	µg/kg	<10	----	----	----	----
Dimethoate	60-51-5	10	µg/kg	<10	----	----	----	----
Ethion	563-12-2	10	µg/kg	<10	----	----	----	----
Fenamiphos	22224-92-6	10	µg/kg	<10	----	----	----	----
Fenthion	55-38-9	10	µg/kg	<10	----	----	----	----
Malathion	121-75-5	10	µg/kg	<10	----	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg	<10	----	----	----	----
Monocrotophos	6923-22-4	10	µg/kg	<10	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH33 1.5-1.8A	BH33 0.0-0.5B	BH33 0.5-1.0B	BH33 1.0-1.5B	BH33 0.3V
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-016	ES1504998-017	ES1504998-018	ES1504998-019	ES1504998-020
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	----	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	----	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	----	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	----	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	----	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	----	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	----	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	----	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	----	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	----	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	----	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	----	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	----	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	----	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	----	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	----	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	----	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	----	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	----	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	----	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	----	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	----	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	----	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	----	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	----	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH33 1.5-1.8A	BH33 0.0-0.5B	BH33 0.5-1.0B	BH33 1.0-1.5B	BH33 0.3V
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-016	ES1504998-017	ES1504998-018	ES1504998-019	ES1504998-020
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	----	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	----	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	----	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	----	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	----	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	----	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	----	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	----	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	----	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	----	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	----	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	----	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	----	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	----	----	----	----
Perylene	198-55-0	4	µg/kg		<4	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	----	----	----	----
Coronene	191-07-1	5	µg/kg		<5	----	----	----	----
^ **Sum of PAHs**	----	4	µg/kg		<4	----	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	----	**90.2**
Toluene-D8	2037-26-5	0.1	%		----	----	----	----	**83.5**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	----	**87.1**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**84.6**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH33 1.5-1.8A	BH33 0.0-0.5B	BH33 0.5-1.0B	BH33 1.0-1.5B	BH33 0.3V
			Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504998-016	ES1504998-017	ES1504998-018	ES1504998-019	ES1504998-020
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**78.3**	----	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**85.8**	----	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**88.5**	----	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**96.0**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**122**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	**121**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH33 0.7V	BH33 1.3V	BH33 1.7V	BH34 0.0-0.5A	BH34 0.5-1.0A
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504998-021	ES1504998-022	ES1504998-023	ES1504998-024	ES1504998-025
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		20.6	18.3	16.6	16.0	18.4
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	----	5130	6240
Iron	7439-89-6	50	mg/kg		----	----	----	9700	12600
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	----	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	----	----	9.92	8.20
Cadmium	7440-43-9	0.1	mg/kg		----	----	----	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	----	----	8.8	11.8
Copper	7440-50-8	1.0	mg/kg		----	----	----	4.0	6.5
Cobalt	7440-48-4	0.5	mg/kg		----	----	----	5.3	6.8
Lead	7439-92-1	1.0	mg/kg		----	----	----	3.1	3.7
Manganese	7439-96-5	10	mg/kg		----	----	----	332	432
Nickel	7440-02-0	1.0	mg/kg		----	----	----	4.9	7.0
Selenium	7782-49-2	0.1	mg/kg		----	----	----	0.8	1.1
Silver	7440-22-4	0.1	mg/kg		----	----	----	<0.1	<0.1
Vanadium	7440-62-2	2.0	mg/kg		----	----	----	25.0	33.4
Zinc	7440-66-6	1.0	mg/kg		----	----	----	15.0	19.8
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	----	<0.01	<0.01
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	----	<0.1	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	<0.1	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	<0.1	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	----	200	220
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	----	200	220
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	----	183	221
EK255A SD Ammonia in Sediment									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH33 0.7V	BH33 1.3V	BH33 1.7V	BH34 0.0-0.5A	BH34 0.5-1.0A
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-021	ES1504998-022	ES1504998-023	ES1504998-024	ES1504998-025
EK255A SD Ammonia in Sediment - Continued									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	----	**0.6**	**1.0**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	----	**0.16**	**0.12**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	----	<3	<3
>C16 - C34 Fraction	----	3	mg/kg		----	----	----	<3	<3
>C34 - C40 Fraction	----	5	mg/kg		----	----	----	<5	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	----	<3	<3
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	<3	<3	----	----
C10 - C14 Fraction	----	3	mg/kg		----	----	----	<3	<3
C15 - C28 Fraction	----	3	mg/kg		----	----	----	<3	<3
C29 - C36 Fraction	----	5	mg/kg		----	----	----	<5	<5
^ **C10 - C36 Fraction (sum)**	----	3	mg/kg		----	----	----	<3	<3
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	<3	<3	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	----	----
Toluene	108-88-3	0.2	mg/kg		<0.2	<0.2	<0.2	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	<0.2	<0.2	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	<0.2	<0.2	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	<0.2	<0.2	----	----
^ **Total Xylenes**	1330-20-7	0.5	mg/kg		<0.5	<0.5	<0.5	----	----
^ **Sum of BTEX**	----	0.2	mg/kg		<0.2	<0.2	<0.2	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	----	<1	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	----	<1	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	----	<0.5	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	----	<10	<10
Carbophenothion	786-19-6	10	µg/kg		----	----	----	<10	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	----	<10.0	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	----	<10	<10

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH33 0.7V	BH33 1.3V	BH33 1.7V	BH34 0.0-0.5A	BH34 0.5-1.0A
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-021	ES1504998-022	ES1504998-023	ES1504998-024	ES1504998-025
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	----	<10	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	----	<10	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	----	<10	<10
Diazinon	333-41-5	10	µg/kg		----	----	----	<10	<10
Dichlorvos	62-73-7	10	µg/kg		----	----	----	<10	<10
Dimethoate	60-51-5	10	µg/kg		----	----	----	<10	<10
Ethion	563-12-2	10	µg/kg		----	----	----	<10	<10
Fenamiphos	22224-92-6	10	µg/kg		----	----	----	<10	<10
Fenthion	55-38-9	10	µg/kg		----	----	----	<10	<10
Malathion	121-75-5	10	µg/kg		----	----	----	<10	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	----	----	<10	<10
Monocrotophos	6923-22-4	10	µg/kg		----	----	----	<10	<10
Parathion	56-38-2	10	µg/kg		----	----	----	<10	<10
Parathion-methyl	298-00-0	10	µg/kg		----	----	----	<10	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	----	<10	<10
Prothiofos	34643-46-4	10	µg/kg		----	----	----	<10	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	----	<0.50	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	----	----	<0.50	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	----	----	<0.50	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	----	----	<0.50	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	----	<0.50	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	----	<0.50	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	----	<0.50	<0.50
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	----	----	<0.50	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	----	----	<0.50	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	----	<0.50	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	----	<0.50	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	----	<0.50	<0.50
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	----	----	<0.50	<0.50
Endrin	72-20-8	0.50	µg/kg		----	----	----	<0.50	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	----	<0.50	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	----	<0.50	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	----	----	<0.50	<0.50

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH33 0.7V	BH33 1.3V	BH33 1.7V	BH34 0.0-0.5A	BH34 0.5-1.0A
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-021	ES1504998-022	ES1504998-023	ES1504998-024	ES1504998-025
EP131A: Organochlorine Pesticides - Continued									
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	----	<0.50	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	----	<0.50	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	----	----	<0.25	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	----	----	<0.50	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	----	<0.25	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	----	<0.25	<0.25
^ Total Chlordane (sum)	----	0.25	µg/kg		----	----	----	<0.25	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	----	<0.50	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	----	<5.0	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	----	<5.0	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	----	<5	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	----	<5	<5
Acenaphthylene	208-96-8	4	µg/kg		----	----	----	<4	<4
Acenaphthene	83-32-9	4	µg/kg		----	----	----	<4	<4
Fluorene	86-73-7	4	µg/kg		----	----	----	<4	<4
Phenanthrene	85-01-8	4	µg/kg		----	----	----	<4	<4
Anthracene	120-12-7	4	µg/kg		----	----	----	<4	<4
Fluoranthene	206-44-0	4	µg/kg		----	----	----	<4	<4
Pyrene	129-00-0	4	µg/kg		----	----	----	<4	<4
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	----	<4	<4
Chrysene	218-01-9	4	µg/kg		----	----	----	<4	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	----	<4	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	----	<4	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	----	<4	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	----	<4	<4

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH33 0.7V	BH33 1.3V	BH33 1.7V	BH34 0.0-0.5A	BH34 0.5-1.0A
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-021	ES1504998-022	ES1504998-023	ES1504998-024	ES1504998-025
EP132B: Polynuclear Aromatic Hydrocarbons - Continued									
Perylene	198-55-0	4	µg/kg		----	----	----	<4	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	----	<4	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	----	<4	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	----	<4	<4
Coronene	191-07-1	5	µg/kg		----	----	----	<5	<5
^ **Sum of PAHs**	----	4	µg/kg		----	----	----	<4	<4
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**69.6**	**77.4**	**72.1**	----	----
Toluene-D8	2037-26-5	0.1	%		**87.9**	**99.5**	**80.8**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**92.0**	**105**	**93.8**	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	----	**90.1**	**115**
EP130S: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%		----	----	----	**79.5**	**71.2**
EP131S: OC Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.1	%		----	----	----	**76.8**	**66.6**
EP131T: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	----	----	**105**	**68.9**
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		----	----	----	**82.0**	**88.2**
Anthracene-d10	1719-06-8	0.1	%		----	----	----	**116**	**101**
4-Terphenyl-d14	1718-51-0	0.1	%		----	----	----	**112**	**110**

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH34 1.0-1.6A	BH34 0.0-0.5B	BH34 0.5-1.0B	BH34 1.0-1.6B	BH34 0.3V
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-026	ES1504998-027	ES1504998-028	ES1504998-029	ES1504998-030
EA150: Particle Sizing									
+75µm	----	1	%		----	**87**	**83**	**89**	----
+150µm	----	1	%		----	**84**	**80**	**80**	----
+300µm	----	1	%		----	**69**	**61**	**27**	----
+425µm	----	1	%		----	**52**	**44**	**10**	----
+600µm	----	1	%		----	**44**	**40**	**7**	----
+1180µm	----	1	%		----	**39**	**36**	**6**	----
+2.36mm	----	1	%		----	**34**	**32**	**6**	----
+4.75mm	----	1	%		----	**24**	**26**	**6**	----
+9.5mm	----	1	%		----	**9**	**21**	**6**	----
+19.0mm	----	1	%		----	**4**	**5**	<1	----
+37.5mm	----	1	%		----	<1	<1	<1	----
+75.0mm	----	1	%		----	<1	<1	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**19.4**	----	----	----	**16.5**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	**8**	**9**	**6**	----
Silt (2-60 µm)	----	1	%		----	**3**	**7**	**3**	----
Sand (0.06-2.00 mm)	----	1	%		----	**53**	**51**	**85**	----
Gravel (>2mm)	----	1	%		----	**36**	**33**	**6**	----
Cobbles (>6cm)	----	1	%		----	<1	<1	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	**2.68**	**2.68**	**2.67**	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**4710**	----	----	----	----
Iron	7439-89-6	50	mg/kg		**7820**	----	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	----	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		**2.38**	----	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	----	----	----	----
Chromium	7440-47-3	1.0	mg/kg		**7.8**	----	----	----	----
Copper	7440-50-8	1.0	mg/kg		**5.6**	----	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		**4.4**	----	----	----	----
Lead	7439-92-1	1.0	mg/kg		**2.4**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH34 1.0-1.6A	BH34 0.0-0.5B	BH34 0.5-1.0B	BH34 1.0-1.6B	BH34 0.3V
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-026	ES1504998-027	ES1504998-028	ES1504998-029	ES1504998-030
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		**70**	----	----	----	----
Nickel	7440-02-0	1.0	mg/kg		**4.0**	----	----	----	----
Selenium	7782-49-2	0.1	mg/kg		**0.6**	----	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.1	----	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		**23.4**	----	----	----	----
Zinc	7440-66-6	1.0	mg/kg		**16.4**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		<20	----	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		<20	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		**108**	----	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		**0.4**	----	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		**0.17**	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	----	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		**4**	----	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	----	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		**4**	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		<3	----	----	----	----
C15 - C28 Fraction	----	3	mg/kg		<3	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH34 1.0-1.6A	BH34 0.0-0.5B	BH34 0.5-1.0B	BH34 1.0-1.6B	BH34 0.3V
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504998-026	ES1504998-027	ES1504998-028	ES1504998-029	ES1504998-030
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	----	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		<3	----	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	----	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	----	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	----	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	----	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	----	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	----	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	----	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	----	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	----	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	----	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	----	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	----	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	----	----	----	----
Ethion	563-12-2	10	µg/kg		<10	----	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	----	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	----	----	----	----
Malathion	121-75-5	10	µg/kg		<10	----	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	----	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH34 1.0-1.6A	BH34 0.0-0.5B	BH34 0.5-1.0B	BH34 1.0-1.6B	BH34 0.3V
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-026	ES1504998-027	ES1504998-028	ES1504998-029	ES1504998-030
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	----	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	----	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	----	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	----	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	----	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	----	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	----	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	----	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	----	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	----	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	----	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	----	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	----	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	----	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	----	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	----	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	----	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	----	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	----	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	----	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	----	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	----	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	----	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	----	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	----	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	----	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH34 1.0-1.6A	BH34 0.0-0.5B	BH34 0.5-1.0B	BH34 1.0-1.6B	BH34 0.3V
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-026	ES1504998-027	ES1504998-028	ES1504998-029	ES1504998-030
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	----	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	----	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	----	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	----	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	----	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	----	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	----	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	----	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	----	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	----	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	----	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	----	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	----	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	----	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	----	----	----	----
Perylene	198-55-0	4	µg/kg		<4	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	----	----	----	----
Coronene	191-07-1	5	µg/kg		<5	----	----	----	----
^ **Sum of PAHs**	----	4	µg/kg		<4	----	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	----	**80.7**
Toluene-D8	2037-26-5	0.1	%		----	----	----	----	**86.4**
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	----	**98.8**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		**72.9**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH34 1.0-1.6A	BH34 0.0-0.5B	BH34 0.5-1.0B	BH34 1.0-1.6B	BH34 0.3V
			Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504998-026	ES1504998-027	ES1504998-028	ES1504998-029	ES1504998-030
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**75.2**	----	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**77.0**	----	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**62.5**	----	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**84.8**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**102**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	**110**	----	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH34 0.7V	BH34 1.3V	BH35 0.0-0.7A	BH35 0.0-0.7B	BH35 0.3V
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-031	ES1504998-032	ES1504998-033	ES1504998-034	ES1504998-035
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	**42**	----
+150µm	----	1	%		----	----	----	**40**	----
+300µm	----	1	%		----	----	----	**35**	----
+425µm	----	1	%		----	----	----	**28**	----
+600µm	----	1	%		----	----	----	**23**	----
+1180µm	----	1	%		----	----	----	**21**	----
+2.36mm	----	1	%		----	----	----	**18**	----
+4.75mm	----	1	%		----	----	----	**14**	----
+9.5mm	----	1	%		----	----	----	**7**	----
+19.0mm	----	1	%		----	----	----	<1	----
+37.5mm	----	1	%		----	----	----	<1	----
+75.0mm	----	1	%		----	----	----	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**20.3**	**22.0**	**25.1**	----	**23.1**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	**31**	----
Silt (2-60 µm)	----	1	%		----	----	----	**25**	----
Sand (0.06-2.00 mm)	----	1	%		----	----	----	**25**	----
Gravel (>2mm)	----	1	%		----	----	----	**19**	----
Cobbles (>6cm)	----	1	%		----	----	----	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	**2.60**	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	**10300**	----	----
Iron	7439-89-6	50	mg/kg		----	----	**22500**	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	<0.50	----	----
Arsenic	7440-38-2	1.00	mg/kg		----	----	**8.16**	----	----
Cadmium	7440-43-9	0.1	mg/kg		----	----	<0.1	----	----
Chromium	7440-47-3	1.0	mg/kg		----	----	**15.7**	----	----
Copper	7440-50-8	1.0	mg/kg		----	----	**18.7**	----	----
Cobalt	7440-48-4	0.5	mg/kg		----	----	**10.4**	----	----
Lead	7439-92-1	1.0	mg/kg		----	----	**9.6**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH34 0.7V	BH34 1.3V	BH35 0.0-0.7A	BH35 0.0-0.7B	BH35 0.3V
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-031	ES1504998-032	ES1504998-033	ES1504998-034	ES1504998-035
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	**293**	----	----
Nickel	7440-02-0	1.0	mg/kg		----	----	**11.8**	----	----
Selenium	7782-49-2	0.1	mg/kg		----	----	**2.0**	----	----
Silver	7440-22-4	0.1	mg/kg		----	----	<0.1	----	----
Vanadium	7440-62-2	2.0	mg/kg		----	----	**51.5**	----	----
Zinc	7440-66-6	1.0	mg/kg		----	----	**43.4**	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	**0.02**	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	<0.1	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	**170**	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	**170**	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	**324**	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	**1.6**	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	**0.15**	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	<3	----	----
>C16 - C34 Fraction	----	3	mg/kg		----	----	<3	----	----
>C34 - C40 Fraction	----	5	mg/kg		----	----	<5	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	<3	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	<3	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		----	----	<3	----	----
C15 - C28 Fraction	----	3	mg/kg		----	----	<3	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH34 0.7V	BH34 1.3V	BH35 0.0-0.7A	BH35 0.0-0.7B	BH35 0.3V
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-031	ES1504998-032	ES1504998-033	ES1504998-034	ES1504998-035
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	<5	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	<3	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	<3	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	<0.5	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	<1	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	<1	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	<0.5	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	<10	----	----
Carbophenothion	786-19-6	10	µg/kg		----	----	<10	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	<10.0	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	<10	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	<10	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	<10	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	<10	----	----
Diazinon	333-41-5	10	µg/kg		----	----	<10	----	----
Dichlorvos	62-73-7	10	µg/kg		----	----	<10	----	----
Dimethoate	60-51-5	10	µg/kg		----	----	<10	----	----
Ethion	563-12-2	10	µg/kg		----	----	<10	----	----
Fenamiphos	22224-92-6	10	µg/kg		----	----	<10	----	----
Fenthion	55-38-9	10	µg/kg		----	----	<10	----	----
Malathion	121-75-5	10	µg/kg		----	----	<10	----	----
Azinphos Methyl	86-50-0	10	µg/kg		----	----	<10	----	----
Monocrotophos	6923-22-4	10	µg/kg		----	----	<10	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH34 0.7V	BH34 1.3V	BH35 0.0-0.7A	BH35 0.0-0.7B	BH35 0.3V
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-031	ES1504998-032	ES1504998-033	ES1504998-034	ES1504998-035
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	<10	----	----
Parathion-methyl	298-00-0	10	µg/kg		----	----	<10	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	<10	----	----
Prothiofos	34643-46-4	10	µg/kg		----	----	<10	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg		----	----	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg		----	----	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg		----	----	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	<0.50	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	<0.50	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	----	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		----	----	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	<0.50	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	----	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		----	----	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg		----	----	<0.50	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	<0.50	----	----
gamma-BHC	58-89-9	0.25	µg/kg		----	----	<0.25	----	----
Methoxychlor	72-43-5	0.50	µg/kg		----	----	<0.50	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	<0.25	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	<0.25	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		----	----	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	<5.0	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH34 0.7V	BH34 1.3V	BH35 0.0-0.7A	BH35 0.0-0.7B	BH35 0.3V
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-031	ES1504998-032	ES1504998-033	ES1504998-034	ES1504998-035
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	<5.0	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	<5	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	<5	----	----
Acenaphthylene	208-96-8	4	µg/kg		----	----	<4	----	----
Acenaphthene	83-32-9	4	µg/kg		----	----	<4	----	----
Fluorene	86-73-7	4	µg/kg		----	----	<4	----	----
Phenanthrene	85-01-8	4	µg/kg		----	----	<4	----	----
Anthracene	120-12-7	4	µg/kg		----	----	<4	----	----
Fluoranthene	206-44-0	4	µg/kg		----	----	<4	----	----
Pyrene	129-00-0	4	µg/kg		----	----	<4	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	<4	----	----
Chrysene	218-01-9	4	µg/kg		----	----	<4	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	<4	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	<4	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	<4	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	<4	----	----
Perylene	198-55-0	4	µg/kg		----	----	<4	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	<4	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	<4	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	<4	----	----
Coronene	191-07-1	5	µg/kg		----	----	<5	----	----
^ **Sum of PAHs**	----	4	µg/kg		----	----	<4	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**109**	**95.9**	----	----	**76.0**
Toluene-D8	2037-26-5	0.1	%		**90.1**	**121**	----	----	**89.8**
4-Bromofluorobenzene	460-00-4	0.1	%		**93.7**	**121**	----	----	**82.5**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	**78.0**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH34 0.7V	BH34 1.3V	BH35 0.0-0.7A	BH35 0.0-0.7B	BH35 0.3V
			Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504998-031	ES1504998-032	ES1504998-033	ES1504998-034	ES1504998-035
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	75.5	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	25.2	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	61.0	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	78.0	----	----
Anthracene-d10	1719-06-8	0.1	%	----	----	106	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	110	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH35 0.7V	BH36 0.0-0.4A	BH36 0.3V	BH39 0.0-0.5A	BH369 0.5-1.0A
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504998-036	ES1504998-037	ES1504998-038	ES1504998-039	ES1504998-040
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		20.3	22.3	20.4	13.4	24.8
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	12600	----	3920	11200
Iron	7439-89-6	50	mg/kg		----	25800	----	8020	20300
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	<0.50	----	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	5.26	----	7.28	6.94
Cadmium	7440-43-9	0.1	mg/kg		----	<0.1	----	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	20.7	----	8.0	21.7
Copper	7440-50-8	1.0	mg/kg		----	27.0	----	3.1	21.4
Cobalt	7440-48-4	0.5	mg/kg		----	14.5	----	4.8	12.0
Lead	7439-92-1	1.0	mg/kg		----	11.1	----	2.8	8.2
Manganese	7439-96-5	10	mg/kg		----	319	----	267	308
Nickel	7440-02-0	1.0	mg/kg		----	15.6	----	3.9	14.3
Selenium	7782-49-2	0.1	mg/kg		----	2.6	----	0.7	2.2
Silver	7440-22-4	0.1	mg/kg		----	<0.1	----	<0.1	<0.1
Vanadium	7440-62-2	2.0	mg/kg		----	64.0	----	22.6	54.2
Zinc	7440-66-6	1.0	mg/kg		----	58.0	----	12.7	43.6
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	0.02	----	<0.01	0.01
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	<0.1	----	<0.1	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	----	<0.1	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	----	<0.1	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	200	----	180	200
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	200	----	180	200
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	343	----	207	378
EK255A SD Ammonia in Sediment									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH35 0.7V	BH36 0.0-0.4A	BH36 0.3V	BH39 0.0-0.5A	BH369 0.5-1.0A
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-036	ES1504998-037	ES1504998-038	ES1504998-039	ES1504998-040
EK255A SD Ammonia in Sediment - Continued									
Ammonia as N	7664-41-7	0.2	mg/kg		----	**2.3**	----	**0.9**	**1.7**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	**0.15**	----	**0.14**	**0.32**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	<3	----	<3	<3
>C16 - C34 Fraction	----	3	mg/kg		----	**7**	----	**4**	<3
>C34 - C40 Fraction	----	5	mg/kg		----	<5	----	<5	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	**7**	----	**4**	<3
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	----	<3	----	----
C10 - C14 Fraction	----	3	mg/kg		----	<3	----	<3	<3
C15 - C28 Fraction	----	3	mg/kg		----	**4**	----	<3	<3
C29 - C36 Fraction	----	5	mg/kg		----	<5	----	<5	<5
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	**4**	----	<3	<3
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	----	<3	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	<0.2	----	----
Toluene	108-88-3	0.2	mg/kg		<0.2	----	<0.2	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	----	<0.2	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	----	<0.2	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	----	<0.2	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	----	<0.5	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	<0.2	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	<1	----	<1	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	<1	----	<1	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	<0.5	----	<0.5	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	<10	----	<10	<10
Carbophenothion	786-19-6	10	µg/kg		----	<10	----	<10	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	<10.0	----	<10.0	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	<10	----	<10	<10

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH35 0.7V	BH36 0.0-0.4A	BH36 0.3V	BH39 0.0-0.5A	BH369 0.5-1.0A
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-036	ES1504998-037	ES1504998-038	ES1504998-039	ES1504998-040
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Chlorpyrifos	2921-88-2	10	µg/kg		----	<10	----	<10	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	<10	----	<10	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	<10	----	<10	<10
Diazinon	333-41-5	10	µg/kg		----	<10	----	<10	<10
Dichlorvos	62-73-7	10	µg/kg		----	<10	----	<10	<10
Dimethoate	60-51-5	10	µg/kg		----	<10	----	<10	<10
Ethion	563-12-2	10	µg/kg		----	<10	----	<10	<10
Fenamiphos	22224-92-6	10	µg/kg		----	<10	----	<10	<10
Fenthion	55-38-9	10	µg/kg		----	<10	----	<10	<10
Malathion	121-75-5	10	µg/kg		----	<10	----	<10	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	<10	----	<10	<10
Monocrotophos	6923-22-4	10	µg/kg		----	<10	----	<10	<10
Parathion	56-38-2	10	µg/kg		----	<10	----	<10	<10
Parathion-methyl	298-00-0	10	µg/kg		----	<10	----	<10	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	<10	----	<10	<10
Prothiofos	34643-46-4	10	µg/kg		----	<10	----	<10	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
Endrin	72-20-8	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	<0.50	----	<0.50	<0.50

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH35 0.7V	BH36 0.0-0.4A	BH36 0.3V	BH39 0.0-0.5A	BH369 0.5-1.0A
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-036	ES1504998-037	ES1504998-038	ES1504998-039	ES1504998-040
EP131A: Organochlorine Pesticides - Continued									
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	<0.25	----	<0.25	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	<0.25	----	<0.25	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	<0.25	----	<0.25	<0.25
^ **Total Chlordane (sum)**	----	0.25	µg/kg		----	<0.25	----	<0.25	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	<0.50	----	<0.50	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		----	<5.0	----	<5.0	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	<5.0	----	<5.0	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	<5.0	----	<5.0	<5.0
Aroclor 1232	11141-16-5	5.0	µg/kg		----	<5.0	----	<5.0	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	<5.0	----	<5.0	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	<5.0	----	<5.0	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	<5.0	----	<5.0	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	<5.0	----	<5.0	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	<5	----	<5	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	<5	----	<5	<5
Acenaphthylene	208-96-8	4	µg/kg		----	<4	----	<4	<4
Acenaphthene	83-32-9	4	µg/kg		----	<4	----	<4	<4
Fluorene	86-73-7	4	µg/kg		----	<4	----	<4	<4
Phenanthrene	85-01-8	4	µg/kg		----	<4	----	<4	<4
Anthracene	120-12-7	4	µg/kg		----	<4	----	<4	<4
Fluoranthene	206-44-0	4	µg/kg		----	<4	----	<4	<4
Pyrene	129-00-0	4	µg/kg		----	<4	----	<4	<4
Benz(a)anthracene	56-55-3	4	µg/kg		----	<4	----	<4	<4
Chrysene	218-01-9	4	µg/kg		----	<4	----	<4	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	<4	----	<4	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	<4	----	<4	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		----	<4	----	<4	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		----	<4	----	<4	<4

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH35 0.7V	BH36 0.0-0.4A	BH36 0.3V	BH39 0.0-0.5A	BH369 0.5-1.0A
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-036	ES1504998-037	ES1504998-038	ES1504998-039	ES1504998-040
EP132B: Polynuclear Aromatic Hydrocarbons - Continued									
Perylene	198-55-0	4	µg/kg		----	<4	----	<4	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	<4	----	<4	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	<4	----	<4	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	<4	----	<4	<4
Coronene	191-07-1	5	µg/kg		----	<5	----	<5	<5
^ **Sum of PAHs**	----	4	µg/kg		----	<4	----	<4	<4
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**77.4**	----	**73.5**	----	----
Toluene-D8	2037-26-5	0.1	%		**85.6**	----	**94.8**	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		**86.9**	----	**80.8**	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	**89.5**	----	**96.6**	**80.5**
EP130S: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%		----	**80.8**	----	**78.3**	**87.2**
EP131S: OC Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.1	%		----	**50.8**	----	**59.6**	**56.6**
EP131T: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	**73.5**	----	**64.6**	**51.8**
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		----	**108**	----	**86.5**	**86.2**
Anthracene-d10	1719-06-8	0.1	%		----	**120**	----	**113**	**117**
4-Terphenyl-d14	1718-51-0	0.1	%		----	**114**	----	**109**	**118**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH39 1.0-1.5A	BH39 1.5-1.8A	BH39 0.0-0.5B	BH39 0.5-1.0B	BH39 1.0 - 1.5B
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504998-041	ES1504998-042	ES1504998-043	ES1504998-044	ES1504998-045
EA150: Particle Sizing									
+75µm	----	1	%		----	----	81	36	44
+150µm	----	1	%		----	----	75	17	15
+300µm	----	1	%		----	----	51	5	8
+425µm	----	1	%		----	----	38	2	7
+600µm	----	1	%		----	----	33	1	7
+1180µm	----	1	%		----	----	30	<1	6
+2.36mm	----	1	%		----	----	27	<1	5
+4.75mm	----	1	%		----	----	21	<1	<1
+9.5mm	----	1	%		----	----	11	<1	<1
+19.0mm	----	1	%		----	----	<1	<1	<1
+37.5mm	----	1	%		----	----	<1	<1	<1
+75.0mm	----	1	%		----	----	<1	<1	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		26.6	24.8	----	----	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	9	20	20
Silt (2-60 µm)	----	1	%		----	----	5	34	27
Sand (0.06-2.00 mm)	----	1	%		----	----	58	46	47
Gravel (>2mm)	----	1	%		----	----	28	<1	6
Cobbles (>6cm)	----	1	%		----	----	<1	<1	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	2.68	2.69	2.54
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		10900	8970	----	----	----
Iron	7439-89-6	50	mg/kg		21500	17600	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		8.32	5.02	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	----	----	----
Chromium	7440-47-3	1.0	mg/kg		20.9	18.8	----	----	----
Copper	7440-50-8	1.0	mg/kg		23.5	17.9	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		17.2	19.2	----	----	----
Lead	7439-92-1	1.0	mg/kg		9.6	7.7	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH39 1.0-1.5A	BH39 1.5-1.8A	BH39 0.0-0.5B	BH39 0.5-1.0B	BH39 1.0 - 1.5B
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-041	ES1504998-042	ES1504998-043	ES1504998-044	ES1504998-045
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		184	173	----	----	----
Nickel	7440-02-0	1.0	mg/kg		17.7	16.6	----	----	----
Selenium	7782-49-2	0.1	mg/kg		2.5	1.6	----	----	----
Silver	7440-22-4	0.1	mg/kg		0.2	<0.1	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		54.8	47.9	----	----	----
Zinc	7440-66-6	1.0	mg/kg		46.3	42.9	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		0.01	0.01	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		260	230	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		260	230	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		294	326	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		2.2	2.4	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		1.71	0.43	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	<3	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		<3	4	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	<5	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	4	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C10 - C14 Fraction	----	3	mg/kg		<3	<3	----	----	----
C15 - C28 Fraction	----	3	mg/kg		<3	<3	----	----	----
C29 - C36 Fraction	----	5	mg/kg		<5	<5	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH39 1.0-1.5A	BH39 1.5-1.8A	BH39 0.0-0.5B	BH39 0.5-1.0B	BH39 1.0 - 1.5B
			Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504998-041	ES1504998-042	ES1504998-043	ES1504998-044	ES1504998-045
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued								
^ C10 - C36 Fraction (sum)	----	3	mg/kg	<3	<3	----	----	----
EP090: Organotin Compounds								
Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)								
Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	----	----	----
Carbophenothion	786-19-6	10	µg/kg	<10	<10	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	----	----	----
Diazinon	333-41-5	10	µg/kg	<10	<10	----	----	----
Dichlorvos	62-73-7	10	µg/kg	<10	<10	----	----	----
Dimethoate	60-51-5	10	µg/kg	<10	<10	----	----	----
Ethion	563-12-2	10	µg/kg	<10	<10	----	----	----
Fenamiphos	22224-92-6	10	µg/kg	<10	<10	----	----	----
Fenthion	55-38-9	10	µg/kg	<10	<10	----	----	----
Malathion	121-75-5	10	µg/kg	<10	<10	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	----	----	----
Monocrotophos	6923-22-4	10	µg/kg	<10	<10	----	----	----
Parathion	56-38-2	10	µg/kg	<10	<10	----	----	----
Parathion-methyl	298-00-0	10	µg/kg	<10	<10	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	----	----	----
Prothiofos	34643-46-4	10	µg/kg	<10	<10	----	----	----
EP131A: Organochlorine Pesticides								
Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	----	----	----
beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	----	----	----
delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH39 1.0-1.5A	BH39 1.5-1.8A	BH39 0.0-0.5B	BH39 0.5-1.0B	BH39 1.0 - 1.5B
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504998-041	ES1504998-042	ES1504998-043	ES1504998-044	ES1504998-045
EP131A: Organochlorine Pesticides - Continued									
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	<0.50	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	<0.50	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	<0.50	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	<0.50	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	<0.25	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	<0.50	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	<0.25	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	<0.25	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	<0.25	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	<0.50	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	<5.0	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	<5	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	<5	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	<4	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	<4	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	<4	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH39 1.0-1.5A	BH39 1.5-1.8A	BH39 0.0-0.5B	BH39 0.5-1.0B	BH39 1.0 - 1.5B
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504998-041	ES1504998-042	ES1504998-043	ES1504998-044	ES1504998-045
EP132B: Polynuclear Aromatic Hydrocarbons - Continued									
Phenanthrene	85-01-8	4	µg/kg		<4	<4	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	<4	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	<4	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	<4	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	<4	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	<4	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	<4	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	<4	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	<4	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	<4	----	----	----
Perylene	198-55-0	4	µg/kg		<4	<4	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	<4	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	<4	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	<4	----	----	----
Coronene	191-07-1	5	µg/kg		<5	<5	----	----	----
^ Sum of PAHs	----	4	µg/kg		<4	<4	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		87.4	94.8	----	----	----
EP130S: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%		86.4	84.5	----	----	----
EP131S: OC Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.1	%		71.1	66.7	----	----	----
EP131T: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		69.2	70.1	----	----	----
EP132T: Base/Neutral Extractable Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%		76.0	87.8	----	----	----
Anthracene-d10	1719-06-8	0.1	%		115	119	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%		111	123	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH39 1.5-1.8B	BH39 0.3V	BH39 0.7V	BH39 1.3V	BH40 0.0-0.5A
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504998-046	ES1504998-047	ES1504998-048	ES1504998-049	ES1504998-050
EA150: Particle Sizing									
+75µm	----	1	%		30	----	----	----	----
+150µm	----	1	%		5	----	----	----	----
+300µm	----	1	%		1	----	----	----	----
+425µm	----	1	%		<1	----	----	----	----
+600µm	----	1	%		<1	----	----	----	----
+1180µm	----	1	%		<1	----	----	----	----
+2.36mm	----	1	%		<1	----	----	----	----
+4.75mm	----	1	%		<1	----	----	----	----
+9.5mm	----	1	%		<1	----	----	----	----
+19.0mm	----	1	%		<1	----	----	----	----
+37.5mm	----	1	%		<1	----	----	----	----
+75.0mm	----	1	%		<1	----	----	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		----	20.2	25.0	26.6	26.7
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		19	----	----	----	----
Silt (2-60 µm)	----	1	%		37	----	----	----	----
Sand (0.06-2.00 mm)	----	1	%		44	----	----	----	----
Gravel (>2mm)	----	1	%		<1	----	----	----	----
Cobbles (>6cm)	----	1	%		<1	----	----	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		2.70	----	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	----	----	----	5660
Iron	7439-89-6	50	mg/kg		----	----	----	----	12400
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	----	----	----	<0.50
Arsenic	7440-38-2	1.00	mg/kg		----	----	----	----	11.1
Cadmium	7440-43-9	0.1	mg/kg		----	----	----	----	<0.1
Chromium	7440-47-3	1.0	mg/kg		----	----	----	----	11.7
Copper	7440-50-8	1.0	mg/kg		----	----	----	----	5.4
Cobalt	7440-48-4	0.5	mg/kg		----	----	----	----	8.0
Lead	7439-92-1	1.0	mg/kg		----	----	----	----	4.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH39 1.5-1.8B	BH39 0.3V	BH39 0.7V	BH39 1.3V	BH40 0.0-0.5A
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504998-046	ES1504998-047	ES1504998-048	ES1504998-049	ES1504998-050
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	----	----	----	**355**
Nickel	7440-02-0	1.0	mg/kg		----	----	----	----	**6.6**
Selenium	7782-49-2	0.1	mg/kg		----	----	----	----	**1.1**
Silver	7440-22-4	0.1	mg/kg		----	----	----	----	<0.1
Vanadium	7440-62-2	2.0	mg/kg		----	----	----	----	**33.3**
Zinc	7440-66-6	1.0	mg/kg		----	----	----	----	**18.5**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	----	----	----	<0.01
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	----	----	----	<0.1
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	----	----	----	**190**
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	----	----	----	**190**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	----	----	----	**208**
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	----	----	----	**0.4**
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	----	----	----	**0.24**
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	----	----	----	<3
>C16 - C34 Fraction	----	3	mg/kg		----	----	----	----	<3
>C34 - C40 Fraction	----	5	mg/kg		----	----	----	----	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	----	----	----	<3
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	<3	<3	<3	----
C10 - C14 Fraction	----	3	mg/kg		----	----	----	----	<3
C15 - C28 Fraction	----	3	mg/kg		----	----	----	----	<3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH39 1.5-1.8B	BH39 0.3V	BH39 0.7V	BH39 1.3V	BH40 0.0-0.5A
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504998-046	ES1504998-047	ES1504998-048	ES1504998-049	ES1504998-050
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	----	----	----	<5
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	----	----	----	<3
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	<3	<3	<3	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	<0.2	<0.2	<0.2	----
Toluene	108-88-3	0.2	mg/kg		----	<0.2	<0.2	<0.2	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	<0.2	<0.2	<0.2	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	<0.2	<0.2	<0.2	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	<0.2	<0.2	<0.2	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	<0.5	<0.5	<0.5	----
^ Sum of BTEX	----	0.2	mg/kg		----	<0.2	<0.2	<0.2	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	----	----	----	<1
Dibutyltin	1002-53-5	1	µgSn/kg		----	----	----	----	<1
Tributyltin	56573-85-4	0.5	µgSn/kg		----	----	----	----	<0.5
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	----	----	----	<10
Carbophenothion	786-19-6	10	µg/kg		----	----	----	----	<10
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	----	----	----	<10.0
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	----	----	----	<10
Chlorpyrifos	2921-88-2	10	µg/kg		----	----	----	----	<10
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	----	----	----	<10
Demeton-S-methyl	919-86-8	10	µg/kg		----	----	----	----	<10
Diazinon	333-41-5	10	µg/kg		----	----	----	----	<10
Dichlorvos	62-73-7	10	µg/kg		----	----	----	----	<10
Dimethoate	60-51-5	10	µg/kg		----	----	----	----	<10
Ethion	563-12-2	10	µg/kg		----	----	----	----	<10
Fenamiphos	22224-92-6	10	µg/kg		----	----	----	----	<10
Fenthion	55-38-9	10	µg/kg		----	----	----	----	<10
Malathion	121-75-5	10	µg/kg		----	----	----	----	<10
Azinphos Methyl	86-50-0	10	µg/kg		----	----	----	----	<10
Monocrotophos	6923-22-4	10	µg/kg		----	----	----	----	<10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH39 1.5-1.8B	BH39 0.3V	BH39 0.7V	BH39 1.3V	BH40 0.0-0.5A
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-046	ES1504998-047	ES1504998-048	ES1504998-049	ES1504998-050
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	----	----	----	<10
Parathion-methyl	298-00-0	10	µg/kg		----	----	----	----	<10
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	----	----	----	<10
Prothiofos	34643-46-4	10	µg/kg		----	----	----	----	<10
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	----	----	----	<0.50
alpha-BHC	319-84-6	0.50	µg/kg		----	----	----	----	<0.50
beta-BHC	319-85-7	0.50	µg/kg		----	----	----	----	<0.50
delta-BHC	319-86-8	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDD	72-54-8	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDE	72-55-9	0.50	µg/kg		----	----	----	----	<0.50
4.4`-DDT	50-29-3	0.50	µg/kg		----	----	----	----	<0.50
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		----	----	----	----	<0.50
Dieldrin	60-57-1	0.50	µg/kg		----	----	----	----	<0.50
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	----	----	----	<0.50
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	----	----	----	<0.50
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	----	----	----	<0.50
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		----	----	----	----	<0.50
Endrin	72-20-8	0.50	µg/kg		----	----	----	----	<0.50
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	----	----	----	<0.50
Endrin ketone	53494-70-5	0.50	µg/kg		----	----	----	----	<0.50
Heptachlor	76-44-8	0.50	µg/kg		----	----	----	----	<0.50
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	----	----	----	<0.50
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	----	----	----	<0.50
gamma-BHC	58-89-9	0.25	µg/kg		----	----	----	----	<0.25
Methoxychlor	72-43-5	0.50	µg/kg		----	----	----	----	<0.50
cis-Chlordane	5103-71-9	0.25	µg/kg		----	----	----	----	<0.25
trans-Chlordane	5103-74-2	0.25	µg/kg		----	----	----	----	<0.25
^ Total Chlordane (sum)	----	0.25	µg/kg		----	----	----	----	<0.25
Oxychlordane	27304-13-8	0.50	µg/kg		----	----	----	----	<0.50
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1016	12674-11-2	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1221	11104-28-2	5.0	µg/kg		----	----	----	----	<5.0

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH39 1.5-1.8B	BH39 0.3V	BH39 0.7V	BH39 1.3V	BH40 0.0-0.5A
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-046	ES1504998-047	ES1504998-048	ES1504998-049	ES1504998-050
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1242	53469-21-9	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1248	12672-29-6	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1254	11097-69-1	5.0	µg/kg		----	----	----	----	<5.0
Aroclor 1260	11096-82-5	5.0	µg/kg		----	----	----	----	<5.0
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	----	----	----	<5
2-Methylnaphthalene	91-57-6	5	µg/kg		----	----	----	----	<5
Acenaphthylene	208-96-8	4	µg/kg		----	----	----	----	<4
Acenaphthene	83-32-9	4	µg/kg		----	----	----	----	<4
Fluorene	86-73-7	4	µg/kg		----	----	----	----	<4
Phenanthrene	85-01-8	4	µg/kg		----	----	----	----	<4
Anthracene	120-12-7	4	µg/kg		----	----	----	----	<4
Fluoranthene	206-44-0	4	µg/kg		----	----	----	----	<4
Pyrene	129-00-0	4	µg/kg		----	----	----	----	<4
Benz(a)anthracene	56-55-3	4	µg/kg		----	----	----	----	<4
Chrysene	218-01-9	4	µg/kg		----	----	----	----	<4
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	----	----	----	<4
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	----	----	----	<4
Benzo(e)pyrene	192-97-2	4	µg/kg		----	----	----	----	<4
Benzo(a)pyrene	50-32-8	4	µg/kg		----	----	----	----	<4
Perylene	198-55-0	4	µg/kg		----	----	----	----	<4
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	----	----	----	<4
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	----	----	----	<4
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	----	----	----	<4
Coronene	191-07-1	5	µg/kg		----	----	----	----	<5
^ **Sum of PAHs**	----	4	µg/kg		----	----	----	----	<4
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	**112**	**70.3**	**82.8**	----
Toluene-D8	2037-26-5	0.1	%		----	**88.6**	**89.0**	**84.8**	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	**88.3**	**87.8**	**89.9**	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	----	----	----	**88.8**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH39 1.5-1.8B	BH39 0.3V	BH39 0.7V	BH39 1.3V	BH40 0.0-0.5A
			Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504998-046	ES1504998-047	ES1504998-048	ES1504998-049	ES1504998-050
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	----	----	----	**73.6**
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	----	----	----	**54.2**
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	----	----	----	**55.2**
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	----	----	----	**83.9**
Anthracene-d10	1719-06-8	0.1	%	----	----	----	----	**103**
4-Terphenyl-d14	1718-51-0	0.1	%	----	----	----	----	**107**

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH40 0.5-1.0A	BH40 1.0-1.2A	BH40 0.5-1.0B	BH40 0.3V	BH40 0.7V
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-051	ES1504998-052	ES1504998-053	ES1504998-054	ES1504998-055
EA150: Particle Sizing									
+75µm	----	1	%		----	----	**93**	----	----
+150µm	----	1	%		----	----	**92**	----	----
+300µm	----	1	%		----	----	**83**	----	----
+425µm	----	1	%		----	----	**68**	----	----
+600µm	----	1	%		----	----	**34**	----	----
+1180µm	----	1	%		----	----	**3**	----	----
+2.36mm	----	1	%		----	----	<1	----	----
+4.75mm	----	1	%		----	----	<1	----	----
+9.5mm	----	1	%		----	----	<1	----	----
+19.0mm	----	1	%		----	----	<1	----	----
+37.5mm	----	1	%		----	----	<1	----	----
+75.0mm	----	1	%		----	----	<1	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**19.3**	**21.3**	----	**20.7**	**24.6**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	**3**	----	----
Silt (2-60 µm)	----	1	%		----	----	**3**	----	----
Sand (0.06-2.00 mm)	----	1	%		----	----	**92**	----	----
Gravel (>2mm)	----	1	%		----	----	**2**	----	----
Cobbles (>6cm)	----	1	%		----	----	<1	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	**2.64**	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**3900**	**2880**	----	----	----
Iron	7439-89-6	50	mg/kg		**8190**	**9290**	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		**1.86**	**2.83**	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	----	----	----
Chromium	7440-47-3	1.0	mg/kg		**6.9**	**11.4**	----	----	----
Copper	7440-50-8	1.0	mg/kg		**4.4**	**6.9**	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		**5.2**	**6.8**	----	----	----
Lead	7439-92-1	1.0	mg/kg		**4.2**	**7.2**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH40 0.5-1.0A	BH40 1.0-1.2A	BH40 0.5-1.0B	BH40 0.3V	BH40 0.7V
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-051	ES1504998-052	ES1504998-053	ES1504998-054	ES1504998-055
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		190	157	----	----	----
Nickel	7440-02-0	1.0	mg/kg		4.0	6.3	----	----	----
Selenium	7782-49-2	0.1	mg/kg		0.6	0.8	----	----	----
Silver	7440-22-4	0.1	mg/kg		<0.1	<0.1	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		20.8	23.2	----	----	----
Zinc	7440-66-6	1.0	mg/kg		12.5	12.4	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	<0.01	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		<0.1	<0.1	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		40	30	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		40	30	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		206	197	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		0.4	0.4	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		0.06	0.04	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	<3	----	----	----
>C16 - C34 Fraction	----	3	mg/kg		<3	3	----	----	----
>C34 - C40 Fraction	----	5	mg/kg		<5	<5	----	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	3	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	----	<3	<3
C10 - C14 Fraction	----	3	mg/kg		<3	<3	----	----	----
C15 - C28 Fraction	----	3	mg/kg		<3	<3	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH40 0.5-1.0A	BH40 1.0-1.2A	BH40 0.5-1.0B	BH40 0.3V	BH40 0.7V
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504998-051	ES1504998-052	ES1504998-053	ES1504998-054	ES1504998-055
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	<5	----	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		<3	<3	----	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	----	<3	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	----	<0.2	<0.2
Toluene	108-88-3	0.2	mg/kg		----	----	----	<0.2	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	----	<0.2	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	----	<0.2	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	----	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	----	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		----	----	----	<0.2	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	<1	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	<1	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	<0.5	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	<10	----	----	----
Carbophenothion	786-19-6	10	µg/kg		<10	<10	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	<10.0	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	<10	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	<10	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	<10	----	----	----
Diazinon	333-41-5	10	µg/kg		<10	<10	----	----	----
Dichlorvos	62-73-7	10	µg/kg		<10	<10	----	----	----
Dimethoate	60-51-5	10	µg/kg		<10	<10	----	----	----
Ethion	563-12-2	10	µg/kg		<10	<10	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		<10	<10	----	----	----
Fenthion	55-38-9	10	µg/kg		<10	<10	----	----	----
Malathion	121-75-5	10	µg/kg		<10	<10	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	<10	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		<10	<10	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH40 0.5-1.0A	BH40 1.0-1.2A	BH40 0.5-1.0B	BH40 0.3V	BH40 0.7V
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-051	ES1504998-052	ES1504998-053	ES1504998-054	ES1504998-055
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	<10	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		<10	<10	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	<10	----	----	----
Prothiofos	34643-46-4	10	µg/kg		<10	<10	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	<0.50	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	<0.50	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	<0.50	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	<0.50	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	<0.50	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	<0.50	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	<0.50	----	----	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin	72-20-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	<0.50	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	<0.50	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	<0.50	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	<0.50	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	<0.25	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	<0.50	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	<0.25	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	<0.25	----	----	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	<0.25	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	<0.50	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	<5.0	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH40 0.5-1.0A	BH40 1.0-1.2A	BH40 0.5-1.0B	BH40 0.3V	BH40 0.7V
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504998-051	ES1504998-052	ES1504998-053	ES1504998-054	ES1504998-055
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	<5.0	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	<5.0	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	<5	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	<5	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		<4	<4	----	----	----
Acenaphthene	83-32-9	4	µg/kg		<4	<4	----	----	----
Fluorene	86-73-7	4	µg/kg		<4	<4	----	----	----
Phenanthrene	85-01-8	4	µg/kg		<4	<4	----	----	----
Anthracene	120-12-7	4	µg/kg		<4	<4	----	----	----
Fluoranthene	206-44-0	4	µg/kg		<4	<4	----	----	----
Pyrene	129-00-0	4	µg/kg		<4	<4	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	<4	----	----	----
Chrysene	218-01-9	4	µg/kg		<4	<4	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	<4	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	<4	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	<4	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	<4	----	----	----
Perylene	198-55-0	4	µg/kg		<4	<4	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	<4	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	<4	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	<4	----	----	----
Coronene	191-07-1	5	µg/kg		<5	<5	----	----	----
^ Sum of PAHs	----	4	µg/kg		<4	<4	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	----	107	84.4
Toluene-D8	2037-26-5	0.1	%		----	----	----	92.6	99.9
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	----	93.1	96.2
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		94.6	89.9	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH40 0.5-1.0A	BH40 1.0-1.2A	BH40 0.5-1.0B	BH40 0.3V	BH40 0.7V
			Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504998-051	ES1504998-052	ES1504998-053	ES1504998-054	ES1504998-055
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	76.2	68.4	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	51.4	43.9	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	55.8	57.8	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	84.1	81.8	----	----	----
Anthracene-d10	1719-06-8	0.1	%	111	104	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	113	94.7	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH41 0.0-0.5A	BH41 0.0-0.5B	BH41 0.3V	BH43 0.0-0.5A	BH43 0.0-0.5B
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-056	ES1504998-057	ES1504998-058	ES1504998-059	ES1504998-060
EA150: Particle Sizing									
+75µm	----	1	%		----	**32**	----	----	**9**
+150µm	----	1	%		----	**29**	----	----	**8**
+300µm	----	1	%		----	**22**	----	----	**5**
+425µm	----	1	%		----	**16**	----	----	**3**
+600µm	----	1	%		----	**14**	----	----	**1**
+1180µm	----	1	%		----	**13**	----	----	<1
+2.36mm	----	1	%		----	**11**	----	----	<1
+4.75mm	----	1	%		----	**8**	----	----	<1
+9.5mm	----	1	%		----	**3**	----	----	<1
+19.0mm	----	1	%		----	<1	----	----	<1
+37.5mm	----	1	%		----	<1	----	----	<1
+75.0mm	----	1	%		----	<1	----	----	<1
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**21.3**	----	**21.7**	**22.7**	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	**40**	----	----	**37**
Silt (2-60 µm)	----	1	%		----	**26**	----	----	**53**
Sand (0.06-2.00 mm)	----	1	%		----	**22**	----	----	**10**
Gravel (>2mm)	----	1	%		----	**12**	----	----	<1
Cobbles (>6cm)	----	1	%		----	<1	----	----	<1
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	**2.70**	----	----	**2.64**
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**15200**	----	----	**12800**	----
Iron	7439-89-6	50	mg/kg		**31900**	----	----	**36900**	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	----	----	<0.50	----
Arsenic	7440-38-2	1.00	mg/kg		**8.61**	----	----	**11.9**	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	----	----	<0.1	----
Chromium	7440-47-3	1.0	mg/kg		**23.8**	----	----	**26.9**	----
Copper	7440-50-8	1.0	mg/kg		**29.6**	----	----	**33.5**	----
Cobalt	7440-48-4	0.5	mg/kg		**17.4**	----	----	**48.0**	----
Lead	7439-92-1	1.0	mg/kg		**11.0**	----	----	**20.3**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH41 0.0-0.5A	BH41 0.0-0.5B	BH41 0.3V	BH43 0.0-0.5A	BH43 0.0-0.5B
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-056	ES1504998-057	ES1504998-058	ES1504998-059	ES1504998-060
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		**686**	----	----	**1510**	----
Nickel	7440-02-0	1.0	mg/kg		**20.3**	----	----	**19.5**	----
Selenium	7782-49-2	0.1	mg/kg		**3.1**	----	----	**4.0**	----
Silver	7440-22-4	0.1	mg/kg		**0.5**	----	----	<0.1	----
Vanadium	7440-62-2	2.0	mg/kg		**87.2**	----	----	**120**	----
Zinc	7440-66-6	1.0	mg/kg		**51.2**	----	----	**52.7**	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		**0.03**	----	----	<0.01	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		<0.1	----	----	<0.1	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		**0.3**	----	----	<0.1	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		**0.3**	----	----	<0.1	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		**230**	----	----	**240**	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		**230**	----	----	**240**	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		**301**	----	----	**474**	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		**0.9**	----	----	**0.7**	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		**0.15**	----	----	**0.23**	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		<3	----	----	<3	----
>C16 - C34 Fraction	----	3	mg/kg		<3	----	----	**4**	----
>C34 - C40 Fraction	----	5	mg/kg		<5	----	----	<5	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		<3	----	----	**4**	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		----	----	<3	----	----
C10 - C14 Fraction	----	3	mg/kg		<3	----	----	<3	----
C15 - C28 Fraction	----	3	mg/kg		<3	----	----	<3	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH41 0.0-0.5A	BH41 0.0-0.5B	BH41 0.3V	BH43 0.0-0.5A	BH43 0.0-0.5B
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-056	ES1504998-057	ES1504998-058	ES1504998-059	ES1504998-060
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		<5	----	----	<5	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		<3	----	----	<3	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		----	----	<3	----	----
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	<0.2	----	----
Toluene	108-88-3	0.2	mg/kg		----	----	<0.2	----	----
Ethylbenzene	100-41-4	0.2	mg/kg		----	----	<0.2	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		----	----	<0.2	----	----
ortho-Xylene	95-47-6	0.2	mg/kg		----	----	<0.2	----	----
^ Total Xylenes	1330-20-7	0.5	mg/kg		----	----	<0.5	----	----
^ Sum of BTEX	----	0.2	mg/kg		----	----	<0.2	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		<1	----	----	<1	----
Dibutyltin	1002-53-5	1	µgSn/kg		<1	----	----	<1	----
Tributyltin	56573-85-4	0.5	µgSn/kg		<0.5	----	----	<0.5	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		<10	----	----	<10	----
Carbophenothion	786-19-6	10	µg/kg		<10	----	----	<10	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		<10.0	----	----	<10.0	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		<10	----	----	<10	----
Chlorpyrifos	2921-88-2	10	µg/kg		<10	----	----	<10	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		<10	----	----	<10	----
Demeton-S-methyl	919-86-8	10	µg/kg		<10	----	----	<10	----
Diazinon	333-41-5	10	µg/kg		<10	----	----	<10	----
Dichlorvos	62-73-7	10	µg/kg		<10	----	----	<10	----
Dimethoate	60-51-5	10	µg/kg		<10	----	----	<10	----
Ethion	563-12-2	10	µg/kg		<10	----	----	<10	----
Fenamiphos	22224-92-6	10	µg/kg		<10	----	----	<10	----
Fenthion	55-38-9	10	µg/kg		<10	----	----	<10	----
Malathion	121-75-5	10	µg/kg		<10	----	----	<10	----
Azinphos Methyl	86-50-0	10	µg/kg		<10	----	----	<10	----
Monocrotophos	6923-22-4	10	µg/kg		<10	----	----	<10	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH41 0.0-0.5A	BH41 0.0-0.5B	BH41 0.3V	BH43 0.0-0.5A	BH43 0.0-0.5B
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-056	ES1504998-057	ES1504998-058	ES1504998-059	ES1504998-060
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		<10	----	----	<10	----
Parathion-methyl	298-00-0	10	µg/kg		<10	----	----	<10	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		<10	----	----	<10	----
Prothiofos	34643-46-4	10	µg/kg		<10	----	----	<10	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		<0.50	----	----	<0.50	----
alpha-BHC	319-84-6	0.50	µg/kg		<0.50	----	----	<0.50	----
beta-BHC	319-85-7	0.50	µg/kg		<0.50	----	----	<0.50	----
delta-BHC	319-86-8	0.50	µg/kg		<0.50	----	----	<0.50	----
4.4`-DDD	72-54-8	0.50	µg/kg		<0.50	----	----	<0.50	----
4.4`-DDE	72-55-9	0.50	µg/kg		<0.50	----	----	<0.50	----
4.4`-DDT	50-29-3	0.50	µg/kg		<0.50	----	----	<0.50	----
^ Sum of DDD + DDE + DDT	----	0.50	µg/kg		<0.50	----	----	<0.50	----
Dieldrin	60-57-1	0.50	µg/kg		<0.50	----	----	<0.50	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		<0.50	----	----	<0.50	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		<0.50	----	----	<0.50	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		<0.50	----	----	<0.50	----
^ Endosulfan (sum)	115-29-7	0.50	µg/kg		<0.50	----	----	<0.50	----
Endrin	72-20-8	0.50	µg/kg		<0.50	----	----	<0.50	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		<0.50	----	----	<0.50	----
Endrin ketone	53494-70-5	0.50	µg/kg		<0.50	----	----	<0.50	----
Heptachlor	76-44-8	0.50	µg/kg		<0.50	----	----	<0.50	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		<0.50	----	----	<0.50	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		<0.50	----	----	<0.50	----
gamma-BHC	58-89-9	0.25	µg/kg		<0.25	----	----	<0.25	----
Methoxychlor	72-43-5	0.50	µg/kg		<0.50	----	----	<0.50	----
cis-Chlordane	5103-71-9	0.25	µg/kg		<0.25	----	----	<0.25	----
trans-Chlordane	5103-74-2	0.25	µg/kg		<0.25	----	----	<0.25	----
^ Total Chlordane (sum)	----	0.25	µg/kg		<0.25	----	----	<0.25	----
Oxychlordane	27304-13-8	0.50	µg/kg		<0.50	----	----	<0.50	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ Total Polychlorinated biphenyls	----	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1016	12674-11-2	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1221	11104-28-2	5.0	µg/kg		<5.0	----	----	<5.0	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH41 0.0-0.5A	BH41 0.0-0.5B	BH41 0.3V	BH43 0.0-0.5A	BH43 0.0-0.5B
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		ES1504998-056	ES1504998-057	ES1504998-058	ES1504998-059	ES1504998-060
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1242	53469-21-9	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1248	12672-29-6	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1254	11097-69-1	5.0	µg/kg		<5.0	----	----	<5.0	----
Aroclor 1260	11096-82-5	5.0	µg/kg		<5.0	----	----	<5.0	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		<5	----	----	<5	----
2-Methylnaphthalene	91-57-6	5	µg/kg		<5	----	----	<5	----
Acenaphthylene	208-96-8	4	µg/kg		<4	----	----	<4	----
Acenaphthene	83-32-9	4	µg/kg		<4	----	----	<4	----
Fluorene	86-73-7	4	µg/kg		<4	----	----	<4	----
Phenanthrene	85-01-8	4	µg/kg		<4	----	----	<4	----
Anthracene	120-12-7	4	µg/kg		<4	----	----	<4	----
Fluoranthene	206-44-0	4	µg/kg		<4	----	----	<4	----
Pyrene	129-00-0	4	µg/kg		<4	----	----	<4	----
Benz(a)anthracene	56-55-3	4	µg/kg		<4	----	----	<4	----
Chrysene	218-01-9	4	µg/kg		<4	----	----	<4	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		<4	----	----	<4	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		<4	----	----	<4	----
Benzo(e)pyrene	192-97-2	4	µg/kg		<4	----	----	<4	----
Benzo(a)pyrene	50-32-8	4	µg/kg		<4	----	----	<4	----
Perylene	198-55-0	4	µg/kg		<4	----	----	<4	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		<4	----	----	<4	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		<4	----	----	<4	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		<4	----	----	<4	----
Coronene	191-07-1	5	µg/kg		<5	----	----	<5	----
^ Sum of PAHs	----	4	µg/kg		<4	----	----	<4	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		----	----	103	----	----
Toluene-D8	2037-26-5	0.1	%		----	----	88.7	----	----
4-Bromofluorobenzene	460-00-4	0.1	%		----	----	86.7	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		101	----	----	54.7	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH41 0.0-0.5A	BH41 0.0-0.5B	BH41 0.3V	BH43 0.0-0.5A	BH43 0.0-0.5B
			Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504998-056	ES1504998-057	ES1504998-058	ES1504998-059	ES1504998-060
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	**81.9**	----	----	**76.7**	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	**42.1**	----	----	**71.2**	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**36.0**	----	----	**54.0**	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**87.4**	----	----	**82.7**	----
Anthracene-d10	1719-06-8	0.1	%	**102**	----	----	**107**	----
4-Terphenyl-d14	1718-51-0	0.1	%	**99.5**	----	----	**110**	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH43 0.3V	BH45 0.0-0.5A	BH45 0.5-0.8A	BH45 0.0-0.5B	BH45 0.3V
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-061	ES1504998-062	ES1504998-063	ES1504998-064	ES1504998-065
EA150: Particle Sizing									
+75µm	----	1	%		----	----	----	**61**	----
+150µm	----	1	%		----	----	----	**43**	----
+300µm	----	1	%		----	----	----	**28**	----
+425µm	----	1	%		----	----	----	**19**	----
+600µm	----	1	%		----	----	----	**15**	----
+1180µm	----	1	%		----	----	----	**12**	----
+2.36mm	----	1	%		----	----	----	**10**	----
+4.75mm	----	1	%		----	----	----	**7**	----
+9.5mm	----	1	%		----	----	----	**5**	----
+19.0mm	----	1	%		----	----	----	<1	----
+37.5mm	----	1	%		----	----	----	<1	----
+75.0mm	----	1	%		----	----	----	<1	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**22.8**	**21.0**	**20.0**	----	**19.1**
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	----	**19**	----
Silt (2-60 µm)	----	1	%		----	----	----	**15**	----
Sand (0.06-2.00 mm)	----	1	%		----	----	----	**56**	----
Gravel (>2mm)	----	1	%		----	----	----	**10**	----
Cobbles (>6cm)	----	1	%		----	----	----	<1	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	----	**2.66**	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	**8110**	**9040**	----	----
Iron	7439-89-6	50	mg/kg		----	**15400**	**18700**	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	<0.50	<0.50	----	----
Arsenic	7440-38-2	1.00	mg/kg		----	**6.72**	**7.59**	----	----
Cadmium	7440-43-9	0.1	mg/kg		----	<0.1	<0.1	----	----
Chromium	7440-47-3	1.0	mg/kg		----	**12.4**	**15.4**	----	----
Copper	7440-50-8	1.0	mg/kg		----	**9.1**	**12.2**	----	----
Cobalt	7440-48-4	0.5	mg/kg		----	**7.4**	**9.6**	----	----
Lead	7439-92-1	1.0	mg/kg		----	**6.3**	**6.0**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH43 0.3V	BH45 0.0-0.5A	BH45 0.5-0.8A	BH45 0.0-0.5B	BH45 0.3V
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-061	ES1504998-062	ES1504998-063	ES1504998-064	ES1504998-065
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	251	219	----	----
Nickel	7440-02-0	1.0	mg/kg		----	8.4	11.3	----	----
Selenium	7782-49-2	0.1	mg/kg		----	1.9	1.4	----	----
Silver	7440-22-4	0.1	mg/kg		----	0.1	<0.1	----	----
Vanadium	7440-62-2	2.0	mg/kg		----	33.7	46.3	----	----
Zinc	7440-66-6	1.0	mg/kg		----	28.9	36.7	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	0.02	0.02	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	<0.1	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	160	220	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	160	220	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	261	468	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	0.8	1.4	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	0.15	0.11	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	<3	<3	----	----
>C16 - C34 Fraction	----	3	mg/kg		----	<3	<3	----	----
>C34 - C40 Fraction	----	5	mg/kg		----	<5	<5	----	----
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	<3	<3	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	----	----	----	<3
C10 - C14 Fraction	----	3	mg/kg		----	<3	<3	----	----
C15 - C28 Fraction	----	3	mg/kg		----	<3	<3	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH43 0.3V	BH45 0.0-0.5A	BH45 0.5-0.8A	BH45 0.0-0.5B	BH45 0.3V
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-061	ES1504998-062	ES1504998-063	ES1504998-064	ES1504998-065
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	<5	<5	----	----
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	<3	<3	----	----
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	----	----	----	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	<0.2
Toluene	108-88-3	0.2	mg/kg		<0.2	----	----	----	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	----	----	----	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	----	----	----	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	----	----	----	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	----	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	----	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	<1	<1	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	<1	<1	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	<0.5	<0.5	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	<10	<10	----	----
Carbophenothion	786-19-6	10	µg/kg		----	<10	<10	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	<10.0	<10.0	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	<10	<10	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	<10	<10	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	<10	<10	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	<10	<10	----	----
Diazinon	333-41-5	10	µg/kg		----	<10	<10	----	----
Dichlorvos	62-73-7	10	µg/kg		----	<10	<10	----	----
Dimethoate	60-51-5	10	µg/kg		----	<10	<10	----	----
Ethion	563-12-2	10	µg/kg		----	<10	<10	----	----
Fenamiphos	22224-92-6	10	µg/kg		----	<10	<10	----	----
Fenthion	55-38-9	10	µg/kg		----	<10	<10	----	----
Malathion	121-75-5	10	µg/kg		----	<10	<10	----	----
Azinphos Methyl	86-50-0	10	µg/kg		----	<10	<10	----	----
Monocrotophos	6923-22-4	10	µg/kg		----	<10	<10	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH43 0.3V	BH45 0.0-0.5A	BH45 0.5-0.8A	BH45 0.0-0.5B	BH45 0.3V
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-061	ES1504998-062	ES1504998-063	ES1504998-064	ES1504998-065
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	<10	<10	----	----
Parathion-methyl	298-00-0	10	µg/kg		----	<10	<10	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	<10	<10	----	----
Prothiofos	34643-46-4	10	µg/kg		----	<10	<10	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-BHC	319-84-6	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-BHC	319-85-7	0.50	µg/kg		----	<0.50	<0.50	----	----
delta-BHC	319-86-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	<0.50	<0.50	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	<0.50	<0.50	----	----
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	<0.50	<0.50	----	----
Dieldrin	60-57-1	0.50	µg/kg		----	<0.50	<0.50	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	<0.50	<0.50	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	<0.50	<0.50	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	<0.50	<0.50	----	----
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin	72-20-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	<0.50	<0.50	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor	76-44-8	0.50	µg/kg		----	<0.50	<0.50	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	<0.50	<0.50	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	<0.50	<0.50	----	----
gamma-BHC	58-89-9	0.25	µg/kg		----	<0.25	<0.25	----	----
Methoxychlor	72-43-5	0.50	µg/kg		----	<0.50	<0.50	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	<0.25	<0.25	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	<0.25	<0.25	----	----
^ **Total Chlordane (sum)**	----	0.25	µg/kg		----	<0.25	<0.25	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	<0.50	<0.50	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	<5.0	<5.0	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	<5.0	<5.0	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID: BH43 0.3V	BH45 0.0-0.5A	BH45 0.5-0.8A	BH45 0.0-0.5B	BH45 0.3V
				Client sampling date / time: 27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
				ES1504998-061	ES1504998-062	ES1504998-063	ES1504998-064	ES1504998-065
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued								
Aroclor 1232	11141-16-5	5.0	µg/kg	----	<5.0	<5.0	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg	----	<5.0	<5.0	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg	----	<5.0	<5.0	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg	----	<5.0	<5.0	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg	----	<5.0	<5.0	----	----
EP132B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	5	µg/kg	----	<5	<5	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg	----	<5	<5	----	----
Acenaphthylene	208-96-8	4	µg/kg	----	<4	<4	----	----
Acenaphthene	83-32-9	4	µg/kg	----	<4	<4	----	----
Fluorene	86-73-7	4	µg/kg	----	<4	<4	----	----
Phenanthrene	85-01-8	4	µg/kg	----	<4	<4	----	----
Anthracene	120-12-7	4	µg/kg	----	<4	<4	----	----
Fluoranthene	206-44-0	4	µg/kg	----	<4	<4	----	----
Pyrene	129-00-0	4	µg/kg	----	<4	<4	----	----
Benz(a)anthracene	56-55-3	4	µg/kg	----	<4	<4	----	----
Chrysene	218-01-9	4	µg/kg	----	<4	<4	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	----	<4	<4	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg	----	<4	<4	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg	----	<4	<4	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg	----	<4	<4	----	----
Perylene	198-55-0	4	µg/kg	----	<4	<4	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg	----	<4	<4	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg	----	<4	<4	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	----	<4	<4	----	----
Coronene	191-07-1	5	µg/kg	----	<5	<5	----	----
^ **Sum of PAHs**	----	4	µg/kg	----	<4	<4	----	----
EP080-SD: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	**75.6**	----	----	----	**79.2**
Toluene-D8	2037-26-5	0.1	%	**92.2**	----	----	----	**96.9**
4-Bromofluorobenzene	460-00-4	0.1	%	**88.3**	----	----	----	**93.5**
EP090S: Organotin Surrogate								
Tripropyltin	----	0.1	%	----	**91.1**	**98.5**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH43 0.3V	BH45 0.0-0.5A	BH45 0.5-0.8A	BH45 0.0-0.5B	BH45 0.3V
			Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504998-061	ES1504998-062	ES1504998-063	ES1504998-064	ES1504998-065
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	78.5	80.6	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	73.0	73.2	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	56.6	62.6	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	85.0	76.4	----	----
Anthracene-d10	1719-06-8	0.1	%	----	104	95.4	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	105	100	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH45 0.7V	BH46 0.0-0.6A	BH46 0.0-0.6B	BH46 0.3V	TRIP BLANK
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-066	ES1504998-067	ES1504998-068	ES1504998-069	ES1504998-070
EA150: Particle Sizing									
+75µm	----	1	%		----	----	**23**	----	----
+150µm	----	1	%		----	----	**20**	----	----
+300µm	----	1	%		----	----	**14**	----	----
+425µm	----	1	%		----	----	**10**	----	----
+600µm	----	1	%		----	----	**7**	----	----
+1180µm	----	1	%		----	----	**5**	----	----
+2.36mm	----	1	%		----	----	**4**	----	----
+4.75mm	----	1	%		----	----	**2**	----	----
+9.5mm	----	1	%		----	----	<1	----	----
+19.0mm	----	1	%		----	----	<1	----	----
+37.5mm	----	1	%		----	----	<1	----	----
+75.0mm	----	1	%		----	----	<1	----	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**19.7**	**23.3**	----	**22.6**	----
EA150: Soil Classification based on Particle Size									
Clay (<2 µm)	----	1	%		----	----	**27**	----	----
Silt (2-60 µm)	----	1	%		----	----	**47**	----	----
Sand (0.06-2.00 mm)	----	1	%		----	----	**22**	----	----
Gravel (>2mm)	----	1	%		----	----	**4**	----	----
Cobbles (>6cm)	----	1	%		----	----	<1	----	----
EA152: Soil Particle Density									
Soil Particle Density (Clay/Silt/Sand)	----	0.01	g/cm3		----	----	**2.65**	----	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		----	**11500**	----	----	----
Iron	7439-89-6	50	mg/kg		----	**23600**	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		----	<0.50	----	----	----
Arsenic	7440-38-2	1.00	mg/kg		----	**7.37**	----	----	----
Cadmium	7440-43-9	0.1	mg/kg		----	<0.1	----	----	----
Chromium	7440-47-3	1.0	mg/kg		----	**24.1**	----	----	----
Copper	7440-50-8	1.0	mg/kg		----	**23.3**	----	----	----
Cobalt	7440-48-4	0.5	mg/kg		----	**19.6**	----	----	----
Lead	7439-92-1	1.0	mg/kg		----	**11.4**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH45 0.7V	BH46 0.0-0.6A	BH46 0.0-0.6B	BH46 0.3V	TRIP BLANK
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-066	ES1504998-067	ES1504998-068	ES1504998-069	ES1504998-070
EG020-SD: Total Metals in Sediments by ICPMS - Continued									
Manganese	7439-96-5	10	mg/kg		----	**474**	----	----	----
Nickel	7440-02-0	1.0	mg/kg		----	**17.1**	----	----	----
Selenium	7782-49-2	0.1	mg/kg		----	**2.5**	----	----	----
Silver	7440-22-4	0.1	mg/kg		----	<0.1	----	----	----
Vanadium	7440-62-2	2.0	mg/kg		----	**73.5**	----	----	----
Zinc	7440-66-6	1.0	mg/kg		----	**48.4**	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		----	**0.03**	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N (Sol.)	----	0.1	mg/kg		----	<0.1	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg		----	<0.1	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	20	mg/kg		----	**170**	----	----	----
EK062: Total Nitrogen as N (TKN + NOx)									
^ Total Nitrogen as N	----	20	mg/kg		----	**170**	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	2	mg/kg		----	**359**	----	----	----
EK255A SD Ammonia in Sediment									
Ammonia as N	7664-41-7	0.2	mg/kg		----	**1.2**	----	----	----
EP003: Total Organic Carbon (TOC) in Soil									
Total Organic Carbon	----	0.02	%		----	**0.20**	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013									
>C10 - C16 Fraction	>C10_C16	3	mg/kg		----	<3	----	----	<3
>C16 - C34 Fraction	----	3	mg/kg		----	**6**	----	----	<3
>C34 - C40 Fraction	----	5	mg/kg		----	<5	----	----	<5
>C10 - C40 Fraction (sum)	----	3	mg/kg		----	**6**	----	----	<3
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	3	mg/kg		<3	----	----	<3	<3
C10 - C14 Fraction	----	3	mg/kg		----	<3	----	----	<3
C15 - C28 Fraction	----	3	mg/kg		----	**3**	----	----	<3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH45 0.7V	BH46 0.0-0.6A	BH46 0.0-0.6B	BH46 0.3V	TRIP BLANK
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-066	ES1504998-067	ES1504998-068	ES1504998-069	ES1504998-070
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons - Continued									
C29 - C36 Fraction	----	5	mg/kg		----	<5	----	----	<5
^ C10 - C36 Fraction (sum)	----	3	mg/kg		----	3	----	----	<3
EP080-SD / EP071-SD: Total Recoverable Hydrocarbons									
C6 - C10 Fraction	C6_C10	3	mg/kg		<3	----	----	<3	<3
EP080-SD: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	<0.2	<0.2
Toluene	108-88-3	0.2	mg/kg		<0.2	----	----	<0.2	<0.2
Ethylbenzene	100-41-4	0.2	mg/kg		<0.2	----	----	<0.2	<0.2
meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg		<0.2	----	----	<0.2	<0.2
ortho-Xylene	95-47-6	0.2	mg/kg		<0.2	----	----	<0.2	<0.2
^ Total Xylenes	1330-20-7	0.5	mg/kg		<0.5	----	----	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	<0.2	<0.2
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	1	µgSn/kg		----	<1	----	----	----
Dibutyltin	1002-53-5	1	µgSn/kg		----	<1	----	----	----
Tributyltin	56573-85-4	0.5	µgSn/kg		----	<0.5	----	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace)									
Bromophos-ethyl	4824-78-6	10	µg/kg		----	<10	----	----	----
Carbophenothion	786-19-6	10	µg/kg		----	<10	----	----	----
Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg		----	<10.0	----	----	----
Chlorfenvinphos (Z)	18708-87-7	10	µg/kg		----	<10	----	----	----
Chlorpyrifos	2921-88-2	10	µg/kg		----	<10	----	----	----
Chlorpyrifos-methyl	5598-13-0	10	µg/kg		----	<10	----	----	----
Demeton-S-methyl	919-86-8	10	µg/kg		----	<10	----	----	----
Diazinon	333-41-5	10	µg/kg		----	<10	----	----	----
Dichlorvos	62-73-7	10	µg/kg		----	<10	----	----	----
Dimethoate	60-51-5	10	µg/kg		----	<10	----	----	----
Ethion	563-12-2	10	µg/kg		----	<10	----	----	----
Fenamiphos	22224-92-6	10	µg/kg		----	<10	----	----	----
Fenthion	55-38-9	10	µg/kg		----	<10	----	----	----
Malathion	121-75-5	10	µg/kg		----	<10	----	----	----
Azinphos Methyl	86-50-0	10	µg/kg		----	<10	----	----	----
Monocrotophos	6923-22-4	10	µg/kg		----	<10	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)

Compound	CAS Number	LOR	Unit	Client sample ID	BH45 0.7V	BH46 0.0-0.6A	BH46 0.0-0.6B	BH46 0.3V	TRIP BLANK
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-066	ES1504998-067	ES1504998-068	ES1504998-069	ES1504998-070
EP130A: Organophosphorus Pesticides (Ultra-trace) - Continued									
Parathion	56-38-2	10	µg/kg		----	<10	----	----	----
Parathion-methyl	298-00-0	10	µg/kg		----	<10	----	----	----
Pirimphos-ethyl	23505-41-1	10	µg/kg		----	<10	----	----	----
Prothiofos	34643-46-4	10	µg/kg		----	<10	----	----	----
EP131A: Organochlorine Pesticides									
Aldrin	309-00-2	0.50	µg/kg		----	<0.50	----	----	----
alpha-BHC	319-84-6	0.50	µg/kg		----	<0.50	----	----	----
beta-BHC	319-85-7	0.50	µg/kg		----	<0.50	----	----	----
delta-BHC	319-86-8	0.50	µg/kg		----	<0.50	----	----	----
4.4`-DDD	72-54-8	0.50	µg/kg		----	<0.50	----	----	----
4.4`-DDE	72-55-9	0.50	µg/kg		----	<0.50	----	----	----
4.4`-DDT	50-29-3	0.50	µg/kg		----	<0.50	----	----	----
^ **Sum of DDD + DDE + DDT**	----	0.50	µg/kg		----	<0.50	----	----	----
Dieldrin	60-57-1	0.50	µg/kg		----	<0.50	----	----	----
alpha-Endosulfan	959-98-8	0.50	µg/kg		----	<0.50	----	----	----
beta-Endosulfan	33213-65-9	0.50	µg/kg		----	<0.50	----	----	----
Endosulfan sulfate	1031-07-8	0.50	µg/kg		----	<0.50	----	----	----
^ **Endosulfan (sum)**	115-29-7	0.50	µg/kg		----	<0.50	----	----	----
Endrin	72-20-8	0.50	µg/kg		----	<0.50	----	----	----
Endrin aldehyde	7421-93-4	0.50	µg/kg		----	<0.50	----	----	----
Endrin ketone	53494-70-5	0.50	µg/kg		----	<0.50	----	----	----
Heptachlor	76-44-8	0.50	µg/kg		----	<0.50	----	----	----
Heptachlor epoxide	1024-57-3	0.50	µg/kg		----	<0.50	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg		----	<0.50	----	----	----
gamma-BHC	58-89-9	0.25	µg/kg		----	<0.25	----	----	----
Methoxychlor	72-43-5	0.50	µg/kg		----	<0.50	----	----	----
cis-Chlordane	5103-71-9	0.25	µg/kg		----	<0.25	----	----	----
trans-Chlordane	5103-74-2	0.25	µg/kg		----	<0.25	----	----	----
^ **Total Chlordane (sum)**	----	0.25	µg/kg		----	<0.25	----	----	----
Oxychlordane	27304-13-8	0.50	µg/kg		----	<0.50	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors)									
^ **Total Polychlorinated biphenyls**	----	5.0	µg/kg		----	<5.0	----	----	----
Aroclor 1016	12674-11-2	5.0	µg/kg		----	<5.0	----	----	----
Aroclor 1221	11104-28-2	5.0	µg/kg		----	<5.0	----	----	----

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH45 0.7V	BH46 0.0-0.6A	BH46 0.0-0.6B	BH46 0.3V	TRIP BLANK
				Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
					ES1504998-066	ES1504998-067	ES1504998-068	ES1504998-069	ES1504998-070
EP131B: Polychlorinated Biphenyls (as Aroclors) - Continued									
Aroclor 1232	11141-16-5	5.0	µg/kg		----	<5.0	----	----	----
Aroclor 1242	53469-21-9	5.0	µg/kg		----	<5.0	----	----	----
Aroclor 1248	12672-29-6	5.0	µg/kg		----	<5.0	----	----	----
Aroclor 1254	11097-69-1	5.0	µg/kg		----	<5.0	----	----	----
Aroclor 1260	11096-82-5	5.0	µg/kg		----	<5.0	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	5	µg/kg		----	<5	----	----	----
2-Methylnaphthalene	91-57-6	5	µg/kg		----	<5	----	----	----
Acenaphthylene	208-96-8	4	µg/kg		----	<4	----	----	----
Acenaphthene	83-32-9	4	µg/kg		----	<4	----	----	----
Fluorene	86-73-7	4	µg/kg		----	<4	----	----	----
Phenanthrene	85-01-8	4	µg/kg		----	<4	----	----	----
Anthracene	120-12-7	4	µg/kg		----	<4	----	----	----
Fluoranthene	206-44-0	4	µg/kg		----	<4	----	----	----
Pyrene	129-00-0	4	µg/kg		----	<4	----	----	----
Benz(a)anthracene	56-55-3	4	µg/kg		----	<4	----	----	----
Chrysene	218-01-9	4	µg/kg		----	<4	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg		----	<4	----	----	----
Benzo(k)fluoranthene	207-08-9	4	µg/kg		----	<4	----	----	----
Benzo(e)pyrene	192-97-2	4	µg/kg		----	<4	----	----	----
Benzo(a)pyrene	50-32-8	4	µg/kg		----	<4	----	----	----
Perylene	198-55-0	4	µg/kg		----	<4	----	----	----
Benzo(g.h.i)perylene	191-24-2	4	µg/kg		----	<4	----	----	----
Dibenz(a.h)anthracene	53-70-3	4	µg/kg		----	<4	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg		----	<4	----	----	----
Coronene	191-07-1	5	µg/kg		----	<5	----	----	----
^ **Sum of PAHs**	----	4	µg/kg		----	<4	----	----	----
EP080-SD: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.1	%		**81.4**	----	----	**129**	**80.9**
Toluene-D8	2037-26-5	0.1	%		**97.5**	----	----	**89.7**	**123**
4-Bromofluorobenzene	460-00-4	0.1	%		**93.9**	----	----	**99.4**	**113**
EP090S: Organotin Surrogate									
Tripropyltin	----	0.1	%		----	**95.2**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH45 0.7V	BH46 0.0-0.6A	BH46 0.0-0.6B	BH46 0.3V	TRIP BLANK
			Client sampling date / time	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00	27-FEB-2015 15:00
Compound	CAS Number	LOR	Unit	ES1504998-066	ES1504998-067	ES1504998-068	ES1504998-069	ES1504998-070
EP130S: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.1	%	----	**75.0**	----	----	----
EP131S: OC Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.1	%	----	**65.5**	----	----	----
EP131T: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	**56.0**	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	----	**84.4**	----	----	----
Anthracene-d10	1719-06-8	0.1	%	----	**92.9**	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	----	**96.4**	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 18	----	----	----	----
				Client sampling date / time	27-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1504998-071	----	----	----	----
EG020T: Total Metals by ICP-MS									
Antimony	7440-36-0	0.001	mg/L		<0.001	----	----	----	----
Arsenic	7440-38-2	0.001	mg/L		<0.001	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		**0.0002**	----	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L		<0.001	----	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	----	----	----	----
Manganese	7439-96-5	0.001	mg/L		<0.001	----	----	----	----
Nickel	7440-02-0	0.001	mg/L		<0.001	----	----	----	----
Silver	7440-22-4	0.001	mg/L		<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L		<0.005	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	----	----	----	----
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		<0.01	----	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	----	0.01	mg/L		<0.01	----	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		<0.01	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		<0.01	----	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L		<0.1	----	----	----	----
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser									
^ Total Nitrogen as N	----	0.1	mg/L		<0.1	----	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		<0.01	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)									
Total Polychlorinated biphenyls	----	1	µg/L		<1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.5	µg/L		<0.5	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L		<0.5	----	----	----	----
beta-BHC	319-85-7	0.5	µg/L		<0.5	----	----	----	----
gamma-BHC	58-89-9	0.5	µg/L		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 18	----	----	----	----
				Client sampling date / time	27-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1504998-071	----	----	----	----
EP068A: Organochlorine Pesticides (OC) - Continued									
delta-BHC	319-86-8	0.5	µg/L		<0.5	----	----	----	----
Heptachlor	76-44-8	0.5	µg/L		<0.5	----	----	----	----
Aldrin	309-00-2	0.5	µg/L		<0.5	----	----	----	----
Heptachlor epoxide	1024-57-3	0.5	µg/L		<0.5	----	----	----	----
trans-Chlordane	5103-74-2	0.5	µg/L		<0.5	----	----	----	----
alpha-Endosulfan	959-98-8	0.5	µg/L		<0.5	----	----	----	----
cis-Chlordane	5103-71-9	0.5	µg/L		<0.5	----	----	----	----
Dieldrin	60-57-1	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDE	72-55-9	0.5	µg/L		<0.5	----	----	----	----
Endrin	72-20-8	0.5	µg/L		<0.5	----	----	----	----
beta-Endosulfan	33213-65-9	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDD	72-54-8	0.5	µg/L		<0.5	----	----	----	----
Endrin aldehyde	7421-93-4	0.5	µg/L		<0.5	----	----	----	----
Endosulfan sulfate	1031-07-8	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDT	50-29-3	2.0	µg/L		<2.0	----	----	----	----
Endrin ketone	53494-70-5	0.5	µg/L		<0.5	----	----	----	----
Methoxychlor	72-43-5	2.0	µg/L		<2.0	----	----	----	----
^ Total Chlordane (sum)	----	0.5	µg/L		<0.5	----	----	----	----
^ Sum of DDD + DDE + DDT	----	0.5	µg/L		<0.5	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L		<0.5	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.5	µg/L		<0.5	----	----	----	----
Demeton-S-methyl	919-86-8	0.5	µg/L		<0.5	----	----	----	----
Monocrotophos	6923-22-4	2.0	µg/L		<2.0	----	----	----	----
Dimethoate	60-51-5	0.5	µg/L		<0.5	----	----	----	----
Diazinon	333-41-5	0.5	µg/L		<0.5	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L		<0.5	----	----	----	----
Parathion-methyl	298-00-0	2.0	µg/L		<2.0	----	----	----	----
Malathion	121-75-5	0.5	µg/L		<0.5	----	----	----	----
Fenthion	55-38-9	0.5	µg/L		<0.5	----	----	----	----
Chlorpyrifos	2921-88-2	0.5	µg/L		<0.5	----	----	----	----
Parathion	56-38-2	2.0	µg/L		<2.0	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	µg/L		<0.5	----	----	----	----
Chlorfenvinphos	470-90-6	0.5	µg/L		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 18	----	----	----	----
				Client sampling date / time	27-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES1504998-071	----	----	----	----
EP068B: Organophosphorus Pesticides (OP) - Continued									
Bromophos-ethyl	4824-78-6	0.5	µg/L		<0.5	----	----	----	----
Fenamiphos	22224-92-6	0.5	µg/L		<0.5	----	----	----	----
Prothiofos	34643-46-4	0.5	µg/L		<0.5	----	----	----	----
Ethion	563-12-2	0.5	µg/L		<0.5	----	----	----	----
Carbophenothion	786-19-6	0.5	µg/L		<0.5	----	----	----	----
Azinphos Methyl	86-50-0	0.5	µg/L		<0.5	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L		<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L		<1.0	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L		<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	----	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		<0.5	----	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L		<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L		<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	µg/L		<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	RINSATE 18	----	----	----	----
				Client sampling date / time	27-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1504998-071	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L	<20	----	----	----	----
>C10 - C16 Fraction	>C10_C16	100	µg/L	<100	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L	<100	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L	<100	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L	<100	----	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L	<100	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L	<1	----	----	----	----
Toluene	108-88-3	2	µg/L	<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	----	----	----	----
^ **Total Xylenes**	1330-20-7	2	µg/L	<2	----	----	----	----
^ **Sum of BTEX**	----	1	µg/L	<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L	<5	----	----	----	----
EP090: Organotin Compounds									
Monobutyltin	78763-54-9	5	ngSn/L	<5	----	----	----	----
Dibutyltin	1002-53-5	5	ngSn/L	<5	----	----	----	----
Tributyltin	56573-85-4	2	ngSn/L	<2	----	----	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%	**85.5**	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.1	%	**92.2**	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.1	%	**89.8**	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.1	%	**33.9**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.1	%	**54.5**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	0.1	%	**42.5**	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.1	%	**63.5**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**71.9**	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	RINSATE 18	----	----	----	----
			Client sampling date / time	27-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1504998-071	----	----	----	----
EP075(SIM)T: PAH Surrogates - Continued								
4-Terphenyl-d14	1718-51-0	0.1	%	71.4	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.1	%	93.2	----	----	----	----
Toluene-D8	2037-26-5	0.1	%	95.7	----	----	----	----
4-Bromofluorobenzene	460-00-4	0.1	%	86.0	----	----	----	----
EP090S: Organotin Surrogate								
Tripropyltin	----	0.1	%	98.9	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
EP080-SD: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	67	137
Toluene-D8	2037-26-5	74	134
4-Bromofluorobenzene	460-00-4	73	137
EP090S: Organotin Surrogate			
Tripropyltin	----	35	130
EP130S: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	14.4	102
EP131S: OC Pesticide Surrogate			
Dibromo-DDE	21655-73-2	10	119
EP131T: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	10	106
EP132T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	55	135
Anthracene-d10	1719-06-8	70	136
4-Terphenyl-d14	1718-51-0	57	127

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	28.5	129
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	30	120
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	26.8	129
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10.0	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27.4	113
4-Terphenyl-d14	1718-51-0	32	112
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128
EP090S: Organotin Surrogate			
Tripropyltin	----	8.2	108

QUALITY CONTROL REPORT

Work Order	: **ES1504998**	Page	: 1 of 44
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
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Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 03-MAR-2015
Sampler	: GK	Issue Date	: 30-MAR-2015
Order number	: 245553		
		No. of samples received	: 71
Quote number	: SY/1021/14 V2	No. of samples analysed	: 71

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Dianne Blane	Laboratory Coordinator (2IC)	Newcastle - Inorganics
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics
		Sydney Organics
Pabi Subba	Senior Organic Chemist	Sydney Organics
Ryan Story	2IC Organic Instrument Chemist	Brisbane Organics
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils
Shobhna Chandra	Metals Coordinator	Sydney Inorganics
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA055: Moisture Content (QC Lot: 3855885)									
ES1504998-003	BH26 0.0-0.2A	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	17.2	14.9	14.8	0% - 50%
ES1504998-016	BH33 1.5-1.8A	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	17.0	17.4	2.2	0% - 50%
EA055: Moisture Content (QC Lot: 3855886)									
ES1504998-031	BH34 0.7V	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	20.3	18.0	12.0	0% - 20%
ES1504998-047	BH39 0.3V	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	20.2	16.8	18.0	0% - 20%
EA055: Moisture Content (QC Lot: 3855887)									
ES1504998-058	BH41 0.3V	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	21.7	22.4	2.9	0% - 20%
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3858774)									
ES1504998-001	BH24 0.0-0.2A	EG005-SD: Aluminium	7429-90-5	50	mg/kg	4590	4480	2.5	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	10200	9260	10.2	0% - 20%
ES1504998-025	BH34 0.5-1.0A	EG005-SD: Aluminium	7429-90-5	50	mg/kg	6240	6120	2.0	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	12600	13600	7.7	0% - 20%
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3858777)									
ES1504998-052	BH40 1.0-1.2A	EG005-SD: Aluminium	7429-90-5	50	mg/kg	2880	3680	# 24.6	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	9290	8860	4.7	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3858773)									
ES1504998-001	BH24 0.0-0.2A	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.9	1.2	29.6	0% - 50%
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	5.6	5.1	9.5	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	8.7	7.9	9.5	No Limit
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	6.0	5.3	11.4	No Limit
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	2.6	2.6	0.0	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	5.4	4.5	16.9	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	14.9	14.4	3.0	0% - 50%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	9.22	8.14	12.5	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	300	337	11.6	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	27.3	23.0	16.7	0% - 50%
ES1504998-025	BH34 0.5-1.0A	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	1.1	1.1	0.0	0% - 50%
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	6.8	7.4	8.9	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	11.8	14.8	22.4	0% - 50%

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3858773) - continued									
ES1504998-025	BH34 0.5-1.0A	EG020-SD: Copper	7440-50-8	1.0	mg/kg	6.5	6.7	3.3	No Limit
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	3.7	5.0	29.2	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	7.0	8.1	13.5	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	19.8	23.2	16.2	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	8.20	9.83	18.0	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	432	441	2.1	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	33.4	33.2	0.4	0% - 50%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3858776)									
ES1504998-052	BH40 1.0-1.2A	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.8	0.9	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	6.8	6.2	9.3	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	11.4	7.5	41.3	0% - 50%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	6.9	4.6	39.1	No Limit
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	7.2	5.0	37.7	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	6.3	4.7	29.8	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	12.4	14.1	12.4	0% - 50%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	2.83	2.64	6.8	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	157	196	22.4	0% - 50%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	23.2	24.2	4.5	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3858772)									
ES1504998-001	BH24 0.0-0.2A	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit
ES1504998-025	BH34 0.5-1.0A	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3858775)									
ES1504998-052	BH40 1.0-1.2A	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3860072)									
ES1504998-001	BH24 0.0-0.2A	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1504998-024	BH34 0.0-0.5A	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3860076)									
ES1504998-052	BH40 1.0-1.2A	EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3860073)									
ES1504998-001	BH24 0.0-0.2A	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
ES1504998-024	BH34 0.0-0.5A	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3860077)									
ES1504998-052	BH40 1.0-1.2A	EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3854849)									
ES1504998-001	BH24 0.0-0.2A	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	250	220	10.2	0% - 50%
ES1504998-024	BH34 0.0-0.5A	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	200	140	33.7	0% - 50%

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3860960)									
ES1504836-062	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	160	180	12.4	No Limit
ES1504998-050	BH40 0.0-0.5A	EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	190	170	11.5	No Limit
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3854850)									
ES1504998-001	BH24 0.0-0.2A	EK067G: Total Phosphorus as P	----	2	mg/kg	172	180	4.4	0% - 20%
ES1504998-024	BH34 0.0-0.5A	EK067G: Total Phosphorus as P	----	2	mg/kg	183	187	2.4	0% - 20%
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3860961)									
ES1504836-062	Anonymous	EK067G: Total Phosphorus as P	----	2	mg/kg	245	218	12.0	0% - 20%
ES1504998-050	BH40 0.0-0.5A	EK067G: Total Phosphorus as P	----	2	mg/kg	208	196	6.0	0% - 20%
EK255A SD: Ammonia in Sediment (QC Lot: 3850693)									
ES1504836-061	Anonymous	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	5.5	5.4	0.0	0% - 20%
ES1504998-005	BH31 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	<0.2	0.2	0.0	No Limit
EK255A SD: Ammonia in Sediment (QC Lot: 3850694)									
ES1504998-033	BH35 0.0-0.7A	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	1.6	1.6	0.0	No Limit
ES1504998-059	BH43 0.0-0.5A	EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	0.7	0.8	16.2	No Limit
EP003: Total Organic Carbon (TOC) in Soil (QC Lot: 3860010)									
ES1504998-001	BH24 0.0-0.2A	EP003: Total Organic Carbon	----	0.02	%	0.23	0.30	25.7	0% - 50%
ES1504998-025	BH34 0.5-1.0A	EP003: Total Organic Carbon	----	0.02	%	0.12	0.12	0.0	No Limit
EP003: Total Organic Carbon (TOC) in Soil (QC Lot: 3860011)									
ES1504998-052	BH40 1.0-1.2A	EP003: Total Organic Carbon	----	0.02	%	0.04	0.06	24.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3847153)									
ES1504998-001	BH24 0.0-0.2A	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
ES1504998-025	BH34 0.5-1.0A	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3847158)									
ES1504836-061	Anonymous	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	6	7	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	6	7	15.4	No Limit
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
ES1504998-059	BH43 0.0-0.5A	EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	4	4	0.0	No Limit
		EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	4	4	0.0	No Limit
		EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3847153)									
ES1504998-001	BH24 0.0-0.2A	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3847153) - continued									
ES1504998-001	BH24 0.0-0.2A	EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
ES1504998-025	BH34 0.5-1.0A	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3847158)									
ES1504836-061	Anonymous	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	3	4	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	3	4	28.6	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
ES1504998-059	BH43 0.0-0.5A	EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	<3	0.0	No Limit
		EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	<5	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3847354)									
ES1504998-001	BH24 0.0-0.2A	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
ES1504998-023	BH33 1.7V	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QC Lot: 3847420)									
ES1504836-065	Anonymous	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
ES1504998-069	BH46 0.3V	EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	<3	0.0	No Limit
EP080-SD: BTEXN (QC Lot: 3847354)									
ES1504998-001	BH24 0.0-0.2A	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
ES1504998-023	BH33 1.7V	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP080-SD: BTEXN (QC Lot: 3847420)									
ES1504836-065	Anonymous	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP080-SD: BTEXN (QC Lot: 3847420) - continued									
ES1504836-065	Anonymous	EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
ES1504998-069	BH46 0.3V	EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP090: Organotin Compounds (QC Lot: 3845949)									
ES1504998-001	BH24 0.0-0.2A	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
ES1504998-025	BH34 0.5-1.0A	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
EP090: Organotin Compounds (QC Lot: 3845950)									
ES1504998-039	BH39 0.0-0.5A	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
ES1504998-063	BH45 0.5-0.8A	EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	<0.5	0.0	No Limit
		EP090: Monobutyltin	78763-54-9	1	µgSn/kg	<1	<1	0.0	No Limit
		EP090: Dibutyltin	1002-53-5	1	µgSn/kg	<1	<1	0.0	No Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3847135)									
ES1504998-001	BH24 0.0-0.2A	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3847135) - continued									
ES1504998-001	BH24 0.0-0.2A	EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
ES1504998-025	BH34 0.5-1.0A	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3847143)									
ES1504836-061	Anonymous	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP130A: Organophosphorus Pesticides (Ultra-trace) (QC Lot: 3847143) - continued									
ES1504836-061	Anonymous	EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
ES1504998-059	BH43 0.0-0.5A	EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Carbophenothion	786-19-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Diazinon	333-41-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dichlorvos	62-73-7	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Dimethoate	60-51-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Ethion	563-12-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Fenthion	55-38-9	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Malathion	121-75-5	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion	56-38-2	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Prothiofos	34643-46-4	10	µg/kg	<10	<10	0.0	No Limit
		EP130: Chlorfenvinphos (E)	18708-86-6	10.0	µg/kg	<10.0	<10.0	0.0	No Limit
EP131A: Organochlorine Pesticides (QC Lot: 3847136)									
ES1504998-001	BH24 0.0-0.2A	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP131A: Organochlorine Pesticides (QC Lot: 3847136) - continued									
ES1504998-001	BH24 0.0-0.2A	EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
ES1504998-025	BH34 0.5-1.0A	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
EP131A: Organochlorine Pesticides (QC Lot: 3847145)									
ES1504836-061	Anonymous	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP131A: Organochlorine Pesticides (QC Lot: 3847145) - continued									
ES1504836-061	Anonymous	EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
ES1504998-059	BH43 0.0-0.5A	EP131A: gamma-BHC	58-89-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: cis-Chlordane	5103-71-9	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: trans-Chlordane	5103-74-2	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Total Chlordane (sum)	----	0.25	µg/kg	<0.25	<0.25	0.0	No Limit
		EP131A: Aldrin	309-00-2	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-BHC	319-84-6	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-BHC	319-85-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: delta-BHC	319-86-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDD	72-54-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDE	72-55-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: 4.4`-DDT	50-29-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Sum of DDD + DDE + DDT	----	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Dieldrin	60-57-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: alpha-Endosulfan	959-98-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: beta-Endosulfan	33213-65-9	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan sulfate	1031-07-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endosulfan (sum)	115-29-7	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin	72-20-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin aldehyde	7421-93-4	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Endrin ketone	53494-70-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor	76-44-8	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Heptachlor epoxide	1024-57-3	0.50	µg/kg	<0.50	<0.50	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP131A: Organochlorine Pesticides (QC Lot: 3847145) - continued									
ES1504998-059	BH43 0.0-0.5A	EP131A: Hexachlorobenzene (HCB)	118-74-1	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
		EP131A: Methoxychlor	72-43-5	0.50	µg/kg	<0.50	<0.50	0.0	No Limit
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 3847137)									
ES1504998-001	BH24 0.0-0.2A	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
ES1504998-025	BH34 0.5-1.0A	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
EP131B: Polychlorinated Biphenyls (as Aroclors) (QC Lot: 3847146)									
ES1504836-061	Anonymous	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
ES1504998-059	BH43 0.0-0.5A	EP131B: Total Polychlorinated biphenyls	----	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1016	12674-11-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1221	11104-28-2	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1232	11141-16-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1242	53469-21-9	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1248	12672-29-6	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1254	11097-69-1	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
		EP131B: Aroclor 1260	11096-82-5	5.0	µg/kg	<5.0	<5.0	0.0	No Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3847152)									
ES1504998-001	BH24 0.0-0.2A	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3847152) - continued									
ES1504998-001	BH24 0.0-0.2A	EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit
ES1504998-025	BH34 0.5-1.0A	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3847157)									
ES1504836-061	Anonymous	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	4	0.0	No Limit
		EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit
ES1504998-059	BH43 0.0-0.5A	EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	<4	0.0	No Limit
		EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	<4	0.0	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3847157) - continued									
ES1504998-059	BH43 0.0-0.5A	EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	<5	0.0	No Limit
		EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	<5	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020T: Total Metals by ICP-MS (QC Lot: 3850667)									
ES1504836-075	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Manganese	7439-96-5	0.001	mg/L	0.002	0.003	0.0	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.0	No Limit
EW1500806-001	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	0.0011	0.0009	15.6	0% - 50%
		EG020A-T: Antimony	7440-36-0	0.001	mg/L	0.001	0.001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	0.006	0.006	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	0.024	0.023	5.4	0% - 20%
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Manganese	7439-96-5	0.001	mg/L	0.006	0.006	0.0	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	0.020	0.021	0.0	0% - 50%
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	0.029	0.025	14.1	No Limit
EG020T: Total Metals by ICP-MS (QC Lot: 3850668)									
ES1504836-075	Anonymous	EG020B-T: Silver	7440-22-4	0.001	mg/L	<0.001	<0.001	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3859847)									
ES1504998-071	RINSATE 18	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EK055G: Ammonia as N by Discrete Analyser (QC Lot: 3852013)									
ES1504836-075	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.01	0.0	No Limit
ES1505632-002	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	2.78	2.78	0.0	0% - 20%
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 3844879)									
ES1504836-075	Anonymous	EK057G: Nitrite as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 3852012)									
ES1504836-075	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1505473-001	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	437	474	8.1	0% - 20%
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 3852007)									
ES1504836-075	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	<0.1	<0.1	0.0	No Limit
ES1505463-001	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	68.0	59.8	12.9	0% - 20%

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 3852008)									
ES1504836-075	Anonymous	EK067G: Total Phosphorus as P	----	0.01	mg/L	<0.01	<0.01	0.0	No Limit
ES1505463-001	Anonymous	EK067G: Total Phosphorus as P	----	0.01	mg/L	10.3	10.0	2.9	0% - 20%
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3850139)									
ES1505268-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
ES1505268-002	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3850139)									
ES1505268-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
ES1505268-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 3850139)									
ES1505268-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
ES1505268-002	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3858774)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	107	86	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	73.2	70	130
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3858777)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	110	86	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	74.4	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3858773)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	----	----	----	----
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	109	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	106	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	93.7	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	84.1	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	113	84	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	112	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	110	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	108	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	113	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	2.10 mg/kg	119	64	148
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	109	87	131
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	112	83	137
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3858776)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	4.6 mg/kg	122	70	130
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	101	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	103	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	90.7	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	85.9	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	100	84	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3858776) - continued								
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	97.3	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	101	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	99.1	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	114	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	2.10 mg/kg	112	64	148
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	105	87	131
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	99.6	83	137
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3858772)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.090 mg/kg	80.6	72	116
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3858775)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.090 mg/kg	81.7	72	116
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3860072)								
EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	102	82	120
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3860076)								
EK057G: Nitrite as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	103	82	120
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3860073)								
EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	97.4	89	115
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3860077)								
EK059G: Nitrite + Nitrate as N (Sol.)	----	0.1	mg/kg	<0.1	2.5 mg/kg	104	89	115
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3854849)								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	----	500 mg/kg	106	70	122
				----	100 mg/kg	103	70	127
				<20	1000 mg/kg	96.2	64	114
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3860960)								
EK061G: Total Kjeldahl Nitrogen as N	----	20	mg/kg	----	100 mg/kg	100	70	127
				----	500 mg/kg	105	70	122
				<20	1000 mg/kg	94.8	64	114
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3854850)								
EK067G: Total Phosphorus as P	----	2	mg/kg	<2	442 mg/kg	93.2	68	116
				----	100 mg/kg	105	69	123
				----	44.2 mg/kg	97.2	64	124

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3860961)								
EK067G: Total Phosphorus as P	----	2	mg/kg	----	100 mg/kg	106	69	123
				<2	442 mg/kg	93.8	68	116
				----	44.2 mg/kg	97.2	64	124
EK255A SD: Ammonia in Sediment (QCLot: 3850693)								
EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	<0.2	0.1 mg/kg	108	70	130
EK255A SD: Ammonia in Sediment (QCLot: 3850694)								
EK255A: Ammonia as N	7664-41-7	0.2	mg/kg	<0.2	0.1 mg/kg	109	70	130
EP003: Total Organic Carbon (TOC) in Soil (QCLot: 3860010)								
EP003: Total Organic Carbon	----	0.02	%	<0.02	0.11 %	109	70	130
EP003: Total Organic Carbon (TOC) in Soil (QCLot: 3860011)								
EP003: Total Organic Carbon	----	0.02	%	<0.02	0.11 %	105	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3847153)								
EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	6.25 mg/kg	102	70	130
EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	8.75 mg/kg	102	74	138
EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	3.75 mg/kg	101	63	131
EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3847158)								
EP071-SD: >C10 - C16 Fraction	>C10_C16	3	mg/kg	<3	6.25 mg/kg	93.9	70	130
EP071-SD: >C16 - C34 Fraction	----	3	mg/kg	<3	8.75 mg/kg	95.0	74	138
EP071-SD: >C34 - C40 Fraction	----	5	mg/kg	<5	3.75 mg/kg	101	63	131
EP071-SD: >C10 - C40 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3847153)								
EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	5 mg/kg	109	78	118
EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	7.5 mg/kg	103	84	118
EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	5 mg/kg	92.0	73	119
EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3847158)								
EP071-SD: C10 - C14 Fraction	----	3	mg/kg	<3	5 mg/kg	94.7	78	118
EP071-SD: C15 - C28 Fraction	----	3	mg/kg	<3	7.5 mg/kg	94.3	84	118
EP071-SD: C29 - C36 Fraction	----	5	mg/kg	<5	5 mg/kg	107	73	119

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3847158) - continued								
EP071-SD: C10 - C36 Fraction (sum)	----	3	mg/kg	<3	----	----	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3847354)								
EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	6.2 mg/kg	80.4	61	133
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3847420)								
EP080-SD: C6 - C9 Fraction	----	3	mg/kg	<3	6.2 mg/kg	81.3	61	133
EP080-SD: BTEXN (QCLot: 3847354)								
EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	0.2 mg/kg	94.3	66	122
EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	0.2 mg/kg	102	69	122
EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.2 mg/kg	103	66	126
EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	0.4 mg/kg	104	59	129
EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.2 mg/kg	107	66	126
EP080-SD: BTEXN (QCLot: 3847420)								
EP080-SD: Benzene	71-43-2	0.2	mg/kg	<0.2	0.2 mg/kg	97.0	66	122
EP080-SD: Toluene	108-88-3	0.2	mg/kg	<0.2	0.2 mg/kg	105	69	122
EP080-SD: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.2 mg/kg	100	66	126
EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.2	mg/kg	<0.2	0.4 mg/kg	104	59	129
EP080-SD: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.2 mg/kg	107	66	126
EP090: Organotin Compounds (QCLot: 3845949)								
EP090: Monobutyltin	78763-54-9	1.0	µgSn/kg	<1	1.25 µgSn/kg	126	36	128
EP090: Dibutyltin	1002-53-5	1.0	µgSn/kg	<1	1.25 µgSn/kg	80.7	42	132
EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	1.25 µgSn/kg	107	52	139
EP090: Organotin Compounds (QCLot: 3845950)								
EP090: Monobutyltin	78763-54-9	1.0	µgSn/kg	<1	1.25 µgSn/kg	104	36	128
EP090: Dibutyltin	1002-53-5	1.0	µgSn/kg	<1	1.25 µgSn/kg	76.1	42	132
EP090: Tributyltin	56573-85-4	0.5	µgSn/kg	<0.5	1.25 µgSn/kg	94.2	52	139
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3847135)								
EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	50 µg/kg	82.1	45	139
EP130: Carbophenothion	786-19-6	10	µg/kg	<10	50 µg/kg	79.8	47	117
EP130: Chlorfenvinphos (E)	18708-86-6	10	µg/kg	<10.0	5 µg/kg	97.8	48	156

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3847135) - continued								
EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	50 µg/kg	93.2	62	136
EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	50 µg/kg	82.1	57	137
EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	50 µg/kg	92.3	57	121
EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	50 µg/kg	78.4	20.4	142
EP130: Diazinon	333-41-5	10	µg/kg	<10	50 µg/kg	77.1	57	121
EP130: Dichlorvos	62-73-7	10	µg/kg	<10	50 µg/kg	75.0	47	115
EP130: Dimethoate	60-51-5	10	µg/kg	<10	50 µg/kg	83.7	55	133
EP130: Ethion	563-12-2	10	µg/kg	<10	50 µg/kg	76.8	54	130
EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	50 µg/kg	77.2	57	131
EP130: Fenthion	55-38-9	10	µg/kg	<10	50 µg/kg	86.4	38	130
EP130: Malathion	121-75-5	10	µg/kg	<10	50 µg/kg	79.7	62	138
EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	50 µg/kg	74.0	33	137
EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	50 µg/kg	93.6	50	148
EP130: Parathion	56-38-2	10	µg/kg	<10	50 µg/kg	77.9	64	140
EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	50 µg/kg	80.1	56	136
EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	50 µg/kg	76.3	50	132
EP130: Prothiofos	34643-46-4	10	µg/kg	<10	50 µg/kg	81.6	55	135
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3847143)								
EP130: Bromophos-ethyl	4824-78-6	10	µg/kg	<10	50 µg/kg	82.2	45	139
EP130: Carbophenothion	786-19-6	10	µg/kg	<10	50 µg/kg	78.3	47	117
EP130: Chlorfenvinphos (E)	18708-86-6	10	µg/kg	<10.0	5 µg/kg	73.6	48	156
EP130: Chlorfenvinphos (Z)	18708-87-7	10	µg/kg	<10	50 µg/kg	85.8	62	136
EP130: Chlorpyrifos	2921-88-2	10	µg/kg	<10	50 µg/kg	78.3	57	137
EP130: Chlorpyrifos-methyl	5598-13-0	10	µg/kg	<10	50 µg/kg	78.2	57	121
EP130: Demeton-S-methyl	919-86-8	10	µg/kg	<10	50 µg/kg	74.7	20.4	142
EP130: Diazinon	333-41-5	10	µg/kg	<10	50 µg/kg	72.6	57	121
EP130: Dichlorvos	62-73-7	10	µg/kg	<10	50 µg/kg	76.0	47	115
EP130: Dimethoate	60-51-5	10	µg/kg	<10	50 µg/kg	83.9	55	133
EP130: Ethion	563-12-2	10	µg/kg	<10	50 µg/kg	78.8	54	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3847143) - continued								
EP130: Fenamiphos	22224-92-6	10	µg/kg	<10	50 µg/kg	84.1	57	131
EP130: Fenthion	55-38-9	10	µg/kg	<10	50 µg/kg	70.4	38	130
EP130: Malathion	121-75-5	10	µg/kg	<10	50 µg/kg	75.3	62	138
EP130: Azinphos Methyl	86-50-0	10	µg/kg	<10	50 µg/kg	73.7	33	137
EP130: Monocrotophos	6923-22-4	10	µg/kg	<10	50 µg/kg	75.0	50	148
EP130: Parathion	56-38-2	10	µg/kg	<10	50 µg/kg	77.4	64	140
EP130: Parathion-methyl	298-00-0	10	µg/kg	<10	50 µg/kg	84.6	56	136
EP130: Pirimphos-ethyl	23505-41-1	10	µg/kg	<10	50 µg/kg	71.6	50	132
EP130: Prothiofos	34643-46-4	10	µg/kg	<10	50 µg/kg	79.4	55	135
EP131A: Organochlorine Pesticides (QCLot: 3847136)								
EP131A: Aldrin	309-00-2	0.5	µg/kg	<0.50	5 µg/kg	51.7	38	150
EP131A: alpha-BHC	319-84-6	0.5	µg/kg	<0.50	5 µg/kg	65.2	17.6	156
EP131A: beta-BHC	319-85-7	0.5	µg/kg	<0.50	5 µg/kg	62.0	30.5	152
EP131A: delta-BHC	319-86-8	0.5	µg/kg	<0.50	5 µg/kg	70.5	37	151
EP131A: 4.4`-DDD	72-54-8	0.5	µg/kg	<0.50	5 µg/kg	44.2	25.9	150
EP131A: 4.4`-DDE	72-55-9	0.5	µg/kg	<0.50	5 µg/kg	54.6	35	129
EP131A: 4.4`-DDT	50-29-3	0.5	µg/kg	<0.50	5 µg/kg	91.7	23.4	163
EP131A: Sum of DDD + DDE + DDT	----	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Dieldrin	60-57-1	0.5	µg/kg	<0.50	5 µg/kg	67.6	30.2	140
EP131A: alpha-Endosulfan	959-98-8	0.5	µg/kg	<0.50	5 µg/kg	47.6	38	140
EP131A: beta-Endosulfan	33213-65-9	0.5	µg/kg	<0.50	5 µg/kg	64.6	32	152
EP131A: Endosulfan sulfate	1031-07-8	0.5	µg/kg	<0.50	5 µg/kg	70.3	36	162
EP131A: Endosulfan (sum)	115-29-7	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Endrin	72-20-8	0.5	µg/kg	<0.50	5 µg/kg	76.0	25.8	166
EP131A: Endrin aldehyde	7421-93-4	0.5	µg/kg	<0.50	5 µg/kg	51.5	20.1	116
EP131A: Endrin ketone	53494-70-5	0.5	µg/kg	<0.50	5 µg/kg	53.0	13.4	151
EP131A: Heptachlor	76-44-8	0.5	µg/kg	<0.50	5 µg/kg	66.7	39	173
EP131A: Heptachlor epoxide	1024-57-3	0.5	µg/kg	<0.50	5 µg/kg	63.3	34	148
EP131A: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/kg	<0.50	5 µg/kg	56.6	26.1	152

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP131A: Organochlorine Pesticides (QCLot: 3847136) - continued								
EP131A: gamma-BHC	58-89-9	0.5	µg/kg	<0.50	5 µg/kg	57.4	31.2	159
EP131A: Methoxychlor	72-43-5	0.5	µg/kg	<0.50	5 µg/kg	73.3	36	160
EP131A: cis-Chlordane	5103-71-9	0.5	µg/kg	<0.50	5 µg/kg	54.0	36	142
EP131A: trans-Chlordane	5103-74-2	0.5	µg/kg	<0.50	5 µg/kg	64.9	29.5	138
EP131A: Total Chlordane (sum)	----	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Organochlorine Pesticides (QCLot: 3847145)								
EP131A: Aldrin	309-00-2	0.5	µg/kg	<0.50	5 µg/kg	47.0	38	150
EP131A: alpha-BHC	319-84-6	0.5	µg/kg	<0.50	5 µg/kg	56.1	17.6	156
EP131A: beta-BHC	319-85-7	0.5	µg/kg	<0.50	5 µg/kg	53.7	30.5	152
EP131A: delta-BHC	319-86-8	0.5	µg/kg	<0.50	5 µg/kg	53.6	37	151
EP131A: 4.4`-DDD	72-54-8	0.5	µg/kg	<0.50	5 µg/kg	44.2	25.9	150
EP131A: 4.4`-DDE	72-55-9	0.5	µg/kg	<0.50	5 µg/kg	43.9	35	129
EP131A: 4.4`-DDT	50-29-3	0.5	µg/kg	<0.50	5 µg/kg	70.6	23.4	163
EP131A: Sum of DDD + DDE + DDT	----	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Dieldrin	60-57-1	0.5	µg/kg	<0.50	5 µg/kg	51.4	30.2	140
EP131A: alpha-Endosulfan	959-98-8	0.5	µg/kg	<0.50	5 µg/kg	59.1	38	140
EP131A: beta-Endosulfan	33213-65-9	0.5	µg/kg	<0.50	5 µg/kg	48.7	32	152
EP131A: Endosulfan sulfate	1031-07-8	0.5	µg/kg	<0.50	5 µg/kg	55.8	36	162
EP131A: Endosulfan (sum)	115-29-7	0.5	µg/kg	<0.50	----	----	----	----
EP131A: Endrin	72-20-8	0.5	µg/kg	<0.50	5 µg/kg	76.9	25.8	166
EP131A: Endrin aldehyde	7421-93-4	0.5	µg/kg	<0.50	5 µg/kg	35.7	20.1	116
EP131A: Endrin ketone	53494-70-5	0.5	µg/kg	<0.50	5 µg/kg	39.8	13.4	151
EP131A: Heptachlor	76-44-8	0.5	µg/kg	<0.50	5 µg/kg	74.4	39	173
EP131A: Heptachlor epoxide	1024-57-3	0.5	µg/kg	<0.50	5 µg/kg	50.4	34	148
EP131A: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/kg	<0.50	5 µg/kg	45.0	26.1	152
EP131A: gamma-BHC	58-89-9	0.5	µg/kg	<0.50	5 µg/kg	48.3	31.2	159
EP131A: Methoxychlor	72-43-5	0.5	µg/kg	<0.50	5 µg/kg	63.6	36	160
EP131A: cis-Chlordane	5103-71-9	0.5	µg/kg	<0.50	5 µg/kg	38.6	36	142
EP131A: trans-Chlordane	5103-74-2	0.5	µg/kg	<0.50	5 µg/kg	47.9	29.5	138

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP131A: Organochlorine Pesticides (QCLot: 3847145) - continued								
EP131A: Total Chlordane (sum)	----	0.5	µg/kg	<0.50	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3847137)								
EP131B: Total Polychlorinated biphenyls	----	5	µg/kg	<5.0	50 µg/kg	99.7	44	136
EP131B: Aroclor 1016	12674-11-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1221	11104-28-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1232	11141-16-5	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1242	53469-21-9	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1248	12672-29-6	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1254	11097-69-1	5	µg/kg	<5.0	50 µg/kg	99.7	44	136
EP131B: Aroclor 1260	11096-82-5	5	µg/kg	<5.0	----	----	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3847146)								
EP131B: Total Polychlorinated biphenyls	----	5	µg/kg	<5.0	50 µg/kg	67.3	44	136
EP131B: Aroclor 1016	12674-11-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1221	11104-28-2	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1232	11141-16-5	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1242	53469-21-9	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1248	12672-29-6	5	µg/kg	<5.0	----	----	----	----
EP131B: Aroclor 1254	11097-69-1	5	µg/kg	<5.0	50 µg/kg	67.3	44	136
EP131B: Aroclor 1260	11096-82-5	5	µg/kg	<5.0	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3847152)								
EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	25 µg/kg	103	67	133
EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	25 µg/kg	117	63	135
EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	25 µg/kg	113	68	132
EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	25 µg/kg	115	67	133
EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	25 µg/kg	110	69	131
EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	25 µg/kg	112	66	138
EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	25 µg/kg	121	67	133
EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	25 µg/kg	123	64	130
EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	25 µg/kg	110	67	133
EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	25 µg/kg	106	65	133

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3847152) - continued								
EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	25 µg/kg	117	70	134
EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	25 µg/kg	95.7	63	133
EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	25 µg/kg	123	67	133
EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	25 µg/kg	107	64	130
EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	25 µg/kg	108	72	130
EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	25 µg/kg	107	70	132
EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	25 µg/kg	102	65	127
EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	25 µg/kg	98.3	67	135
EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	25 µg/kg	101	62	126
EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	25 µg/kg	113	66	134
EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3847157)								
EP132B-SD: Naphthalene	91-20-3	5	µg/kg	<5	25 µg/kg	95.2	67	133
EP132B-SD: 2-Methylnaphthalene	91-57-6	5	µg/kg	<5	25 µg/kg	110	63	135
EP132B-SD: Acenaphthylene	208-96-8	4	µg/kg	<4	25 µg/kg	88.4	68	132
EP132B-SD: Acenaphthene	83-32-9	4	µg/kg	<4	25 µg/kg	85.8	67	133
EP132B-SD: Fluorene	86-73-7	4	µg/kg	<4	25 µg/kg	88.7	69	131
EP132B-SD: Phenanthrene	85-01-8	4	µg/kg	<4	25 µg/kg	88.1	66	138
EP132B-SD: Anthracene	120-12-7	4	µg/kg	<4	25 µg/kg	86.3	67	133
EP132B-SD: Fluoranthene	206-44-0	4	µg/kg	<4	25 µg/kg	99.4	64	130
EP132B-SD: Pyrene	129-00-0	4	µg/kg	<4	25 µg/kg	93.0	67	133
EP132B-SD: Benz(a)anthracene	56-55-3	4	µg/kg	<4	25 µg/kg	87.1	65	133
EP132B-SD: Chrysene	218-01-9	4	µg/kg	<4	25 µg/kg	91.9	70	134
EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	4	µg/kg	<4	25 µg/kg	91.7	63	133
EP132B-SD: Benzo(k)fluoranthene	207-08-9	4	µg/kg	<4	25 µg/kg	105	67	133
EP132B-SD: Benzo(e)pyrene	192-97-2	4	µg/kg	<4	25 µg/kg	96.3	64	130
EP132B-SD: Benzo(a)pyrene	50-32-8	4	µg/kg	<4	25 µg/kg	93.0	72	130
EP132B-SD: Perylene	198-55-0	4	µg/kg	<4	25 µg/kg	92.0	70	132

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3847157) - continued								
EP132B-SD: Benzo(g.h.i)perylene	191-24-2	4	µg/kg	<4	25 µg/kg	81.2	65	127
EP132B-SD: Dibenz(a.h)anthracene	53-70-3	4	µg/kg	<4	25 µg/kg	94.1	67	135
EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	4	µg/kg	<4	25 µg/kg	84.6	62	126
EP132B-SD: Coronene	191-07-1	5	µg/kg	<5	25 µg/kg	80.5	66	134
EP132B-SD: Sum of PAHs	----	4	µg/kg	<4	----	----	----	----

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 3850667)								
EG020A-T: Antimony	7440-36-0	0.001	mg/L	<0.001	----	----	----	----
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	89.1	79	121
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	93.8	83	113
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	95.5	84	116
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	95.4	83	117
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	92.8	84	116
EG020A-T: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	94.4	85	115
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	96.6	84	116
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	86.9	77	117
EG020T: Total Metals by ICP-MS (QCLot: 3850668)								
EG020B-T: Silver	7440-22-4	0.001	mg/L	<0.001	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3859847)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.010 mg/L	94.7	77	115
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3852013)								
EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	1.0 mg/L	101	86	112
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3844879)								
EK057G: Nitrite as N	----	0.01	mg/L	<0.01	0.5 mg/L	98.8	83	119
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3852012)								
EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	0.5 mg/L	102	87	119
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3852007)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3852007) - continued								
EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	<0.1	10 mg/L	80.1	66	114
				----	5 mg/L	93.4	66	119
				----	1.0 mg/L	82.3	66	126
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3852008)								
EK067G: Total Phosphorus as P	----	0.01	mg/L	----	0.442 mg/L	95.8	63	123
				----	1.0 mg/L	111	66	124
				<0.01	4.42 mg/L	91.0	67	117
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3846936)								
EP066: Total Polychlorinated biphenyls	----	1	µg/L	<1	10 µg/L	79.1	61.6	107
EP068A: Organochlorine Pesticides (OC) (QCLot: 3846935)								
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	5 µg/L	97.6	65	107
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	5 µg/L	90.9	51	119
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	5 µg/L	100	63	113
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	5 µg/L	97.8	62	112
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	5 µg/L	93.0	60	106
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	5 µg/L	97.7	58	108
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	5 µg/L	94.5	58	114
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	5 µg/L	101	59	111
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	5 µg/L	101	62	114
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	5 µg/L	110	64	114
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	5 µg/L	99.4	62	114
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	5 µg/L	98.0	59	111
EP068: 4.4`-DDE	72-55-9	0.5	µg/L	<0.5	5 µg/L	102	63	111
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	5 µg/L	105	61	119
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	5 µg/L	90.3	71	119
EP068: 4.4`-DDD	72-54-8	0.5	µg/L	<0.5	5 µg/L	89.4	70	118
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	5 µg/L	86.9	62	112
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	5 µg/L	107	53	113
EP068: 4.4`-DDT	50-29-3	2.0	µg/L	<2.0	5 µg/L	103	52	120
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	5 µg/L	91.4	51	117

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 3846935) - continued								
EP068: Methoxychlor	72-43-5	2.0	µg/L	<2.0	5 µg/L	99.6	53	127
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3846935)								
EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	5 µg/L	103	52	122
EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	5 µg/L	95.1	51	123
EP068: Monocrotophos	6923-22-4	0.5	µg/L	<2.0	5 µg/L	32.0	10	89.1
EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	5 µg/L	84.4	61	119
EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	5 µg/L	82.1	67	113
EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	5 µg/L	107	60	116
EP068: Parathion-methyl	298-00-0	2.0	µg/L	<2.0	5 µg/L	107	64	120
EP068: Malathion	121-75-5	0.5	µg/L	<0.5	5 µg/L	108	67	115
EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	5 µg/L	106	64	110
EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	5 µg/L	101	63	109
EP068: Parathion	56-38-2	2.0	µg/L	<2.0	5 µg/L	93.3	63	121
EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	5 µg/L	101	60	110
EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	5 µg/L	99.6	68	114
EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	5 µg/L	102	61	109
EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	5 µg/L	109	63	117
EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	5 µg/L	93.2	63	111
EP068: Ethion	563-12-2	0.5	µg/L	<0.5	5 µg/L	98.1	65	115
EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	5 µg/L	99.2	55	115
EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	5 µg/L	89.0	44	124
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3846938)								
EP075(SIM): Naphthalene	91-20-3	0.2	µg/L	<1.0	5 µg/L	66.9	58.6	119
EP075(SIM): Acenaphthylene	208-96-8	0.2	µg/L	<1.0	5 µg/L	79.2	63.6	114
EP075(SIM): Acenaphthene	83-32-9	0.2	µg/L	<1.0	5 µg/L	71.5	62.2	113
EP075(SIM): Fluorene	86-73-7	0.2	µg/L	<1.0	5 µg/L	81.8	63.9	115
EP075(SIM): Phenanthrene	85-01-8	0.2	µg/L	<1.0	5 µg/L	78.8	62.6	116
EP075(SIM): Anthracene	120-12-7	0.2	µg/L	<1.0	5 µg/L	76.4	64.3	116
EP075(SIM): Fluoranthene	206-44-0	0.2	µg/L	<1.0	5 µg/L	85.2	63.6	118

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3846938) - continued								
EP075(SIM): Pyrene	129-00-0	0.2	µg/L	<1.0	5 µg/L	93.4	63.1	118
EP075(SIM): Benz(a)anthracene	56-55-3	0.2	µg/L	<1.0	5 µg/L	85.1	64.1	117
EP075(SIM): Chrysene	218-01-9	0.2	µg/L	<1.0	5 µg/L	86.2	62.5	116
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.2	µg/L	<1.0	5 µg/L	81.7	61.7	119
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.2	µg/L	<1.0	5 µg/L	86.2	61.7	117
EP075(SIM): Benzo(a)pyrene	50-32-8	0.2	µg/L	<0.5	5 µg/L	75.0	63.3	117
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.2	µg/L	<1.0	5 µg/L	64.3	59.9	118
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.2	µg/L	<1.0	5 µg/L	68.2	61.2	117
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.2	µg/L	<1.0	5 µg/L	64.6	59.1	118
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3846937)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	2000 µg/L	89.1	59	129
EP071: C15 - C28 Fraction	----	100	µg/L	<100	3000 µg/L	102	71	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	2000 µg/L	98.5	62	120
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3850139)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	83.3	75	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3846937)								
EP071: >C10 - C16 Fraction	>C10_C16	100	µg/L	<100	2500 µg/L	101	58.9	131
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	3500 µg/L	98.6	73.9	138
EP071: >C34 - C40 Fraction	----	50	µg/L	<100	1500 µg/L	101	67	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3850139)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	86.0	75	127
EP080: BTEXN (QCLot: 3850139)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	88.7	70	124
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	95.0	65	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	93.1	70	120
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	90.9	69	121
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	93.2	72	122
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	103	70	124
EP090: Organotin Compounds (QCLot: 3847099)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP090: Organotin Compounds (QCLot: 3847099) - continued								
EP090H: Monobutyltin	78763-54-9	2	ngSn/L	<5	50 ngSn/L	99.9	25	139
EP090H: Dibutyltin	1002-53-5	2	ngSn/L	<5	50 ngSn/L	# 120	50	114
EP090H: Tributyltin	56573-85-4	1	ngSn/L	<2	50 ngSn/L	107	39	120

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3858773)							
ES1504998-003	BH26 0.0-0.2A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	117	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	114	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	118	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	92.0	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	97.2	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	111	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	115	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3858776)							
ES1504998-056	BH41 0.0-0.5A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	95.4	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	108	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	105	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	84.1	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	102	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	103	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	108	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3858772)							
ES1504998-001	BH24 0.0-0.2A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	120	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3858775)							
ES1504998-052	BH40 1.0-1.2A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	120	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3860072)							
ES1504998-001	BH24 0.0-0.2A	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	101	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3860076)							
ES1504998-052	BH40 1.0-1.2A	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	101	70	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3860073)							
ES1504998-001	BH24 0.0-0.2A	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	114	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3860077)							
ES1504998-052	BH40 1.0-1.2A	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	116	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3854849)							
ES1504998-001	BH24 0.0-0.2A	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	92.3	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3860960)							
ES1504836-062	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	97.8	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3854850)							
ES1504998-001	BH24 0.0-0.2A	EK067G: Total Phosphorus as P	----	100 mg/kg	79.8	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3860961)							
ES1504836-062	Anonymous	EK067G: Total Phosphorus as P	----	100 mg/kg	86.2	70	130
EK255A SD: Ammonia in Sediment (QCLot: 3850693)							
ES1504836-061	Anonymous	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	# Not Determined	70	130
EK255A SD: Ammonia in Sediment (QCLot: 3850694)							
ES1504998-033	BH35 0.0-0.7A	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	91.2	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3847153)							
ES1504998-001	BH24 0.0-0.2A	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	92.1	70	130
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	80.4	70	130
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	97.4	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3847158)							
ES1504836-061	Anonymous	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	100	70	130
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	90.2	70	130
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	108	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3847354)							
ES1504998-001	BH24 0.0-0.2A	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	98.5	70	130
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3847420)							
ES1504836-065	Anonymous	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	93.6	70	130
EP080-SD: BTEXN (QCLot: 3847354)							
ES1504998-001	BH24 0.0-0.2A	EP080-SD: Benzene	71-43-2	0.5 mg/kg	73.9	70	130
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	73.5	70	130
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	81.6	70	130
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	80.8	70	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080-SD: BTEXN (QCLot: 3847354) - continued							
ES1504998-001	BH24 0.0-0.2A	EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	82.6	70	130
EP080-SD: BTEXN (QCLot: 3847420)							
ES1504836-065	Anonymous	EP080-SD: Benzene	71-43-2	0.5 mg/kg	79.1	70	130
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	73.8	70	130
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	81.3	70	130
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	79.6	70	130
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	83.6	70	130
EP090: Organotin Compounds (QCLot: 3845949)							
ES1504998-003	BH26 0.0-0.2A	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	81.8	35	130
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	70.1	20	130
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	92.4	20	130
EP090: Organotin Compounds (QCLot: 3845950)							
ES1504998-040	BH369 0.5-1.0A	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	# 17.6	35	130
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	50.7	20	130
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	80.6	20	130
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3847135)							
ES1504998-001	BH24 0.0-0.2A	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	75.2	36	144
		EP130: Carbophenothion	786-19-6	50 µg/kg	71.1	38	120
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	91.2	49	157
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	85.5	53	145
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	76.3	60	140
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	86.2	56	126
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	72.7	9.7	148
		EP130: Diazinon	333-41-5	50 µg/kg	75.0	60	122
		EP130: Dichlorvos	62-73-7	50 µg/kg	74.2	33	123
		EP130: Dimethoate	60-51-5	50 µg/kg	88.0	36	142
		EP130: Ethion	563-12-2	50 µg/kg	70.3	48	136
		EP130: Fenamiphos	22224-92-6	50 µg/kg	81.5	42	136
		EP130: Fenthion	55-38-9	50 µg/kg	72.9	35	131
		EP130: Malathion	121-75-5	50 µg/kg	72.2	55	141
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	74.7	23.5	132
		EP130: Monocrotophos	6923-22-4	50 µg/kg	76.5	35	153
		EP130: Parathion	56-38-2	50 µg/kg	77.2	57	147
		EP130: Parathion-methyl	298-00-0	50 µg/kg	80.4	48	140
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	68.1	45	137

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3847135) - continued							
ES1504998-001	BH24 0.0-0.2A	EP130: Prothiofos	34643-46-4	50 µg/kg	75.5	51	137
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3847143)							
ES1504836-061	Anonymous	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	77.6	36	144
		EP130: Carbophenothion	786-19-6	50 µg/kg	78.4	38	120
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	86.5	49	157
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	92.7	53	145
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	74.9	60	140
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	82.8	56	126
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	79.1	9.7	148
		EP130: Diazinon	333-41-5	50 µg/kg	79.2	60	122
		EP130: Dichlorvos	62-73-7	50 µg/kg	76.0	33	123
		EP130: Dimethoate	60-51-5	50 µg/kg	86.0	36	142
		EP130: Ethion	563-12-2	50 µg/kg	79.4	48	136
		EP130: Fenamiphos	22224-92-6	50 µg/kg	82.3	42	136
		EP130: Fenthion	55-38-9	50 µg/kg	73.8	35	131
		EP130: Malathion	121-75-5	50 µg/kg	81.5	55	141
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	91.9	23.5	132
		EP130: Monocrotophos	6923-22-4	50 µg/kg	91.0	35	153
		EP130: Parathion	56-38-2	50 µg/kg	79.9	57	147
		EP130: Parathion-methyl	298-00-0	50 µg/kg	82.8	48	140
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	93.2	45	137
		EP130: Prothiofos	34643-46-4	50 µg/kg	74.9	51	137
EP131A: Organochlorine Pesticides (QCLot: 3847136)							
ES1504998-001	BH24 0.0-0.2A	EP131A: Aldrin	309-00-2	5 µg/kg	46.1	23.4	153
		EP131A: alpha-BHC	319-84-6	5 µg/kg	60.8	17.6	156
		EP131A: beta-BHC	319-85-7	5 µg/kg	66.9	24.9	153
		EP131A: delta-BHC	319-86-8	5 µg/kg	77.2	25.2	147
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	44.1	25.9	150
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	71.1	31.2	125
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	94.4	23.4	163
		EP131A: Dieldrin	60-57-1	5 µg/kg	51.7	30.2	140
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	51.0	28.8	135
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	66.8	22.6	141
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	70.1	16.1	156
		EP131A: Endrin	72-20-8	5 µg/kg	88.7	17.7	162
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	44.6	20.1	116
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	51.4	13.4	151

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP131A: Organochlorine Pesticides (QCLot: 3847136) - continued							
ES1504998-001	BH24 0.0-0.2A	EP131A: Heptachlor	76-44-8	5 µg/kg	74.4	23.8	170
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	57.3	28.3	140
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	50.5	17.7	144
		EP131A: gamma-BHC	58-89-9	5 µg/kg	53.5	21.8	158
		EP131A: Methoxychlor	72-43-5	5 µg/kg	88.3	24.4	158
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	50.8	27.3	139
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	75.6	29.5	138
EP131A: Organochlorine Pesticides (QCLot: 3847145)							
ES1504836-061	Anonymous	EP131A: Aldrin	309-00-2	5 µg/kg	31.3	23.4	153
		EP131A: alpha-BHC	319-84-6	5 µg/kg	40.6	17.6	156
		EP131A: beta-BHC	319-85-7	5 µg/kg	44.2	24.9	153
		EP131A: delta-BHC	319-86-8	5 µg/kg	45.8	25.2	147
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	39.2	25.9	150
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	42.7	31.2	125
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	78.0	23.4	163
		EP131A: Dieldrin	60-57-1	5 µg/kg	45.0	30.2	140
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	50.9	28.8	135
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	45.9	22.6	141
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	57.4	16.1	156
		EP131A: Endrin	72-20-8	5 µg/kg	64.2	17.7	162
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	46.6	20.1	116
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	35.0	13.4	151
		EP131A: Heptachlor	76-44-8	5 µg/kg	76.7	23.8	170
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	38.9	28.3	140
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	32.6	17.7	144
		EP131A: gamma-BHC	58-89-9	5 µg/kg	40.8	21.8	158
		EP131A: Methoxychlor	72-43-5	5 µg/kg	66.5	24.4	158
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	38.7	27.3	139
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	48.8	29.5	138
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3847137)							
ES1504998-001	BH24 0.0-0.2A	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	74.7	44	136
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	74.7	44	136
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3847146)							
ES1504836-061	Anonymous	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	52.5	44	136
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	52.5	44	136
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3847152)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3847152) - continued							
ES1504998-001	BH24 0.0-0.2A	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	116	70	130
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	86.3	70	130
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	104	70	130
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	112	70	130
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	107	70	130
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	109	70	130
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	107	70	130
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	114	70	130
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	117	70	130
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	116	70	130
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	118	70	130
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	94.2	70	130
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	108	70	130
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	106	70	130
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	105	70	130
		EP132B-SD: Perylene	198-55-0	25 µg/kg	109	70	130
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	99.1	70	130
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	100	70	130
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	99.6	70	130
		EP132B-SD: Coronene	191-07-1	25 µg/kg	122	70	130
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3847157)							
ES1504836-061	Anonymous	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	81.5	70	130
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	99.7	70	130
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	78.3	70	130
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	81.8	70	130
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	79.7	70	130
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	87.0	70	130
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	83.9	70	130
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	86.1	70	130
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	83.7	70	130
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	97.7	70	130
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	85.6	70	130
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	89.2	70	130
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	89.0	70	130
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	88.2	70	130

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Recovery Limits (%): Low	Recovery Limits (%): High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3847157) - continued							
ES1504836-061	Anonymous	EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	91.3	70	130
		EP132B-SD: Perylene	198-55-0	25 µg/kg	87.5	70	130
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	81.7	70	130
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	78.6	70	130
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	77.2	70	130
		EP132B-SD: Coronene	191-07-1	25 µg/kg	89.2	70	130

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	Matrix Spike (MS) Report: SpikeRecovery(%) MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 3850667)							
ES1504998-071	RINSATE 18	EG020A-T: Arsenic	7440-38-2	1 mg/L	91.6	70	130
		EG020A-T: Cadmium	7440-43-9	0.250 mg/L	92.8	70	130
		EG020A-T: Chromium	7440-47-3	1 mg/L	94.7	70	130
		EG020A-T: Copper	7440-50-8	1 mg/L	93.7	70	130
		EG020A-T: Lead	7439-92-1	1 mg/L	94.8	70	130
		EG020A-T: Manganese	7439-96-5	1 mg/L	99.3	70	130
		EG020A-T: Nickel	7440-02-0	1 mg/L	92.0	70	130
		EG020A-T: Zinc	7440-66-6	1 mg/L	96.6	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3859847)							
ES1505536-001	Anonymous	EG035T: Mercury	7439-97-6	0.010 mg/L	84.4	70	130
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3852013)							
ES1504836-075	Anonymous	EK055G: Ammonia as N	7664-41-7	1 mg/L	101	70	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3844879)							
ES1504836-075	Anonymous	EK057G: Nitrite as N	----	0.5 mg/L	102	70	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3852012)							
ES1504836-075	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.5 mg/L	103	70	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3852007)							
ES1504998-071	RINSATE 18	EK061G: Total Kjeldahl Nitrogen as N	----	5 mg/L	93.2	70	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3852008)							
ES1504998-071	RINSATE 18	EK067G: Total Phosphorus as P	----	1.0 mg/L	109	70	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3850139)							
ES1505268-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	107	70	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3850139)							
ES1505268-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	106	70	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080: BTEXN (QCLot: 3850139)							
ES1505268-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	77.7	70	130
		EP080: Toluene	108-88-3	25 µg/L	81.3	70	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	82.9	70	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	78.3	70	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	83.7	70	130
		EP080: Naphthalene	91-20-3	25 µg/L	97.9	70	130

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

The quality control term Matrix Spike (MS) and Matrix Spike Duplicate (MSD) refers to intralaboratory split samples spiked with a representative set of target analytes. The purpose of these QC parameters are to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report							
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP090: Organotin Compounds (QCLot: 3845949)										
ES1504998-003	BH26 0.0-0.2A	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	81.8	----	35	130	----	----
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	70.1	----	20	130	----	----
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	92.4	----	20	130	----	----
EP090: Organotin Compounds (QCLot: 3845950)										
ES1504998-040	BH369 0.5-1.0A	EP090: Monobutyltin	78763-54-9	1.25 µgSn/kg	# 17.6	----	35	130	----	----
		EP090: Dibutyltin	1002-53-5	1.25 µgSn/kg	50.7	----	20	130	----	----
		EP090: Tributyltin	56573-85-4	1.25 µgSn/kg	80.6	----	20	130	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3847135)										
ES1504998-001	BH24 0.0-0.2A	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	75.2	----	36	144	----	----
		EP130: Carbophenothion	786-19-6	50 µg/kg	71.1	----	38	120	----	----
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	91.2	----	49	157	----	----
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	85.5	----	53	145	----	----
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	76.3	----	60	140	----	----
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	86.2	----	56	126	----	----
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	72.7	----	9.7	148	----	----
		EP130: Diazinon	333-41-5	50 µg/kg	75.0	----	60	122	----	----
		EP130: Dichlorvos	62-73-7	50 µg/kg	74.2	----	33	123	----	----
		EP130: Dimethoate	60-51-5	50 µg/kg	88.0	----	36	142	----	----
		EP130: Ethion	563-12-2	50 µg/kg	70.3	----	48	136	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3847135) - continued										
ES1504998-001	BH24 0.0-0.2A	EP130: Fenamiphos	22224-92-6	50 µg/kg	81.5	----	42	136	----	----
		EP130: Fenthion	55-38-9	50 µg/kg	72.9	----	35	131	----	----
		EP130: Malathion	121-75-5	50 µg/kg	72.2	----	55	141	----	----
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	74.7	----	23.5	132	----	----
		EP130: Monocrotophos	6923-22-4	50 µg/kg	76.5	----	35	153	----	----
		EP130: Parathion	56-38-2	50 µg/kg	77.2	----	57	147	----	----
		EP130: Parathion-methyl	298-00-0	50 µg/kg	80.4	----	48	140	----	----
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	68.1	----	45	137	----	----
		EP130: Prothiofos	34643-46-4	50 µg/kg	75.5	----	51	137	----	----
EP131A: Organochlorine Pesticides (QCLot: 3847136)										
ES1504998-001	BH24 0.0-0.2A	EP131A: Aldrin	309-00-2	5 µg/kg	46.1	----	23.4	153	----	----
		EP131A: alpha-BHC	319-84-6	5 µg/kg	60.8	----	17.6	156	----	----
		EP131A: beta-BHC	319-85-7	5 µg/kg	66.9	----	24.9	153	----	----
		EP131A: delta-BHC	319-86-8	5 µg/kg	77.2	----	25.2	147	----	----
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	44.1	----	25.9	150	----	----
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	71.1	----	31.2	125	----	----
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	94.4	----	23.4	163	----	----
		EP131A: Dieldrin	60-57-1	5 µg/kg	51.7	----	30.2	140	----	----
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	51.0	----	28.8	135	----	----
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	66.8	----	22.6	141	----	----
		EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	70.1	----	16.1	156	----	----
		EP131A: Endrin	72-20-8	5 µg/kg	88.7	----	17.7	162	----	----
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	44.6	----	20.1	116	----	----
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	51.4	----	13.4	151	----	----
		EP131A: Heptachlor	76-44-8	5 µg/kg	74.4	----	23.8	170	----	----
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	57.3	----	28.3	140	----	----
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	50.5	----	17.7	144	----	----
		EP131A: gamma-BHC	58-89-9	5 µg/kg	53.5	----	21.8	158	----	----
		EP131A: Methoxychlor	72-43-5	5 µg/kg	88.3	----	24.4	158	----	----
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	50.8	----	27.3	139	----	----
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	75.6	----	29.5	138	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3847137)										
ES1504998-001	BH24 0.0-0.2A	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	74.7	----	44	136	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3847137) - continued										
ES1504998-001	BH24 0.0-0.2A	EP131B: Aroclor 1254	11097-69-1	50 µg/kg	74.7	----	44	136	----	----
EP130A: Organophosphorus Pesticides (Ultra-trace) (QCLot: 3847143)										
ES1504836-061	Anonymous	EP130: Bromophos-ethyl	4824-78-6	50 µg/kg	77.6	----	36	144	----	----
		EP130: Carbophenothion	786-19-6	50 µg/kg	78.4	----	38	120	----	----
		EP130: Chlorfenvinphos (E)	18708-86-6	5 µg/kg	86.5	----	49	157	----	----
		EP130: Chlorfenvinphos (Z)	18708-87-7	50 µg/kg	92.7	----	53	145	----	----
		EP130: Chlorpyrifos	2921-88-2	50 µg/kg	74.9	----	60	140	----	----
		EP130: Chlorpyrifos-methyl	5598-13-0	50 µg/kg	82.8	----	56	126	----	----
		EP130: Demeton-S-methyl	919-86-8	50 µg/kg	79.1	----	9.7	148	----	----
		EP130: Diazinon	333-41-5	50 µg/kg	79.2	----	60	122	----	----
		EP130: Dichlorvos	62-73-7	50 µg/kg	76.0	----	33	123	----	----
		EP130: Dimethoate	60-51-5	50 µg/kg	86.0	----	36	142	----	----
		EP130: Ethion	563-12-2	50 µg/kg	79.4	----	48	136	----	----
		EP130: Fenamiphos	22224-92-6	50 µg/kg	82.3	----	42	136	----	----
		EP130: Fenthion	55-38-9	50 µg/kg	73.8	----	35	131	----	----
		EP130: Malathion	121-75-5	50 µg/kg	81.5	----	55	141	----	----
		EP130: Azinphos Methyl	86-50-0	50 µg/kg	91.9	----	23.5	132	----	----
		EP130: Monocrotophos	6923-22-4	50 µg/kg	91.0	----	35	153	----	----
		EP130: Parathion	56-38-2	50 µg/kg	79.9	----	57	147	----	----
		EP130: Parathion-methyl	298-00-0	50 µg/kg	82.8	----	48	140	----	----
		EP130: Pirimphos-ethyl	23505-41-1	50 µg/kg	93.2	----	45	137	----	----
		EP130: Prothiofos	34643-46-4	50 µg/kg	74.9	----	51	137	----	----
EP131A: Organochlorine Pesticides (QCLot: 3847145)										
ES1504836-061	Anonymous	EP131A: Aldrin	309-00-2	5 µg/kg	31.3	----	23.4	153	----	----
		EP131A: alpha-BHC	319-84-6	5 µg/kg	40.6	----	17.6	156	----	----
		EP131A: beta-BHC	319-85-7	5 µg/kg	44.2	----	24.9	153	----	----
		EP131A: delta-BHC	319-86-8	5 µg/kg	45.8	----	25.2	147	----	----
		EP131A: 4.4`-DDD	72-54-8	5 µg/kg	39.2	----	25.9	150	----	----
		EP131A: 4.4`-DDE	72-55-9	5 µg/kg	42.7	----	31.2	125	----	----
		EP131A: 4.4`-DDT	50-29-3	5 µg/kg	78.0	----	23.4	163	----	----
		EP131A: Dieldrin	60-57-1	5 µg/kg	45.0	----	30.2	140	----	----
		EP131A: alpha-Endosulfan	959-98-8	5 µg/kg	50.9	----	28.8	135	----	----
		EP131A: beta-Endosulfan	33213-65-9	5 µg/kg	45.9	----	22.6	141	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP131A: Organochlorine Pesticides (QCLot: 3847145) - continued										
ES1504836-061	Anonymous	EP131A: Endosulfan sulfate	1031-07-8	5 µg/kg	57.4	----	16.1	156	----	----
		EP131A: Endrin	72-20-8	5 µg/kg	64.2	----	17.7	162	----	----
		EP131A: Endrin aldehyde	7421-93-4	5 µg/kg	46.6	----	20.1	116	----	----
		EP131A: Endrin ketone	53494-70-5	5 µg/kg	35.0	----	13.4	151	----	----
		EP131A: Heptachlor	76-44-8	5 µg/kg	76.7	----	23.8	170	----	----
		EP131A: Heptachlor epoxide	1024-57-3	5 µg/kg	38.9	----	28.3	140	----	----
		EP131A: Hexachlorobenzene (HCB)	118-74-1	5 µg/kg	32.6	----	17.7	144	----	----
		EP131A: gamma-BHC	58-89-9	5 µg/kg	40.8	----	21.8	158	----	----
		EP131A: Methoxychlor	72-43-5	5 µg/kg	66.5	----	24.4	158	----	----
		EP131A: cis-Chlordane	5103-71-9	5 µg/kg	38.7	----	27.3	139	----	----
		EP131A: trans-Chlordane	5103-74-2	5 µg/kg	48.8	----	29.5	138	----	----
EP131B: Polychlorinated Biphenyls (as Aroclors) (QCLot: 3847146)										
ES1504836-061	Anonymous	EP131B: Total Polychlorinated biphenyls	----	50 µg/kg	52.5	----	44	136	----	----
		EP131B: Aroclor 1254	11097-69-1	50 µg/kg	52.5	----	44	136	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3847152)										
ES1504998-001	BH24 0.0-0.2A	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	116	----	70	130	----	----
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	86.3	----	70	130	----	----
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	104	----	70	130	----	----
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	112	----	70	130	----	----
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	107	----	70	130	----	----
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	109	----	70	130	----	----
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	107	----	70	130	----	----
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	114	----	70	130	----	----
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	117	----	70	130	----	----
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	116	----	70	130	----	----
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	118	----	70	130	----	----
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	94.2	----	70	130	----	----
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	108	----	70	130	----	----
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	106	----	70	130	----	----
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	105	----	70	130	----	----
		EP132B-SD: Perylene	198-55-0	25 µg/kg	109	----	70	130	----	----
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	99.1	----	70	130	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3847152) - continued										
ES1504998-001	BH24 0.0-0.2A	EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	100	----	70	130	----	----
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	99.6	----	70	130	----	----
		EP132B-SD: Coronene	191-07-1	25 µg/kg	122	----	70	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3847153)										
ES1504998-001	BH24 0.0-0.2A	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	92.1	----	70	130	----	----
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	80.4	----	70	130	----	----
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	97.4	----	70	130	----	----
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 3847157)										
ES1504836-061	Anonymous	EP132B-SD: Naphthalene	91-20-3	25 µg/kg	81.5	----	70	130	----	----
		EP132B-SD: 2-Methylnaphthalene	91-57-6	25 µg/kg	99.7	----	70	130	----	----
		EP132B-SD: Acenaphthylene	208-96-8	25 µg/kg	78.3	----	70	130	----	----
		EP132B-SD: Acenaphthene	83-32-9	25 µg/kg	81.8	----	70	130	----	----
		EP132B-SD: Fluorene	86-73-7	25 µg/kg	79.7	----	70	130	----	----
		EP132B-SD: Phenanthrene	85-01-8	25 µg/kg	87.0	----	70	130	----	----
		EP132B-SD: Anthracene	120-12-7	25 µg/kg	83.9	----	70	130	----	----
		EP132B-SD: Fluoranthene	206-44-0	25 µg/kg	86.1	----	70	130	----	----
		EP132B-SD: Pyrene	129-00-0	25 µg/kg	83.7	----	70	130	----	----
		EP132B-SD: Benz(a)anthracene	56-55-3	25 µg/kg	97.7	----	70	130	----	----
		EP132B-SD: Chrysene	218-01-9	25 µg/kg	85.6	----	70	130	----	----
		EP132B-SD: Benzo(b+j)fluoranthene	205-99-2 205-82-3	25 µg/kg	89.2	----	70	130	----	----
		EP132B-SD: Benzo(k)fluoranthene	207-08-9	25 µg/kg	89.0	----	70	130	----	----
		EP132B-SD: Benzo(e)pyrene	192-97-2	25 µg/kg	88.2	----	70	130	----	----
		EP132B-SD: Benzo(a)pyrene	50-32-8	25 µg/kg	91.3	----	70	130	----	----
		EP132B-SD: Perylene	198-55-0	25 µg/kg	87.5	----	70	130	----	----
		EP132B-SD: Benzo(g.h.i)perylene	191-24-2	25 µg/kg	81.7	----	70	130	----	----
		EP132B-SD: Dibenz(a.h)anthracene	53-70-3	25 µg/kg	78.6	----	70	130	----	----
		EP132B-SD: Indeno(1.2.3.cd)pyrene	193-39-5	25 µg/kg	77.2	----	70	130	----	----
		EP132B-SD: Coronene	191-07-1	25 µg/kg	89.2	----	70	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3847158)										
ES1504836-061	Anonymous	EP071-SD: C10 - C14 Fraction	----	14 mg/kg	100	----	70	130	----	----
		EP071-SD: C15 - C28 Fraction	----	59 mg/kg	90.2	----	70	130	----	----
		EP071-SD: C29 - C36 Fraction	----	42 mg/kg	108	----	70	130	----	----

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3847354)										
ES1504998-001	BH24 0.0-0.2A	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	98.5	----	70	130	----	----
EP080-SD: BTEXN (QCLot: 3847354)										
ES1504998-001	BH24 0.0-0.2A	EP080-SD: Benzene	71-43-2	0.5 mg/kg	73.9	----	70	130	----	----
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	73.5	----	70	130	----	----
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	81.6	----	70	130	----	----
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	80.8	----	70	130	----	----
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	82.6	----	70	130	----	----
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons (QCLot: 3847420)										
ES1504836-065	Anonymous	EP080-SD: C6 - C9 Fraction	----	6.5 mg/kg	93.6	----	70	130	----	----
EP080-SD: BTEXN (QCLot: 3847420)										
ES1504836-065	Anonymous	EP080-SD: Benzene	71-43-2	0.5 mg/kg	79.1	----	70	130	----	----
		EP080-SD: Toluene	108-88-3	0.5 mg/kg	73.8	----	70	130	----	----
		EP080-SD: Ethylbenzene	100-41-4	0.5 mg/kg	81.3	----	70	130	----	----
		EP080-SD: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	79.6	----	70	130	----	----
		EP080-SD: ortho-Xylene	95-47-6	0.5 mg/kg	83.6	----	70	130	----	----
EK255A SD: Ammonia in Sediment (QCLot: 3850693)										
ES1504836-061	Anonymous	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	# Not Determined	----	70	130	----	----
EK255A SD: Ammonia in Sediment (QCLot: 3850694)										
ES1504998-033	BH35 0.0-0.7A	EK255A: Ammonia as N	7664-41-7	0.5 mg/kg	91.2	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3854849)										
ES1504998-001	BH24 0.0-0.2A	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	92.3	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3854850)										
ES1504998-001	BH24 0.0-0.2A	EK067G: Total Phosphorus as P	----	100 mg/kg	79.8	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3858772)										
ES1504998-001	BH24 0.0-0.2A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	120	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3858773)										
ES1504998-003	BH26 0.0-0.2A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	117	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	114	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	118	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	92.0	----	70	130	----	----
		EG020-SD: Lead	7439-92-1	250 mg/kg	97.2	----	70	130	----	----

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report: Spike Concentration	Spike Recovery (%): MS	Spike Recovery (%): MSD	Recovery Limits (%): Low	Recovery Limits (%): High	RPDs (%): Value	RPDs (%): Control Limit
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3858773) - continued										
ES1504998-003	BH26 0.0-0.2A	EG020-SD: Nickel	7440-02-0	50 mg/kg	111	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	115	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3858775)										
ES1504998-052	BH40 1.0-1.2A	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	120	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3858776)										
ES1504998-056	BH41 0.0-0.5A	EG020-SD: Arsenic	7440-38-2	50 mg/kg	95.4	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	108	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	105	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	84.1	----	70	130	----	----
		EG020-SD: Lead	7439-92-1	250 mg/kg	102	----	70	130	----	----
		EG020-SD: Nickel	7440-02-0	50 mg/kg	103	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	108	----	70	130	----	----
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3860072)										
ES1504998-001	BH24 0.0-0.2A	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	101	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3860073)										
ES1504998-001	BH24 0.0-0.2A	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	114	----	70	130	----	----
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3860076)										
ES1504998-052	BH40 1.0-1.2A	EK057G: Nitrite as N (Sol.)	----	2.5 mg/kg	101	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3860077)										
ES1504998-052	BH40 1.0-1.2A	EK059G: Nitrite + Nitrate as N (Sol.)	----	2.5 mg/kg	116	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3860960)										
ES1504836-062	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	500 mg/kg	97.8	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3860961)										
ES1504836-062	Anonymous	EK067G: Total Phosphorus as P	----	100 mg/kg	86.2	----	70	130	----	----

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report: Spike Concentration	Spike Recovery (%): MS	Spike Recovery (%): MSD	Recovery Limits (%): Low	Recovery Limits (%): High	RPDs (%): Value	RPDs (%): Control Limit
EK057G: Nitrite as N by Discrete Analyser (QCLot: 3844879)										
ES1504836-075	Anonymous	EK057G: Nitrite as N	----	0.5 mg/L	102	----	70	130	----	----
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3850139)										
ES1505268-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	107	----	70	130	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3850139)										
ES1505268-001	Anonymous									

Sub-Matrix: **WATER**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3850139) - continued										
ES1505268-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	106	----	70	130	----	----
EP080: BTEXN (QCLot: 3850139)										
ES1505268-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	77.7	----	70	130	----	----
		EP080: Toluene	108-88-3	25 µg/L	81.3	----	70	130	----	----
		EP080: Ethylbenzene	100-41-4	25 µg/L	82.9	----	70	130	----	----
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	78.3	----	70	130	----	----
		EP080: ortho-Xylene	95-47-6	25 µg/L	83.7	----	70	130	----	----
		EP080: Naphthalene	91-20-3	25 µg/L	97.9	----	70	130	----	----
EG020T: Total Metals by ICP-MS (QCLot: 3850667)										
ES1504998-071	RINSATE 18	EG020A-T: Arsenic	7440-38-2	1 mg/L	91.6	----	70	130	----	----
		EG020A-T: Cadmium	7440-43-9	0.250 mg/L	92.8	----	70	130	----	----
		EG020A-T: Chromium	7440-47-3	1 mg/L	94.7	----	70	130	----	----
		EG020A-T: Copper	7440-50-8	1 mg/L	93.7	----	70	130	----	----
		EG020A-T: Lead	7439-92-1	1 mg/L	94.8	----	70	130	----	----
		EG020A-T: Manganese	7439-96-5	1 mg/L	99.3	----	70	130	----	----
		EG020A-T: Nickel	7440-02-0	1 mg/L	92.0	----	70	130	----	----
		EG020A-T: Zinc	7440-66-6	1 mg/L	96.6	----	70	130	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 3852007)										
ES1504998-071	RINSATE 18	EK061G: Total Kjeldahl Nitrogen as N	----	5 mg/L	93.2	----	70	130	----	----
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 3852008)										
ES1504998-071	RINSATE 18	EK067G: Total Phosphorus as P	----	1.0 mg/L	109	----	70	130	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 3852012)										
ES1504836-075	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.5 mg/L	103	----	70	130	----	----
EK055G: Ammonia as N by Discrete Analyser (QCLot: 3852013)										
ES1504836-075	Anonymous	EK055G: Ammonia as N	7664-41-7	1 mg/L	101	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3859847)										
ES1505536-001	Anonymous	EG035T: Mercury	7439-97-6	0.010 mg/L	84.4	----	70	130	----	----

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1504998**	Page	: 1 of 23
Client	: AURECON AUSTRALASIA PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 03-MAR-2015
Sampler	: GK	Issue Date	: 30-MAR-2015
Order number	: 245553		
		No. of samples received	: 71
Quote number	: SY/1021/14 V2	No. of samples analysed	: 71

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with recommended holding times (USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content							
Soil Glass Jar - Unpreserved (EA055-103)							
BH24 0.0-0.2A, BH24 0.0-0.2B, BH26 0.0-0.2A, BH26 0.0-0.2B, BH31 0.0-0.5A, BH31 0.5-1.0A, BH31 1.0-1.3A, BH31 0.3V, BH31 0.7V, BH31 1.3V, BH33 0.0-0.5A, BH33 0.5-1.0A, BH33 1.0-1.5A, BH33 1.5-1.8A, BH33 0.3V, BH33 0.7V, BH33 1.3V, BH33 1.7V, BH34 0.3V, BH34 0.0-0.5A, BH34 0.5-1.0A, BH34 1.0-1.6A, BH34 0.7V, BH34 1.3V, BH35 0.0-0.7A, BH35 0.3V, BH35 0.7V, BH36 0.0-0.4A, BH36 0.3V, BH39 0.0-0.5A, BH369 0.5-1.0A, BH39 1.0-1.5A, BH39 1.5-1.8A, BH39 0.3V, BH39 0.7V, BH39 1.3V, BH40 0.0-0.5A, BH40 0.3V, BH40 0.5-1.0A, BH40 1.0-1.2A, BH40 0.7V, BH41 0.0-0.5A, BH41 0.3V, BH43 0.0-0.5A, BH43 0.3V, BH45 0.0-0.5A, BH45 0.5-0.8A, BH45 0.3V, BH45 0.7V, BH46 0.0-0.6A, BH46 0.3V	**27-FEB-2015**	**----**	----	----	**12-MAR-2015**	13-MAR-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA150: Particle Sizing							
Snap Lock Bag (EA150H)							
BH24 0.0-0.2B, BH26 0.0-0.2B, BH31 0.0-0.5B, BH31 0.5-1.0B, BH33 0.0-0.5B, BH33 0.5-1.0B, BH33 1.0-1.5B, BH34 0.0-0.5B, BH34 0.5-1.0B, BH34 1.0-1.6B, BH35 0.0-0.7B, BH39 0.0-0.5B, BH39 0.5-1.0B, BH39 1.0 - 1.5B, BH39 1.5-1.8B, BH40 0.5-1.0B, BH41 0.0-0.5B, BH43 0.0-0.5B, BH45 0.0-0.5B, BH46 0.0-0.6B	**27-FEB-2015**	---	26-AUG-2015	----	**24-MAR-2015**	26-AUG-2015	✓
EA150: Soil Classification based on Particle Size							
Snap Lock Bag (EA150H)							
BH24 0.0-0.2B, BH26 0.0-0.2B, BH31 0.0-0.5B, BH31 0.5-1.0B, BH33 0.0-0.5B, BH33 0.5-1.0B, BH33 1.0-1.5B, BH34 0.0-0.5B, BH34 0.5-1.0B, BH34 1.0-1.6B, BH35 0.0-0.7B, BH39 0.0-0.5B, BH39 0.5-1.0B, BH39 1.0 - 1.5B, BH39 1.5-1.8B, BH40 0.5-1.0B, BH41 0.0-0.5B, BH43 0.0-0.5B, BH45 0.0-0.5B, BH46 0.0-0.6B	**27-FEB-2015**	---	26-AUG-2015	----	**24-MAR-2015**	26-AUG-2015	✓
EA152: Soil Particle Density							
Snap Lock Bag (EA152)							
BH24 0.0-0.2B, BH26 0.0-0.2B, BH31 0.0-0.5B, BH31 0.5-1.0B, BH33 0.0-0.5B, BH33 0.5-1.0B, BH33 1.0-1.5B, BH34 0.0-0.5B, BH34 0.5-1.0B, BH34 1.0-1.6B, BH35 0.0-0.7B, BH39 0.0-0.5B, BH39 0.5-1.0B, BH39 1.0 - 1.5B, BH39 1.5-1.8B, BH40 0.5-1.0B, BH41 0.0-0.5B, BH43 0.0-0.5B, BH45 0.0-0.5B, BH46 0.0-0.6B	**27-FEB-2015**	---	26-AUG-2015	----	**30-MAR-2015**	26-AUG-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005-SD: Total Metals in Sediments by ICP-AES							
Soil Glass Jar - Unpreserved (EG005-SD)							
BH24 0.0-0.2A,	BH26 0.0-0.2A,	**27-FEB-2015**	**13-MAR-2015**	26-AUG-2015	✓	**14-MAR-2015**	26-AUG-2015	✓
BH31 0.0-0.5A,	BH31 0.5-1.0A,						
BH31 1.0-1.3A,	BH33 0.0-0.5A,						
BH33 0.5-1.0A,	BH33 1.0-1.5A,						
BH33 1.5-1.8A,	BH34 0.0-0.5A,						
BH34 0.5-1.0A,	BH34 1.0-1.6A,						
BH35 0.0-0.7A,	BH36 0.0-0.4A,						
BH39 0.0-0.5A,	BH369 0.5-1.0A,						
BH39 1.0-1.5A,	BH39 1.5-1.8A,						
BH40 0.0-0.5A,	BH40 0.5-1.0A,						
BH40 1.0-1.2A,	BH41 0.0-0.5A,						
BH43 0.0-0.5A,	BH45 0.0-0.5A,						
BH45 0.5-0.8A,	BH46 0.0-0.6A						
EG020-SD: Total Metals in Sediments by ICPMS							
Soil Glass Jar - Unpreserved (EG020-SD)							
BH24 0.0-0.2A,	BH26 0.0-0.2A,	**27-FEB-2015**	**13-MAR-2015**	26-AUG-2015	✓	**14-MAR-2015**	26-AUG-2015	✓
BH31 0.0-0.5A,	BH31 0.5-1.0A,						
BH31 1.0-1.3A,	BH33 0.0-0.5A,						
BH33 0.5-1.0A,	BH33 1.0-1.5A,						
BH33 1.5-1.8A,	BH34 0.0-0.5A,						
BH34 0.5-1.0A,	BH34 1.0-1.6A,						
BH35 0.0-0.7A,	BH36 0.0-0.4A,						
BH39 0.0-0.5A,	BH369 0.5-1.0A,						
BH39 1.0-1.5A,	BH39 1.5-1.8A,						
BH40 0.0-0.5A,	BH40 0.5-1.0A,						
BH40 1.0-1.2A,	BH41 0.0-0.5A,						
BH43 0.0-0.5A,	BH45 0.0-0.5A,						
BH45 0.5-0.8A,	BH46 0.0-0.6A						

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T-LL)							
BH24 0.0-0.2A, BH26 0.0-0.2A, BH31 0.0-0.5A, BH31 0.5-1.0A, BH31 1.0-1.3A, BH33 0.0-0.5A, BH33 0.5-1.0A, BH33 1.0-1.5A, BH33 1.5-1.8A, BH34 0.0-0.5A, BH34 0.5-1.0A, BH34 1.0-1.6A, BH35 0.0-0.7A, BH36 0.0-0.4A, BH39 0.0-0.5A, BH369 0.5-1.0A, BH39 1.0-1.5A, BH39 1.5-1.8A, BH40 0.0-0.5A, BH40 0.5-1.0A, BH40 1.0-1.2A, BH41 0.0-0.5A, BH43 0.0-0.5A, BH45 0.0-0.5A, BH45 0.5-0.8A, BH46 0.0-0.6A	**27-FEB-2015**	**13-MAR-2015**	27-MAR-2015	✓	**16-MAR-2015**	27-MAR-2015	✓
EK057G: Nitrite as N by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK057G)							
BH24 0.0-0.2A, BH26 0.0-0.2A, BH31 0.0-0.5A, BH31 0.5-1.0A, BH31 1.0-1.3A, BH33 0.0-0.5A, BH33 0.5-1.0A, BH33 1.0-1.5A, BH33 1.5-1.8A, BH34 0.0-0.5A, BH34 0.5-1.0A, BH34 1.0-1.6A, BH35 0.0-0.7A, BH36 0.0-0.4A, BH39 0.0-0.5A, BH369 0.5-1.0A, BH39 1.0-1.5A, BH39 1.5-1.8A, BH40 0.0-0.5A, BH40 0.5-1.0A, BH40 1.0-1.2A, BH41 0.0-0.5A, BH43 0.0-0.5A, BH45 0.0-0.5A, BH45 0.5-0.8A, BH46 0.0-0.6A	**27-FEB-2015**	**16-MAR-2015**	26-AUG-2015	✓	**16-MAR-2015**	26-AUG-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK059G)							
BH24 0.0-0.2A, BH26 0.0-0.2A, BH31 0.0-0.5A, BH31 0.5-1.0A, BH31 1.0-1.3A, BH33 0.0-0.5A, BH33 0.5-1.0A, BH33 1.0-1.5A, BH33 1.5-1.8A, BH34 0.0-0.5A, BH34 0.5-1.0A, BH34 1.0-1.6A, BH35 0.0-0.7A, BH36 0.0-0.4A, BH39 0.0-0.5A, BH369 0.5-1.0A, BH39 1.0-1.5A, BH39 1.5-1.8A, BH40 0.0-0.5A, BH40 0.5-1.0A, BH40 1.0-1.2A, BH41 0.0-0.5A, BH43 0.0-0.5A, BH45 0.0-0.5A, BH45 0.5-0.8A, BH46 0.0-0.6A	**27-FEB-2015**	**16-MAR-2015**	26-AUG-2015	✓	**16-MAR-2015**	26-AUG-2015	✓
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser							
Soil Glass Jar - Unpreserved (EK061G)							
BH24 0.0-0.2A, BH26 0.0-0.2A, BH31 0.0-0.5A, BH31 0.5-1.0A, BH31 1.0-1.3A, BH33 0.0-0.5A, BH33 0.5-1.0A, BH33 1.0-1.5A, BH33 1.5-1.8A, BH34 0.0-0.5A, BH34 0.5-1.0A, BH34 1.0-1.6A, BH35 0.0-0.7A, BH36 0.0-0.4A, BH39 0.0-0.5A, BH369 0.5-1.0A	**27-FEB-2015**	**11-MAR-2015**	26-AUG-2015	✓	**11-MAR-2015**	26-AUG-2015	✓
Soil Glass Jar - Unpreserved (EK061G)							
BH39 1.0-1.5A, BH39 1.5-1.8A, BH40 0.0-0.5A, BH40 0.5-1.0A, BH40 1.0-1.2A, BH41 0.0-0.5A, BH43 0.0-0.5A, BH45 0.0-0.5A, BH45 0.5-0.8A, BH46 0.0-0.6A	**27-FEB-2015**	**16-MAR-2015**	26-AUG-2015	✓	**16-MAR-2015**	26-AUG-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK067G: Total Phosphorus as P by Discrete Analyser							
Soil Glass Jar - Unpreserved (EK067G)							
BH24 0.0-0.2A, BH26 0.0-0.2A, BH31 0.0-0.5A, BH31 0.5-1.0A, BH31 1.0-1.3A, BH33 0.0-0.5A, BH33 0.5-1.0A, BH33 1.0-1.5A, BH33 1.5-1.8A, BH34 0.0-0.5A, BH34 0.5-1.0A, BH34 1.0-1.6A, BH35 0.0-0.7A, BH36 0.0-0.4A, BH39 0.0-0.5A, BH369 0.5-1.0A	**27-FEB-2015**	**11-MAR-2015**	26-AUG-2015	✓	**11-MAR-2015**	26-AUG-2015	✓
Soil Glass Jar - Unpreserved (EK067G)							
BH39 1.0-1.5A, BH39 1.5-1.8A, BH40 0.0-0.5A, BH40 0.5-1.0A, BH40 1.0-1.2A, BH41 0.0-0.5A, BH43 0.0-0.5A, BH45 0.0-0.5A, BH45 0.5-0.8A, BH46 0.0-0.6A	**27-FEB-2015**	**16-MAR-2015**	26-AUG-2015	✓	**16-MAR-2015**	26-AUG-2015	✓
EK255A SD Ammonia in Sediment							
Soil Glass Jar - Unpreserved (EK255A SD)							
BH24 0.0-0.2A, BH26 0.0-0.2A, BH31 0.0-0.5A, BH31 0.5-1.0A, BH31 1.0-1.3A, BH33 0.0-0.5A, BH33 0.5-1.0A, BH33 1.0-1.5A, BH33 1.5-1.8A, BH34 0.0-0.5A, BH34 0.5-1.0A, BH34 1.0-1.6A, BH35 0.0-0.7A, BH36 0.0-0.4A, BH39 0.0-0.5A, BH369 0.5-1.0A, BH39 1.0-1.5A, BH39 1.5-1.8A, BH40 0.0-0.5A, BH40 0.5-1.0A, BH40 1.0-1.2A, BH41 0.0-0.5A, BH43 0.0-0.5A, BH45 0.0-0.5A, BH45 0.5-0.8A, BH46 0.0-0.6A	**27-FEB-2015**	**----**	----	----	**09-MAR-2015**	26-AUG-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP003: Total Organic Carbon (TOC) in Soil							
Pulp Bag (EP003)							
BH24 0.0-0.2A, BH26 0.0-0.2A, BH31 0.0-0.5A, BH31 0.5-1.0A, BH31 1.0-1.3A, BH33 0.0-0.5A, BH33 0.5-1.0A, BH33 1.0-1.5A, BH33 1.5-1.8A, BH34 0.0-0.5A, BH34 0.5-1.0A, BH34 1.0-1.6A, BH35 0.0-0.7A, BH36 0.0-0.4A, BH39 0.0-0.5A, BH369 0.5-1.0A, BH39 1.0-1.5A, BH39 1.5-1.8A, BH40 0.0-0.5A, BH40 0.5-1.0A, BH40 1.0-1.2A, BH41 0.0-0.5A, BH43 0.0-0.5A, BH45 0.0-0.5A, BH45 0.5-0.8A, BH46 0.0-0.6A	**27-FEB-2015**	**16-MAR-2015**	27-MAR-2015	✓	**16-MAR-2015**	27-MAR-2015	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013							
Soil Glass Jar - Unpreserved (EP071-SD)							
BH24 0.0-0.2A, BH26 0.0-0.2A, BH31 0.0-0.5A, BH31 0.5-1.0A, BH31 1.0-1.3A, BH33 0.0-0.5A, BH33 0.5-1.0A, BH33 1.0-1.5A, BH33 1.5-1.8A, BH34 0.0-0.5A, BH34 0.5-1.0A, BH34 1.0-1.6A, BH35 0.0-0.7A, BH36 0.0-0.4A, BH39 0.0-0.5A, BH369 0.5-1.0A, BH39 1.0-1.5A, BH39 1.5-1.8A, BH40 0.0-0.5A, BH40 0.5-1.0A	**27-FEB-2015**	**10-MAR-2015**	13-MAR-2015	✓	**12-MAR-2015**	19-APR-2015	✓
Soil Glass Jar - Unpreserved (EP071-SD)							
BH40 1.0-1.2A, BH41 0.0-0.5A, BH43 0.0-0.5A, BH45 0.0-0.5A, BH45 0.5-0.8A, BH46 0.0-0.6A, TRIP BLANK	**27-FEB-2015**	**11-MAR-2015**	13-MAR-2015	✓	**16-MAR-2015**	20-APR-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080-SD: BTEXN								
Soil Glass Jar - Unpreserved (EP080-SD)								
BH40 0.3V,	BH40 0.7V,	**27-FEB-2015**	**09-MAR-2015**	13-MAR-2015	✓	**12-MAR-2015**	13-MAR-2015	✓
BH41 0.3V,	BH43 0.3V,							
BH45 0.3V,	BH45 0.7V,							
BH46 0.3V,	TRIP BLANK							
Soil Glass Jar - Unpreserved (EP080-SD)								
BH24 0.0-0.2A,	BH24 0.0-0.2B,	**27-FEB-2015**	**09-MAR-2015**	13-MAR-2015	✓	**13-MAR-2015**	13-MAR-2015	✓
BH26 0.0-0.2A,	BH26 0.0-0.2B,							
BH31 0.3V,	BH31 0.7V,							
BH31 1.3V,	BH33 0.3V,							
BH33 0.7V,	BH33 1.3V,							
BH33 1.7V,	BH34 0.3V,							
BH34 0.7V,	BH34 1.3V,							
BH35 0.3V,	BH35 0.7V,							
BH36 0.3V,	BH39 0.3V,							
BH39 0.7V,	BH39 1.3V							
EP080-SD / EP071-SD: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080-SD)								
BH40 0.3V,	BH40 0.7V,	**27-FEB-2015**	**09-MAR-2015**	13-MAR-2015	✓	**12-MAR-2015**	13-MAR-2015	✓
BH41 0.3V,	BH43 0.3V,							
BH45 0.3V,	BH45 0.7V,							
BH46 0.3V,	TRIP BLANK							
Soil Glass Jar - Unpreserved (EP080-SD)								
BH24 0.0-0.2A,	BH24 0.0-0.2B,	**27-FEB-2015**	**09-MAR-2015**	13-MAR-2015	✓	**13-MAR-2015**	13-MAR-2015	✓
BH26 0.0-0.2A,	BH26 0.0-0.2B,							
BH31 0.3V,	BH31 0.7V,							
BH31 1.3V,	BH33 0.3V,							
BH33 0.7V,	BH33 1.3V,							
BH33 1.7V,	BH34 0.3V,							
BH34 0.7V,	BH34 1.3V,							
BH35 0.3V,	BH35 0.7V,							
BH36 0.3V,	BH39 0.3V,							
BH39 0.7V,	BH39 1.3V							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP090: Organotin Compounds							
Soil Glass Jar - Unpreserved (EP090)							
BH24 0.0-0.2A, BH26 0.0-0.2A, BH31 0.0-0.5A, BH31 0.5-1.0A, BH31 1.0-1.3A, BH33 0.0-0.5A, BH33 0.5-1.0A, BH33 1.0-1.5A, BH33 1.5-1.8A, BH34 0.0-0.5A, BH34 0.5-1.0A, BH34 1.0-1.6A, BH35 0.0-0.7A, BH36 0.0-0.4A, BH39 0.0-0.5A, BH369 0.5-1.0A, BH39 1.0-1.5A, BH39 1.5-1.8A, BH40 0.0-0.5A, BH40 0.5-1.0A, BH40 1.0-1.2A, BH41 0.0-0.5A, BH43 0.0-0.5A, BH45 0.0-0.5A, BH45 0.5-0.8A, BH46 0.0-0.6A	**27-FEB-2015**	**13-MAR-2015**	13-MAR-2015	✓	**16-MAR-2015**	22-APR-2015	✓
EP130A: Organophosphorus Pesticides (Ultra-trace)							
Soil Glass Jar - Unpreserved (EP130)							
BH24 0.0-0.2A, BH26 0.0-0.2A, BH31 0.0-0.5A, BH31 0.5-1.0A, BH31 1.0-1.3A, BH33 0.0-0.5A, BH33 0.5-1.0A, BH33 1.0-1.5A, BH33 1.5-1.8A, BH34 0.0-0.5A, BH34 0.5-1.0A, BH34 1.0-1.6A, BH35 0.0-0.7A, BH36 0.0-0.4A, BH39 0.0-0.5A, BH369 0.5-1.0A, BH39 1.0-1.5A, BH39 1.5-1.8A, BH40 0.0-0.5A, BH40 0.5-1.0A	**27-FEB-2015**	**10-MAR-2015**	13-MAR-2015	✓	**13-MAR-2015**	19-APR-2015	✓
Soil Glass Jar - Unpreserved (EP130)							
BH40 1.0-1.2A, BH41 0.0-0.5A, BH43 0.0-0.5A, BH45 0.0-0.5A, BH45 0.5-0.8A, BH46 0.0-0.6A	**27-FEB-2015**	**11-MAR-2015**	13-MAR-2015	✓	**16-MAR-2015**	20-APR-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP131A: Organochlorine Pesticides							
Soil Glass Jar - Unpreserved (EP131A)							
BH24 0.0-0.2A, BH26 0.0-0.2A, BH31 0.0-0.5A, BH31 0.5-1.0A, BH31 1.0-1.3A, BH33 0.0-0.5A, BH33 0.5-1.0A, BH33 1.0-1.5A, BH33 1.5-1.8A, BH34 0.0-0.5A, BH34 0.5-1.0A, BH34 1.0-1.6A, BH35 0.0-0.7A, BH36 0.0-0.4A, BH39 0.0-0.5A, BH369 0.5-1.0A, BH39 1.0-1.5A, BH39 1.5-1.8A, BH40 0.0-0.5A, BH40 0.5-1.0A	**27-FEB-2015**	**10-MAR-2015**	13-MAR-2015	✓	**13-MAR-2015**	19-APR-2015	✓
Soil Glass Jar - Unpreserved (EP131A)							
BH40 1.0-1.2A, BH41 0.0-0.5A, BH43 0.0-0.5A, BH45 0.0-0.5A, BH45 0.5-0.8A, BH46 0.0-0.6A	**27-FEB-2015**	**11-MAR-2015**	13-MAR-2015	✓	**16-MAR-2015**	20-APR-2015	✓
EP131B: Polychlorinated Biphenyls (as Aroclors)							
Soil Glass Jar - Unpreserved (EP131B)							
BH24 0.0-0.2A, BH26 0.0-0.2A, BH31 0.0-0.5A, BH31 0.5-1.0A, BH31 1.0-1.3A, BH33 0.0-0.5A, BH33 0.5-1.0A, BH33 1.0-1.5A, BH33 1.5-1.8A, BH34 0.0-0.5A, BH34 0.5-1.0A, BH34 1.0-1.6A, BH35 0.0-0.7A, BH36 0.0-0.4A, BH39 0.0-0.5A, BH369 0.5-1.0A, BH39 1.0-1.5A, BH39 1.5-1.8A, BH40 0.0-0.5A, BH40 0.5-1.0A	**27-FEB-2015**	**10-MAR-2015**	13-MAR-2015	✓	**13-MAR-2015**	19-APR-2015	✓
Soil Glass Jar - Unpreserved (EP131B)							
BH40 1.0-1.2A, BH41 0.0-0.5A, BH43 0.0-0.5A, BH45 0.0-0.5A, BH45 0.5-0.8A, BH46 0.0-0.6A	**27-FEB-2015**	**11-MAR-2015**	13-MAR-2015	✓	**16-MAR-2015**	20-APR-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP132B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP132B-SD)							
BH24 0.0-0.2A, BH26 0.0-0.2A, BH31 0.0-0.5A, BH31 0.5-1.0A, BH31 1.0-1.3A, BH33 0.0-0.5A, BH33 0.5-1.0A, BH33 1.0-1.5A, BH33 1.5-1.8A, BH34 0.0-0.5A, BH34 0.5-1.0A, BH34 1.0-1.6A, BH35 0.0-0.7A, BH36 0.0-0.4A, BH39 0.0-0.5A, BH369 0.5-1.0A, BH39 1.0-1.5A, BH39 1.5-1.8A, BH40 0.0-0.5A, BH40 0.5-1.0A	**27-FEB-2015**	**10-MAR-2015**	13-MAR-2015	✓	**12-MAR-2015**	19-APR-2015	✓
Soil Glass Jar - Unpreserved (EP132B-SD)							
BH40 1.0-1.2A, BH41 0.0-0.5A, BH43 0.0-0.5A, BH45 0.0-0.5A, BH45 0.5-0.8A, BH46 0.0-0.6A	**27-FEB-2015**	**11-MAR-2015**	13-MAR-2015	✓	**16-MAR-2015**	20-APR-2015	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG020A-T)							
RINSATE 18	**27-FEB-2015**	**09-MAR-2015**	26-AUG-2015	✓	**09-MAR-2015**	26-AUG-2015	✓
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG020B-T)							
RINSATE 18	**27-FEB-2015**	**09-MAR-2015**	26-AUG-2015	✓	**09-MAR-2015**	26-AUG-2015	✓
EG035T: Total Recoverable Mercury by FIMS							
Clear Plastic Bottle - Unspecified; Lab-acidified (EG035T)							
RINSATE 18	**27-FEB-2015**	**----**	----	----	**16-MAR-2015**	27-MAR-2015	✓
EK055G: Ammonia as N by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK055G)							
RINSATE 18	**27-FEB-2015**	**---**	27-MAR-2015	----	**10-MAR-2015**	27-MAR-2015	✓
EK057G: Nitrite as N by Discrete Analyser							
Clear Plastic Bottle - Natural (EK057G)							
RINSATE 18	**27-FEB-2015**	**---**	01-MAR-2015	----	**04-MAR-2015**	01-MAR-2015	×
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK059G)							
RINSATE 18	**27-FEB-2015**	**---**	27-MAR-2015	----	**10-MAR-2015**	27-MAR-2015	✓
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK061G)							
RINSATE 18	**27-FEB-2015**	**10-MAR-2015**	27-MAR-2015	✓	**10-MAR-2015**	27-MAR-2015	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK067G: Total Phosphorus as P by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK067G)							
RINSATE 18	**27-FEB-2015**	**10-MAR-2015**	27-MAR-2015	✓	**10-MAR-2015**	27-MAR-2015	✓
EP066: Polychlorinated Biphenyls (PCB)							
Amber Glass Bottle - Unpreserved (EP066)							
RINSATE 18	**27-FEB-2015**	**05-MAR-2015**	06-MAR-2015	✓	**07-MAR-2015**	14-APR-2015	✓
EP068A: Organochlorine Pesticides (OC)							
Amber Glass Bottle - Unpreserved (EP068)							
RINSATE 18	**27-FEB-2015**	**05-MAR-2015**	06-MAR-2015	✓	**08-MAR-2015**	14-APR-2015	✓
EP068B: Organophosphorus Pesticides (OP)							
Amber Glass Bottle - Unpreserved (EP068)							
RINSATE 18	**27-FEB-2015**	**05-MAR-2015**	06-MAR-2015	✓	**08-MAR-2015**	14-APR-2015	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
RINSATE 18	**27-FEB-2015**	**05-MAR-2015**	06-MAR-2015	✓	**07-MAR-2015**	14-APR-2015	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
RINSATE 18	**27-FEB-2015**	**05-MAR-2015**	06-MAR-2015	✓	**07-MAR-2015**	14-APR-2015	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
RINSATE 18	**27-FEB-2015**	**07-MAR-2015**	13-MAR-2015	✓	**07-MAR-2015**	13-MAR-2015	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber VOC Vial - Sulfuric Acid (EP080)							
RINSATE 18	**27-FEB-2015**	**07-MAR-2015**	13-MAR-2015	✓	**07-MAR-2015**	13-MAR-2015	✓
EP090: Organotin Compounds							
Amber Glass Bottle - Unpreserved (EP090H)							
RINSATE 18	**27-FEB-2015**	**05-MAR-2015**	06-MAR-2015	✓	**06-MAR-2015**	14-APR-2015	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: ✗ = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Ammonia in Sediments	EK255A SD	4	34	**11.8**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Moisture Content	EA055-103	5	51	**9.8**	**10.0**	✗	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	3	26	**11.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	3	26	**11.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	4	34	**11.8**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	4	34	**11.8**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	4	26	**15.4**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	4	34	**11.8**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	4	34	**11.8**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	4	42	**9.5**	**9.5**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	3	26	**11.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	3	26	**11.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	3	26	**11.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	3	26	**11.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	4	40	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	4	36	**11.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	4	32	**12.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Ammonia in Sediments	EK255A SD	2	34	**5.9**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	2	26	**7.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	2	26	**7.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	2	34	**5.9**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	2	34	**5.9**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	2	26	**7.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	2	34	**5.9**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	2	34	**5.9**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	6	42	**14.3**	**14.3**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	26	**7.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	26	**7.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	26	**7.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	2	26	**7.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	6	40	**15.0**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	2	36	**5.6**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	2	32	**6.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Method Blanks (MB)							
Ammonia in Sediments	EK255A SD	2	34	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	2	26	7.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	2	26	7.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	2	34	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	2	34	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	2	26	7.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	2	34	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	2	34	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	2	42	4.8	4.8	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	26	7.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	26	7.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	26	7.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Organic Carbon	EP003	2	26	7.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	2	40	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	2	36	5.6	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	2	32	6.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia in Sediments	EK255A SD	2	34	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	2	26	7.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N - Soluble by Discrete Analyser	EK057G	2	26	7.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organochlorine Pesticides (Ultra-trace)	EP131A	2	34	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organophosphorus Pesticides (Ultra-trace)	EP130	2	34	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Analysis	EP090	2	26	7.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAHs in Sediments by GCMS(SIM)	EP132B-SD	2	34	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PCB's (Ultra-trace)	EP131B	2	34	5.9	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TKN as N By Discrete Analyser	EK061G	2	42	4.8	4.8	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	26	7.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	26	7.7	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosporus By Discrete Analyser	EK067G	2	40	5.0	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TPH - Semivolatile Fraction	EP071-SD	2	36	5.6	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX in Sediments	EP080-SD	2	32	6.3	5.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Ammonia as N by Discrete analyser	EK055G	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	2	20	10.0	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	9	11.1	10.0	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP) - Continued							
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	2	19	**10.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	6	**16.7**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	3	**33.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	2	20	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Ammonia as N by Discrete analyser	EK055G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Compounds (Soluble)	EP090H	1	2	**50.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	5	**20.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	4	**25.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	6	**16.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	3	19	**15.8**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	6	**16.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	3	**33.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	3	20	**15.0**	**15.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	11	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Ammonia as N by Discrete analyser	EK055G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Organotin Compounds (Soluble)	EP090H	1	2	**50.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	5	**20.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Pesticides by GCMS	EP068	1	4	**25.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Polychlorinated Biphenyls (PCB)	EP066	1	6	**16.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	6	**16.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite B	EG020B-T	1	3	**33.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH - Semivolatile Fraction	EP071	1	11	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Ammonia as N by Discrete analyser	EK055G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Nitrite as N by Discrete Analyser	EK057G	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Matrix Spikes (MS) - Continued							
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	19	**5.3**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS	EG035T	1	6	**16.7**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Phosphorus as P By Discrete Analyser	EK067G	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
TRH Volatiles/BTEX	EP080	1	20	**5.0**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055-103	SOIL	In-house. A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Particle Size Analysis by Hydrometer	EA150H	SOIL	Particle Size Analysis by Hydrometer according to AS1289.3.6.3 - 2003
Soil Particle Density	* EA152	SOIL	Soil Particle Density by AS 1289.3.5.1-2006 : Methods of testing soils for engineering purposes - Soil classification tests - Determination of the soil particle density of a soil - Standard method
Total Fe and Al in Sediments by ICPAES	EG005-SD	SOIL	In house: Referenced to APHA 21st ed., 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3). LORs per NODG
Total Metals in Sediments by ICPMS	EG020-SD	SOIL	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector. Analyte list and LORs per NODG.
Total Mercury by FIMS (Low Level)	EG035T-LL	SOIL	In house: Referenced to AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Nitrite as N - Soluble by Discrete Analyser	EK057G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3- B. Nitrite in a water extract is determined by direct colourimetry by Discrete Analyser.
Nitrate as N - Soluble by Discrete Analyser	EK058G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3--F. Nitrate in the 1:5 soil:water extract is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results.
Nitrite and Nitrate as N (NOx)- Soluble by Discrete Analyser	EK059G	SOIL	In house: Referenced to APHA 21st ed., 4500 NO3- F. Combined oxidised Nitrogen (NO2+NO3) in a water extract is determined by Chemical Reduction, and direct colourimetry by Discrete Analyser.
TKN as N By Discrete Analyser	EK061G	SOIL	In house: Referenced to APHA 21st ed., 4500-Norg-D Soil samples are digested using Kjeldahl digestion followed by determination by Discrete Analyser.
Total Nitrogen as N (TKN + NOx) By Discrete Analyser	EK062G	SOIL	In house: Referenced to APHA 21st ed., 4500 Norg/NO3- Total Nitrogen is determined as the sum of TKN and Oxidised Nitrrogen, each determined seperately as N.
Total Phosporus By Discrete Analyser	EK067G	SOIL	In house: Referenced to APHA 21st ed., 4500 P-B&F This procedure involves sulfuric acid digestion and quantification using Discrete Analyser.
Ammonia in Sediments	EK255A SD	SOIL	Rayment and Higginson (1992) Method 7C1 and 7C2. This method measures exchangeable ammonium which is defined by the amount of ammonium released by shaking sediment with an un-buffered 2M potassium chloride solution.

Analytical Methods	Method	Matrix	Method Descriptions
Total Organic Carbon	EP003	SOIL	In-house C-IR17. Dried and pulverised sample is reacted with acid to remove inorganic Carbonates, then combusted in a LECO furnace in the presence of strong oxidants / catalysts. The evolved (Organic) Carbon (as CO2) is automaticaly measured by infra-red detector.
TPH - Semivolatile Fraction	EP071-SD	SOIL	(USEPA SW 846 - 8270B) Extracts are analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 504)
TRH Volatiles/BTEX in Sediments	EP080-SD	SOIL	(USEPA SW 846 - 8260B) Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve.
Organotin Analysis	EP090	SOIL	(USEPA SW 846 - 8270D) Prepared sample extracts are analysed by GC/MS coupled with high volume injection, and quanitified against an established calibration curve.
Organophosphorus Pesticides (Ultra-trace)	EP130	SOIL	USEPA Method 3640 (GPC cleanup), 8141 (GC/FPD - Capillary Column) This technique is compliant with NEPM (2013) Schedule B(3) (Method 505)
Organochlorine Pesticides (Ultra-trace)	EP131A	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (2013) Schedule B(3) (Method 504)
PCB's (Ultra-trace)	EP131B	SOIL	USEPA Method 3640 (GPC cleanup),3620 (Florisil), 8081/8082 (GC/uECD/uECD) This technique is compliant with NEPM (2013) Schedule B(3) (Method 504)
PAHs in Sediments by GCMS(SIM)	EP132B-SD	SOIL	USEPA 8270 GCMS Capillary column, SIM mode using large volume programmed temperature vaporisation injection.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Metals by ICP-MS - Suite B	EG020B-T	WATER	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Mercury by FIMS	EG035T	WATER	In house: Referenced to AS 3550, APHA 21st ed. 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Ammonia as N by Discrete analyser	EK055G	WATER	In house: Referenced to APHA 21st ed., 4500-NH3 G Ammonia is determined by direct colorimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Nitrite as N by Discrete Analyser	EK057G	WATER	In house: Referenced to APHA 21st ed., 4500-NO2- B. Nitrite is determined by direct colourimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Nitrate as N by Discrete Analyser	EK058G	WATER	In house: Referenced to APHA 21st ed., 4500-NO3- F. Nitrate is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results. This method is compliant with NEPM (2013) Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	WATER	In house: Referenced to APHA 21st ed., 4500-NO3- F. Combined oxidised Nitrogen (NO2+NO3) is determined by Chemical Reduction and direct colourimetry by Discrete Analyser. This method is compliant with NEPM (2013) Schedule B(3)
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	WATER	In house: Referenced to APHA 21st ed., 4500-Norg D (In house). An aliquot of sample is digested using a high temperature Kjeldahl digestion to convert nitrogenous compounds to ammonia. Ammonia is determined colorimetrically by discrete analyser. This method is compliant with NEPM (2013) Schedule B(3)
Total Nitrogen as N (TKN + Nox) By Discrete Analyser	EK062G	WATER	In house: Referenced to APHA 21st ed., 4500-Norg / 4500-NO3-. This method is compliant with NEPM (2013) Schedule B(3)
Total Phosphorus as P By Discrete Analyser	EK067G	WATER	In house: Referenced to APHA 21st ed., 4500-P H, Jirka et al (1976), Zhang et al (2006). This procedure involves sulphuric acid digestion of a sample aliquot to break phosphorus down to orthophosphate. The orthophosphate reacts with ammonium molybdate and antimony potassium tartrate to form a complex which is then reduced and its concentration measured at 880nm using discrete analyser. This method is compliant with NEPM (2013) Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Pesticides by GCMS	EP068	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH - Semivolatile Fraction	EP071	WATER	USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
Organotin Compounds (Soluble)	EP090H	WATER	(USEPA SW 846 - 8270D, ALS QWI-ORG/EP090) Sample extracts (ALS QWI-ORG/035) are analysed by GC/MS coupled with high volume injection (10-50µL). Quantitation is achieved using internal standard and average response factor quantitation techniques against an established five-point curve. Butyltin results are reported in either "as tin" units eg. ng Sn/L or "ng TBT+/L". The analytical standards are prepared in "as tin" units. Sample results are converted to TBT+ results as required.

Preparation Methods	Method	Matrix	Method Descriptions
TKN/TP Digestion	EK061/EK067	SOIL	APHA 21st ed., 4500 Norg- D; APHA 21st ed., 4500 P - H. Macro Kjeldahl digestion.
1:5 solid / water leach for soluble analytes	EN34	SOIL	10 g of soil is mixed with 50 mL of distilled water and tumbled end over end for 1 hour. Water soluble salts are leached from the soil by the continuous suspension. Samples are settled and the water filtered off for analysis.
Methanolic Extraction of Soils for Purge and Trap	* ORG16	SOIL	(USEPA SW 846 - 5030A) 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids/ Sample Cleanup	ORG17A-UTP	SOIL	In-house, Mechanical agitation (tumbler). 20g of sample, Na2SO4 and surrogate are extracted with 150mL 1:1 DCM/Acetone by end over end tumble. Samples are extracted, concentrated (by KD) and exchanged into an appropriate solvent for GPC and florisil cleanup as required.

Preparation Methods	Method	Matrix	Method Descriptions
Tumbler Extraction of Solids for LVI (Non-concentrating)	ORG17D	SOIL	In house: 10g of sample, Na2SO4 and surrogate are extracted with 50mL 1:1 DCM/Acetone by end over end tumbling. An aliquot is concentrated by nitrogen blowdown to a reduced volume for analysis if required.
Organotin Sample Preparation	ORG35	SOIL	In house. 20g sample is spiked with surrogate and leached in a methanol:acetic acid:UHP water mix and vacuum filtered. Reagents and solvents are added to the sample and the mixture tumbled. The butyltin compounds are simultaneously derivatised and extracted. The extract is further extracted with petroleum ether. The resultant extracts are combined and concentrated for analysis.
TKN/TP Digestion	EK061/EK067	WATER	APHA 21st ed., 4500 Norg - D; APHA 21st ed., 4500 P - H. This method is compliant with NEPM (2013) Schedule B(3)
Digestion for Total Recoverable Metals	EN25	WATER	USEPA SW846-3005 Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (2013) Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	USEPA SW 846 - 3510B 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (2013) Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Organotin Sample Preparation	ORG34H	WATER	(IN HOUSE, ALS QWI-ORG/35) A specified volume (determined by the detection limit requirement) of sample is spiked with surrogate, acidified and vacuum filtered. Reagents and solvent are added to the sample and the mixture tumbled for 20 minutes. The butyltin compounds is derivitisated, extracted and the subtitution reaction is completed. The extracts is transferred to a separatory funnel and further extracted two times using petroleum ether. The resultant extracts are combined and concentrated to the desired volume for analysis.

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW 846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG005-SD: Total Metals in Sediments by ICP-AES	ES1504998-052	BH40 1.0-1.2A	**Aluminium**	7429-90-5	24.6 %	0-20%	**RPD exceeds LOR based limits**
Matrix Spike (MS) Recoveries							
EK255A SD: Ammonia in Sediment	ES1504836-061	Anonymous	**Ammonia as N**	7664-41-7	Not Determined	----	**MS recovery not determined, background level greater than or equal to 4x spike level.**
EP090: Organotin Compounds	ES1504998-040	BH369 0.5-1.0A	**Monobutyltin**	78763-54-9	17.6 %	35-130%	**Recovery less than lower data quality objective**

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP090: Organotin Compounds	4636623-002	----	**Dibutyltin**	1002-53-5	120 %	50-114%	**Recovery greater than upper control limit**

- **For all matrices, no Method Blank value outliers occur.**

Regular Sample Surrogates

- **For all regular sample matrices, no surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

Matrix: **WATER**

Method / **Container** / Client Sample ID(s)	*Extraction / Preparation*			*Analysis*		
	Date extracted	*Due for extraction*	***Days overdue***	*Date analysed*	*Due for analysis*	***Days overdue***
EK057G: Nitrite as N by Discrete Analyser						
Clear Plastic Bottle - Natural						
RINSATE 18	----	----	----	04-MAR-2015	01-MAR-2015	**3**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

Matrix: **SOIL**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	

Matrix: **SOIL**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
Moisture Content	5	51	9.8	10.0	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS: ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround		Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comment:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: ~~Georgina Kerr~~ TMM	RECEIVED BY: ~~Kelly Schafer~~ Jodie	RELINQUISHED BY: Jodie
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 10/3/15	DATE/TIME: 10/3/15 15:00	DATE/TIME: 10/3/15 16:00
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com				
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com				

RECEIVED BY: Dan J — DATE/TIME: 11/3 0400

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (Solid filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	SD – 3 (Metals)	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	HOLD		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	GG02 0.4m (SPT)		S	250 ml Jar	1	✱						X		
2	GG02 1.0m SPT		S	250 ml Jar	1	X								
3	GG02 1.95m		S	250 ml Jar	1	X								
4	GG02 3.0m SPT		S	250 ml Jar	1	X								
5	GG12 2.0m SPT		S	250 ml Jar	1	X								
6	GG12 3.0m SPT		S	250 ml Jar	1	X								
7	GG14 0.9m		S	250 ml Jar	1	X								
8	GG14 1.9m.		S	250 ml Jar	1	X								

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulfate Soils; B = Unpreserved Bag.

Environmental Division
Sydney
Work Order
ES1505707

Telephone : +61-2-8784 8555

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS: ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround		Custody Seal Intact: Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt: Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: 0 °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6109	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr Tim	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 10/3/15	DATE/TIME: 10/3/15 15:00
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY:	RECEIVED BY: Dan
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:		DATE/TIME: 10/3/15 16:00	DATE/TIME: 11/3 0900

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required)								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	SD-3 (Metals)	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	HOLD		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
9	GG14 3.95m		S	250 ml Jar	1	X								
10	GG14 0.5m		S	250 ml Jar	1	[illegible]						X		
11	GG14 2.95m		S	250 ml Jar	1	X								
			S		1									
			S		1									
			S		1									
			S		1									
			S		1									

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VR = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulfate Soils; B = Unpreserved Bag.

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1505707**	Page	: 1 of 4
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553		
C-O-C number	: ----	Date Samples Received	: 11-MAR-2015
Sampler	: GK	Issue Date	: 19-MAR-2015
Site	: ----		
		No. of samples received	: 11
Quote number	: SY/1021/14 V2	No. of samples analysed	: 9

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
Shobhna Chandra	Metals Coordinator	Sydney Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	GG02 1.0M SPT	GG02 1.95M	GG02 3.0M SPT	GG12 2.0M SPT	GG12 3.0M SPT
				Client sampling date / time	10-MAR-2015 15:00	10-MAR-2015 15:00	10-MAR-2015 15:00	10-MAR-2015 15:00	10-MAR-2015 15:00
Compound	CAS Number	LOR	Unit		ES1505707-002	ES1505707-003	ES1505707-004	ES1505707-005	ES1505707-006
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		12.1	9.7	8.8	17.8	12.5
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		6590	5510	7730	5730	5270
Iron	7439-89-6	50	mg/kg		12900	6360	20300	20600	12600
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		2.99	1.09	2.84	4.56	3.77
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg		15.9	6.0	42.6	119	13.3
Copper	7440-50-8	1.0	mg/kg		10.9	4.4	13.0	17.9	7.7
Cobalt	7440-48-4	0.5	mg/kg		8.7	2.8	7.2	6.2	3.9
Lead	7439-92-1	1.0	mg/kg		3.3	1.5	4.3	3.2	2.8
Manganese	7439-96-5	10	mg/kg		168	44	110	213	104
Nickel	7440-02-0	1.0	mg/kg		8.7	3.3	11.3	11.6	6.8
Selenium	7782-49-2	0.1	mg/kg		1.2	0.9	3.2	0.7	0.6
Silver	7440-22-4	0.1	mg/kg		<0.1	0.2	0.2	0.2	<0.1
Vanadium	7440-62-2	2.0	mg/kg		25.1	12.4	32.2	24.8	19.9
Zinc	7440-66-6	1.0	mg/kg		24.8	13.3	32.8	25.1	22.9
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	<0.01	<0.01	<0.01	<0.01

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	GG14 0.9M	GG14 1.9M	GG14 3.95M	GG14 2.95M	----
				Client sampling date / time	10-MAR-2015 15:00	10-MAR-2015 15:00	10-MAR-2015 15:00	10-MAR-2015 15:00	----
Compound	CAS Number	LOR	Unit		ES1505707-007	ES1505707-008	ES1505707-009	ES1505707-011	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		19.5	20.3	22.2	17.9	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		18600	20100	18400	19300	----
Iron	7439-89-6	50	mg/kg		33900	35000	18300	34200	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	<0.50	<0.50	----
Arsenic	7440-38-2	1.00	mg/kg		7.80	7.51	1.03	7.79	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	0.2	<0.1	----
Chromium	7440-47-3	1.0	mg/kg		27.0	27.2	35.9	30.1	----
Copper	7440-50-8	1.0	mg/kg		35.7	33.8	14.6	28.3	----
Cobalt	7440-48-4	0.5	mg/kg		23.5	22.8	6.4	22.9	----
Lead	7439-92-1	1.0	mg/kg		17.6	16.0	9.0	14.4	----
Manganese	7439-96-5	10	mg/kg		1140	1070	149	1490	----
Nickel	7440-02-0	1.0	mg/kg		20.6	21.0	10.0	20.0	----
Selenium	7782-49-2	0.1	mg/kg		3.1	3.5	1.5	3.3	----
Silver	7440-22-4	0.1	mg/kg		<0.1	0.1	<0.1	0.2	----
Vanadium	7440-62-2	2.0	mg/kg		87.0	85.1	46.1	101	----
Zinc	7440-66-6	1.0	mg/kg		77.1	84.5	38.4	83.6	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		0.03	0.02	0.01	0.10	----

QUALITY CONTROL REPORT

Work Order	: **ES1505707**	Page	: 1 of 5
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 11-MAR-2015
Sampler	: GK	Issue Date	: 19-MAR-2015
Order number	: 245553		
		No. of samples received	: 11
Quote number	: SY/1021/14 V2	No. of samples analysed	: 9

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out ir compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
Shobhna Chandra	Metals Coordinator	Sydney Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA055: Moisture Content (QC Lot: 3860545)									
ES1505701-005	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	3.1	4.6	38.5	No Limit
ES1505707-008	GG14 1.9M	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	20.3	19.9	1.6	0% - 20%
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3860098)									
ES1505707-002	GG02 1.0M SPT	EG005-SD: Aluminium	7429-90-5	50	mg/kg	6590	6760	2.6	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	12900	15400	17.5	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3860097)									
ES1505707-002	GG02 1.0M SPT	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	1.2	0.8	38.9	0% - 50%
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	8.7	9.5	8.1	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	15.9	17.1	7.2	0% - 50%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	10.9	14.7	29.9	0% - 50%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	3.3	3.3	0.0	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	8.7	9.8	12.2	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	24.8	26.9	8.1	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	2.99	3.58	18.0	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	168	125	29.2	0% - 50%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	25.1	29.4	15.6	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3860096)									
ES1505707-002	GG02 1.0M SPT	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3860098)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	134	86	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	83.3	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3860097)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	4.6 mg/kg	110	70	130
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	111	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	124	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	112	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	92.2	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	116	84	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	106	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	108	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	120	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	126	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	2.10 mg/kg	129	64	148
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	112	87	131
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	120	83	137
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3860096)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.090 mg/kg	78.8	72	116

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3860097)							
ES1505707-003	GG02 1.95M	EG020-SD: Arsenic	7440-38-2	50 mg/kg	102	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	120	70	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3860097) - continued							
ES1505707-003	GG02 1.95M	EG020-SD: Chromium	7440-47-3	50 mg/kg	106	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	85.9	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	109	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	108	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	114	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3860096)							
ES1505707-002	GG02 1.0M SPT	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	116	70	130

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

The quality control term Matrix Spike (MS) and Matrix Spike Duplicate (MSD) refers to intralaboratory split samples spiked with a representative set of target analytes. The purpose of these QC parameters are to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3860096)										
ES1505707-002	GG02 1.0M SPT	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	116	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3860097)										
ES1505707-003	GG02 1.95M	EG020-SD: Arsenic	7440-38-2	50 mg/kg	102	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	120	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	106	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	85.9	----	70	130	----	----
		EG020-SD: Lead	7439-92-1	250 mg/kg	109	----	70	130	----	----
		EG020-SD: Nickel	7440-02-0	50 mg/kg	108	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	114	----	70	130	----	----

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1505707**	Page	: 1 of 5
Client	: AURECON AUSTRALASIA PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 11-MAR-2015
Sampler	: GK	Issue Date	: 19-MAR-2015
Order number	: 245553		
		No. of samples received	: 11
Quote number	: SY/1021/14 V2	No. of samples analysed	: 9

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with recommended holding times (USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content							
Soil Glass Jar - Unpreserved (EA055-103)							
GG02 1.0M SPT, GG02 1.95M, GG02 3.0M SPT, GG12 2.0M SPT, GG12 3.0M SPT, GG14 0.9M, GG14 1.9M, GG14 3.95M, GG14 2.95M	**10-MAR-2015**	**----**	----	----	**16-MAR-2015**	24-MAR-2015	✓
EG005-SD: Total Metals in Sediments by ICP-AES							
Soil Glass Jar - Unpreserved (EG005-SD)							
GG02 1.0M SPT, GG02 1.95M, GG02 3.0M SPT, GG12 2.0M SPT, GG12 3.0M SPT, GG14 0.9M, GG14 1.9M, GG14 3.95M, GG14 2.95M	**10-MAR-2015**	**16-MAR-2015**	06-SEP-2015	✓	**16-MAR-2015**	06-SEP-2015	✓
EG020-SD: Total Metals in Sediments by ICPMS							
Soil Glass Jar - Unpreserved (EG020-SD)							
GG02 1.0M SPT, GG02 1.95M, GG02 3.0M SPT, GG12 2.0M SPT, GG12 3.0M SPT, GG14 0.9M, GG14 1.9M, GG14 3.95M, GG14 2.95M	**10-MAR-2015**	**16-MAR-2015**	06-SEP-2015	✓	**17-MAR-2015**	06-SEP-2015	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T-LL)							
GG02 1.0M SPT, GG02 1.95M, GG02 3.0M SPT, GG12 2.0M SPT, GG12 3.0M SPT, GG14 0.9M, GG14 1.9M, GG14 3.95M, GG14 2.95M	**10-MAR-2015**	**16-MAR-2015**	07-APR-2015	✓	**17-MAR-2015**	07-APR-2015	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055-103	2	16	**12.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	1	9	**11.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	1	9	**11.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	1	9	**11.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Total Fe and Al in Sediments by ICPAES	EG005-SD	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Total Fe and Al in Sediments by ICPAES	EG005-SD	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Total Mercury by FIMS (Low Level)	EG035T-LL	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055-103	SOIL	In-house. A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Total Fe and Al in Sediments by ICPAES	EG005-SD	SOIL	In house: Referenced to APHA 21st ed., 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3). LORs per NODG
Total Metals in Sediments by ICPMS	EG020-SD	SOIL	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector. Analyte list and LORs per NODG.
Total Mercury by FIMS (Low Level)	EG035T-LL	SOIL	In house: Referenced to AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW 846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Duplicate outliers occur.**
- **For all matrices, no Laboratory Control outliers occur.**
- **For all matrices, no Matrix Spike outliers occur.**

Regular Sample Surrogates

- **For all regular sample matrices, no surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- **No Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

ALS Environmental

ADELAIDE 21 Burma Road Pooraka SA 5095
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 245852	COC SEQUENCE NUMBER (Circle) COC: (1) 2 3 4 5 6 7	Random Sample Temperature on Receipt:	
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 (5) 6 7	Other comments:	
SAMPLER: Kurt Praeger SAMPLER MOBILE: -	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO) EDD FORMAT (or default):	Tim Murphy	Jodie Hebbard		
Email Reports to (will default to PM if no other addresses are listed): georgina.kerr@aurecongroup.com	DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com	16-Mar-15	16-Mar-15	16/3/15 16:00	16/3/15

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).					Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	SD-3					
1	GG02 2.95 m	10/03/2015	S	Glass Jar (250 ml)	1	1					
2	GG02 1.95 m	10/03/2015	S	Glass Jar (250 ml)	1	1					
3	GG02 0.45 m	11/03/2015	S	Glass Jar (250 ml)	1	1					
4	GG02 0.4 m (SPT)	11/03/2015	S	Glass Jar (250 ml)	1	1					
5	GG02 0.95 m	11/03/2015	S	Glass Jar (250 ml)	1	1					
6	GG02 3.95	10/03/2015	S	Glass Jar (250 ml)	1	1					
7	GG02 0.6 m	10/03/2015	S	Glass Jar (250 ml)	1	1					
				TOTAL	7	7					

Environmental Division
Sydney
Work Order
ES1506194

Telephone : +61-2-8784 8555

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 4225 3125 E: samples.wollongong@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 245852	COC SEQUENCE NUMBER (Circle) COC: 1 (2) 3 4 5 6 7	Random Sample Temperature on Receipt:	
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 (5) 6 7	Other comments:	

SAMPLER: Kurt Praeger	SAMPLER MOBILE: -	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Tim Murphy	Jodie Hebbard		
Email Reports to (will default to PM if no other addresses are listed): georgina.kerr@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		16-Mar-15	16-Mar-15		17/3 09

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).							Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	SD-3							Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
8	GG03 1.95 m	11/03/2015	S	Glass Jar (250 ml)	1	1							
9	GG03 2.95 m	11/03/2015	S	Glass Jar (250 ml)	1	1							
10	GG03 3.95 m	11/03/2015	S	Glass Jar (250 ml)	1	1							
				TOTAL	3	3							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
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MUDGEE 27 Sydney Road Mudgee NSW 2850
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NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
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PERTH 10 Hod Way Malaga WA 6090
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SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS: ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 245852	COC SEQUENCE NUMBER (Circle) COC: 1 2 (3) 4 5 6 7	Random Sample Temperature on Receipt	Yes / No / °C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 (5) 6 7	Other comments:	

SAMPLER: Kurt Prenger	SAMPLER MOBILE: -	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY: Dan
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Tim Murphy	Jodie Hebbard		
Email Reports to (will default to PM if no other addresses are listed): georgina.kerr@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME: 17/3 0944
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		16-Mar-15	16-Mar-15		

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION	ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).							Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	SD-3						Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
11	GG04 3.95 m	12/03/2015	S	Glass Jar (250 ml)	1	1						
12	GG04 0.6 m	12/03/2015	S	Glass Jar (250 ml)	1	1						
13	GG04 1.95 m	12/03/2015	S	Glass Jar (250 ml)	1	1						
14	GG04 0.85 m	12/03/2015	S	Glass Jar (250 ml)	1	1						
15	GG04 2.95 m	12/03/2015	S	Glass Jar (250 ml)	1	1						
				TOTAL	5	5						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
PROJECT: GPC Geochemical Investigation		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: C
ORDER NUMBER: 245652		OF: 1 2 3 4 5 6 7	Other comment:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		

SAMPLER: Kurt Praeger	SAMPLER MOBILE: -	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Tim Murphy	Jodie Hebbard		Dan
Email Reports to (will default to PM if no other addresses are listed): georgina.kerr@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		16-Mar-15	16-Mar-15		17/3

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).						Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	SD-3						Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
16	GG07 2.0 m	13/03/2015	S	Glass Jar (250 ml)	1	1						
17	GG07 2.95 m	13/03/2015	S	Glass Jar (250 ml)	1	1						
18	GG07 0.6 m	13/03/2015	S	Glass Jar (250 ml)	1	1						
				TOTAL	3	3						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ADELAIDE 21 Burma Road Pooraka SA 5095
Ph: 08 8359 0890 E: adelaide@alsglobal.com
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BRISBANE 32 Shand Street Stafford QLD 4053
Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
TOWNSVILLE 14-15 Desma Court Garbutt QLD 4814
Ph: 07 4796 0600 E: townsville@alsglobal.com
GLADSTONE 46 Callemondah Drive Clinton QLD 4680
Ph: 07 4971 9600 E: gladstone@alsglobal.com
ORANGE 1/10 Hill Street Orange NSW 2800
Ph: 02 6372 6735 E: orange@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: newcastle@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 7514 0400 E: samples.sydney@alsglobal.com
ALBURY 31 Dalton Street Albury NSW 2640
Ph: 02 6043 5933 E: albury@alsglobal.com
TAMWORTH 10-12 Vernon Street Tamworth NSW 2340
Ph: 02 6767 5000 E: tamworth@alsglobal.com
COFFS HARBOUR 1/26 Bryon Street Coffs Harbour NSW 2450
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle):**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround		Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: 246852		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OP: 1 2 3 4 5 6 7	Other comments:

SAMPLER: Kurt Praeger	**SAMPLER MOBILE:** -	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Tim Murphy*	*Jodie Hebbard*		
Email Reports to (will default to PM if no other addresses are listed): georgina.kerr@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME: 17/3
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		18-Mar-15	18-Mar-15		

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS — MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).							Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	SD-3							
19	GG10 0.6 m	15/03/2015	S	Glass Jar (250 ml)	1	1							
20	GG10 1.95 m	15/03/2015	S	Glass Jar (250 ml)	1	1							
21	GG10 3 m (SPT)	15/03/2015	S	Glass Jar (250 ml)	1	1							
22	GG10 0.95 m	15/03/2015	S	Glass Jar (250 ml)	1	1							
				TOTAL	4	4							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1506194**	Page	: 1 of 7
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245852		
C-O-C number	: ----	Date Samples Received	: 17-MAR-2015
Sampler	: KP	Issue Date	: 24-MAR-2015
Site	: ----		
		No. of samples received	: 22
Quote number	: SY/1021/14 V2	No. of samples analysed	: 22

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **EG020-SD: Poor precision was obtained for Chromium on samples ES1506194 # 21. Results have been confirmed by re-extraction and reanalysis.**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	GG02 2.95m	GG02 1.95m	GG02 0.45m	GG02 0.4m(STP)	GG02 0.95m
				Client sampling date / time	10-MAR-2015 15:00	10-MAR-2015 15:00	11-MAR-2015 15:00	11-MAR-2015 15:00	11-MAR-2015 15:00
Compound	CAS Number	LOR	Unit		ES1506194-001	ES1506194-002	ES1506194-003	ES1506194-004	ES1506194-005
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		16.4	19.2	10.3	16.8	21.3
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		7640	7990	5670	9060	6130
Iron	7439-89-6	50	mg/kg		21900	22700	12200	19100	20300
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		2.52	2.33	2.61	5.27	12.4
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg		13.0	12.6	9.3	16.0	11.8
Copper	7440-50-8	1.0	mg/kg		19.2	20.9	33.5	22.4	11.5
Cobalt	7440-48-4	0.5	mg/kg		7.8	7.8	7.2	8.8	7.9
Lead	7439-92-1	1.0	mg/kg		3.0	4.4	3.4	3.1	4.5
Manganese	7439-96-5	10	mg/kg		108	148	295	130	229
Nickel	7440-02-0	1.0	mg/kg		8.1	8.6	5.2	8.8	7.0
Selenium	7782-49-2	0.1	mg/kg		0.3	0.4	1.2	0.6	0.3
Silver	7440-22-4	0.1	mg/kg		<0.1	0.2	0.1	0.1	0.1
Vanadium	7440-62-2	2.0	mg/kg		52.6	54.2	32.9	49.5	33.1
Zinc	7440-66-6	1.0	mg/kg		30.9	30.3	21.5	35.6	25.0
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	<0.01	<0.01	<0.01	<0.01

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	GG02 3.95	GG02 0.6m	GG03 1.95m	GG03 2.95m	GG03 3.95m
				Client sampling date / time	10-MAR-2015 15:00	10-MAR-2015 15:00	11-MAR-2015 15:00	11-MAR-2015 15:00	11-MAR-2015 15:00
Compound	CAS Number	LOR	Unit		ES1506194-006	ES1506194-007	ES1506194-008	ES1506194-009	ES1506194-010
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		15.4	23.1	20.0	18.2	14.4
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		4230	4310	5850	5360	3380
Iron	7439-89-6	50	mg/kg		11800	12600	17200	12000	12100
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		2.29	10.6	10.8	8.41	5.90
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg		8.1	7.7	9.8	9.5	11.4
Copper	7440-50-8	1.0	mg/kg		19.6	5.1	8.6	6.6	12.4
Cobalt	7440-48-4	0.5	mg/kg		5.6	6.0	8.9	7.4	6.1
Lead	7439-92-1	1.0	mg/kg		1.3	2.5	4.4	3.0	2.0
Manganese	7439-96-5	10	mg/kg		83	330	440	433	98
Nickel	7440-02-0	1.0	mg/kg		6.2	4.4	6.8	5.0	4.0
Selenium	7782-49-2	0.1	mg/kg		0.4	0.3	0.4	0.6	0.2
Silver	7440-22-4	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
Vanadium	7440-62-2	2.0	mg/kg		27.6	23.1	33.4	29.0	26.5
Zinc	7440-66-6	1.0	mg/kg		20.2	16.6	22.9	13.7	15.6
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	<0.01	<0.01	<0.01	<0.01

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	GG04 3.95m	GG04 0.6m	GG04 1.95m	GG04 0.95m	GG04 2.95m
				Client sampling date / time	12-MAR-2015 15:00	12-MAR-2015 15:00	12-MAR-2015 15:00	12-MAR-2015 15:00	12-MAR-2015 15:00
Compound	CAS Number	LOR	Unit		ES1506194-011	ES1506194-012	ES1506194-013	ES1506194-014	ES1506194-015
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		24.8	13.2	18.2	15.1	12.0
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		7480	3960	2970	3420	3530
Iron	7439-89-6	50	mg/kg		8840	7630	6410	6580	8920
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		<1.00	1.99	2.03	1.60	2.65
Cadmium	7440-43-9	0.1	mg/kg		0.1	<0.1	<0.1	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg		8.1	4.6	3.8	4.3	4.6
Copper	7440-50-8	1.0	mg/kg		21.2	7.6	6.3	12.7	8.1
Cobalt	7440-48-4	0.5	mg/kg		3.8	3.0	3.0	3.4	4.0
Lead	7439-92-1	1.0	mg/kg		4.7	1.3	<1.0	<1.0	1.4
Manganese	7439-96-5	10	mg/kg		53	39	54	58	69
Nickel	7440-02-0	1.0	mg/kg		3.5	3.0	2.0	1.9	2.9
Selenium	7782-49-2	0.1	mg/kg		0.6	0.2	0.1	0.1	0.1
Silver	7440-22-4	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
Vanadium	7440-62-2	2.0	mg/kg		30.7	16.1	13.2	14.9	17.8
Zinc	7440-66-6	1.0	mg/kg		23.9	13.9	9.2	10.5	42.9
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		0.02	<0.01	<0.01	<0.01	<0.01

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	GG07 2.0m	GG07 2.95m	GG07 0.6m	GG10 0.6m	GG10 1.95m
				Client sampling date / time	13-MAR-2015 15:00	13-MAR-2015 15:00	13-MAR-2015 15:00	15-MAR-2015 15:00	15-MAR-2015 15:00
Compound	CAS Number	LOR	Unit		ES1506194-016	ES1506194-017	ES1506194-018	ES1506194-019	ES1506194-020
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		17.6	15.9	18.9	16.0	16.1
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		10000	6170	7440	5560	5440
Iron	7439-89-6	50	mg/kg		25800	15200	17400	11400	5770
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		6.08	4.20	2.57	3.47	<1.00
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg		15.0	9.7	10.4	11.1	6.2
Copper	7440-50-8	1.0	mg/kg		39.8	18.7	21.3	16.0	6.1
Cobalt	7440-48-4	0.5	mg/kg		10.9	5.5	6.9	4.4	2.6
Lead	7439-92-1	1.0	mg/kg		9.8	5.1	3.2	4.2	3.6
Manganese	7439-96-5	10	mg/kg		362	178	92	66	40
Nickel	7440-02-0	1.0	mg/kg		12.9	5.7	6.1	5.8	3.2
Selenium	7782-49-2	0.1	mg/kg		0.8	0.4	0.5	0.4	0.3
Silver	7440-22-4	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
Vanadium	7440-62-2	2.0	mg/kg		56.9	32.0	35.4	30.9	14.2
Zinc	7440-66-6	1.0	mg/kg		51.6	27.0	28.4	26.3	16.9
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		0.01	<0.01	<0.01	<0.01	<0.01

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	GG10 3m(SPT)	GG10 0.95m	----	----	----
			Client sampling date / time	15-MAR-2015 15:00	15-MAR-2015 15:00	----	----	----
Compound	CAS Number	LOR	Unit	ES1506194-021	ES1506194-022	----	----	----
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	**11.5**	**24.7**	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES								
Aluminium	7429-90-5	50	mg/kg	**6100**	**5470**	----	----	----
Iron	7439-89-6	50	mg/kg	**17000**	**5090**	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS								
Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	----	----	----
Arsenic	7440-38-2	1.00	mg/kg	**10.2**	<1.00	----	----	----
Cadmium	7440-43-9	0.1	mg/kg	**0.1**	<0.1	----	----	----
Chromium	7440-47-3	1.0	mg/kg	**25.6**	**7.5**	----	----	----
Copper	7440-50-8	1.0	mg/kg	**18.0**	**6.9**	----	----	----
Cobalt	7440-48-4	0.5	mg/kg	**13.9**	**2.2**	----	----	----
Lead	7439-92-1	1.0	mg/kg	**3.9**	**2.5**	----	----	----
Manganese	7439-96-5	10	mg/kg	**173**	**32**	----	----	----
Nickel	7440-02-0	1.0	mg/kg	**13.1**	**3.1**	----	----	----
Selenium	7782-49-2	0.1	mg/kg	**0.5**	**0.3**	----	----	----
Silver	7440-22-4	0.1	mg/kg	<0.1	**0.4**	----	----	----
Vanadium	7440-62-2	2.0	mg/kg	**28.9**	**15.7**	----	----	----
Zinc	7440-66-6	1.0	mg/kg	**39.2**	**18.3**	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	----	----	----

QUALITY CONTROL REPORT

Work Order	: **ES1506194**	Page	: 1 of 7
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 17-MAR-2015
Sampler	: KP	Issue Date	: 24-MAR-2015
Order number	: 245852		
		No. of samples received	: 22
Quote number	: SY/1021/14 V2	No. of samples analysed	: 22

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out ir compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA055: Moisture Content (QC Lot: 3863788)									
ES1505837-023	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	10.0	9.5	5.0	No Limit
ES1506194-006	GG02 3.95	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	15.4	18.0	15.4	0% - 50%
EA055: Moisture Content (QC Lot: 3863789)									
ES1506194-015	GG04 2.95m	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	12.0	12.6	4.2	0% - 50%
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3864364)									
ES1506194-001	GG02 2.95m	EG005-SD: Aluminium	7429-90-5	50	mg/kg	7640	7520	1.5	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	21900	21800	0.6	0% - 20%
ES1506194-011	GG04 3.95m	EG005-SD: Aluminium	7429-90-5	50	mg/kg	7480	6960	7.1	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	8840	8680	1.8	0% - 20%
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3864367)									
ES1506194-021	GG10 3m(SPT)	EG005-SD: Aluminium	7429-90-5	50	mg/kg	6100	6590	7.7	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	17000	17100	0.3	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3864363)									
ES1506194-001	GG02 2.95m	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.3	0.3	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	7.8	7.2	6.7	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	13.0	12.2	6.2	0% - 50%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	19.2	18.9	1.7	0% - 50%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	3.0	3.6	18.6	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	8.1	7.6	6.8	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	30.9	29.9	3.2	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	2.52	2.36	6.3	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	108	111	3.2	0% - 50%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	52.6	51.4	2.3	0% - 20%
ES1506194-011	GG04 3.95m	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.6	0.6	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	3.8	4.0	5.1	No Limit
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	8.1	8.5	5.4	No Limit
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	21.2	21.4	1.0	0% - 20%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	4.7	4.8	2.3	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	3.5	3.6	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3864363) - continued									
ES1506194-011	GG04 3.95m	EG020-SD: Zinc	7440-66-6	1.0	mg/kg	23.9	26.6	10.8	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	<1.00	1.21	18.7	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	53	56	6.3	No Limit
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	30.7	30.8	0.6	0% - 50%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3864366)									
ES1506194-021	GG10 3m(SPT)	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	0.1	0.2	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.5	0.5	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	13.9	15.9	13.3	0% - 20%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	25.6	8.0	# 105	0% - 20%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	18.0	17.7	1.5	0% - 50%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	3.9	3.6	9.8	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	13.1	12.8	1.9	0% - 50%
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	39.2	45.9	15.7	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	10.2	13.4	27.7	0% - 50%
		EG020-SD: Manganese	7439-96-5	10	mg/kg	173	172	0.0	0% - 50%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	28.9	31.3	7.9	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3864362)									
ES1506194-001	GG02 2.95m	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit
ES1506194-011	GG04 3.95m	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	0.02	0.02	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3864365)									
ES1506194-021	GG10 3m(SPT)	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3864364)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	103	86	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	----	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3864367)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	108	86	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	70.1	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3864363)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	4.6 mg/kg	110	70	130
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	101	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	108	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	87.9	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	108	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	108	84	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	95.6	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	106	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	101	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	110	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	----	----	----	----
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	103	87	131
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	106	83	137
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3864366)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	4.6 mg/kg	109	70	130
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	97.8	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	102	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	88.6	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	102	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	104	84	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3864366) - continued								
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	98.6	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	104	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	102	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	115	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	2.10 mg/kg	140	64	148
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	104	87	131
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	107	83	137
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3864362)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.090 mg/kg	79.4	72	116
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3864365)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.090 mg/kg	74.4	72	116

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3864363)							
ES1506194-002	GG02 1.95m	EG020-SD: Arsenic	7440-38-2	50 mg/kg	85.9	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	97.2	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	93.6	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	96.0	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	94.4	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	96.8	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	96.2	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3864366)							
ES1506194-022	GG10 0.95m	EG020-SD: Arsenic	7440-38-2	50 mg/kg	85.7	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	97.9	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	94.5	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	94.1	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	95.7	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	93.9	70	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3864366) - continued							
ES1506194-022	GG10 0.95m	EG020-SD: Zinc	7440-66-6	250 mg/kg	97.2	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3864362)							
ES1506194-001	GG02 2.95m	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	117	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3864365)							
ES1506194-021	GG10 3m(SPT)	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	117	70	130

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

The quality control term Matrix Spike (MS) and Matrix Spike Duplicate (MSD) refers to intralaboratory split samples spiked with a representative set of target analytes. The purpose of these QC parameters are to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3864362)										
ES1506194-001	GG02 2.95m	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	117	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3864363)										
ES1506194-002	GG02 1.95m	EG020-SD: Arsenic	7440-38-2	50 mg/kg	85.9	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	97.2	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	93.6	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	96.0	----	70	130	----	----
		EG020-SD: Lead	7439-92-1	250 mg/kg	94.4	----	70	130	----	----
		EG020-SD: Nickel	7440-02-0	50 mg/kg	96.8	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	96.2	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3864365)										
ES1506194-021	GG10 3m(SPT)	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	117	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3864366)										
ES1506194-022	GG10 0.95m	EG020-SD: Arsenic	7440-38-2	50 mg/kg	85.7	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	97.9	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	94.5	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	94.1	----	70	130	----	----
		EG020-SD: Lead	7439-92-1	250 mg/kg	95.7	----	70	130	----	----
		EG020-SD: Nickel	7440-02-0	50 mg/kg	93.9	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	97.2	----	70	130	----	----

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1506194**	Page	: 1 of 7
Client	: AURECON AUSTRALASIA PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
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Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 17-MAR-2015
Sampler	: KP	Issue Date	: 24-MAR-2015
Order number	: 245852		
		No. of samples received	: 22
Quote number	: SY/1021/14 V2	No. of samples analysed	: 22

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with recommended holding times (USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content							
Soil Glass Jar - Unpreserved (EA055-103)							
GG02 2.95m, GG02 1.95m, GG02 3.95, GG02 0.6m	**10-MAR-2015**	**----**	----	----	**18-MAR-2015**	24-MAR-2015	✓
Soil Glass Jar - Unpreserved (EA055-103)							
GG02 0.45m, GG02 0.4m(STP), GG02 0.95m, GG03 1.95m, GG03 2.95m, GG03 3.95m	**11-MAR-2015**	**----**	----	----	**18-MAR-2015**	25-MAR-2015	✓
Soil Glass Jar - Unpreserved (EA055-103)							
GG04 3.95m, GG04 0.6m, GG04 1.95m, GG04 0.95m, GG04 2.95m	**12-MAR-2015**	**----**	----	----	**18-MAR-2015**	26-MAR-2015	✓
Soil Glass Jar - Unpreserved (EA055-103)							
GG07 2.0m, GG07 2.95m, GG07 0.6m	**13-MAR-2015**	**----**	----	----	**18-MAR-2015**	27-MAR-2015	✓
Soil Glass Jar - Unpreserved (EA055-103)							
GG10 0.6m, GG10 1.95m, GG10 3m(SPT), GG10 0.95m	**15-MAR-2015**	**----**	----	----	**18-MAR-2015**	29-MAR-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005-SD: Total Metals in Sediments by ICP-AES							
Soil Glass Jar - Unpreserved (EG005-SD) GG02 2.95m, GG02 1.95m, GG02 3.95, GG02 0.6m	**10-MAR-2015**	**18-MAR-2015**	06-SEP-2015	✓	**19-MAR-2015**	06-SEP-2015	✓
Soil Glass Jar - Unpreserved (EG005-SD) GG02 0.45m, GG02 0.4m(STP), GG02 0.95m, GG03 1.95m, GG03 2.95m, GG03 3.95m	**11-MAR-2015**	**18-MAR-2015**	07-SEP-2015	✓	**19-MAR-2015**	07-SEP-2015	✓
Soil Glass Jar - Unpreserved (EG005-SD) GG04 3.95m, GG04 0.6m, GG04 1.95m, GG04 0.95m, GG04 2.95m	**12-MAR-2015**	**18-MAR-2015**	08-SEP-2015	✓	**19-MAR-2015**	08-SEP-2015	✓
Soil Glass Jar - Unpreserved (EG005-SD) GG07 2.0m, GG07 2.95m, GG07 0.6m	**13-MAR-2015**	**18-MAR-2015**	09-SEP-2015	✓	**19-MAR-2015**	09-SEP-2015	✓
Soil Glass Jar - Unpreserved (EG005-SD) GG10 0.6m, GG10 1.95m, GG10 3m(SPT), GG10 0.95m	**15-MAR-2015**	**18-MAR-2015**	11-SEP-2015	✓	**19-MAR-2015**	11-SEP-2015	✓
EG020-SD: Total Metals in Sediments by ICPMS							
Soil Glass Jar - Unpreserved (EG020-SD) GG02 2.95m, GG02 1.95m, GG02 3.95, GG02 0.6m	**10-MAR-2015**	**18-MAR-2015**	06-SEP-2015	✓	**19-MAR-2015**	06-SEP-2015	✓
Soil Glass Jar - Unpreserved (EG020-SD) GG02 0.45m, GG02 0.4m(STP), GG02 0.95m, GG03 1.95m, GG03 2.95m, GG03 3.95m	**11-MAR-2015**	**18-MAR-2015**	07-SEP-2015	✓	**19-MAR-2015**	07-SEP-2015	✓
Soil Glass Jar - Unpreserved (EG020-SD) GG04 3.95m, GG04 0.6m, GG04 1.95m, GG04 0.95m, GG04 2.95m	**12-MAR-2015**	**18-MAR-2015**	08-SEP-2015	✓	**19-MAR-2015**	08-SEP-2015	✓
Soil Glass Jar - Unpreserved (EG020-SD) GG07 2.0m, GG07 2.95m, GG07 0.6m	**13-MAR-2015**	**18-MAR-2015**	09-SEP-2015	✓	**19-MAR-2015**	09-SEP-2015	✓
Soil Glass Jar - Unpreserved (EG020-SD) GG10 0.6m, GG10 1.95m, GG10 3m(SPT), GG10 0.95m	**15-MAR-2015**	**18-MAR-2015**	11-SEP-2015	✓	**19-MAR-2015**	11-SEP-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T-LL) GG02 2.95m, GG02 1.95m, GG02 3.95, GG02 0.6m	**10-MAR-2015**	**18-MAR-2015**	07-APR-2015	✓	**24-MAR-2015**	07-APR-2015	✓
Soil Glass Jar - Unpreserved (EG035T-LL) GG02 0.45m, GG02 0.4m(STP), GG02 0.95m, GG03 1.95m, GG03 2.95m, GG03 3.95m	**11-MAR-2015**	**18-MAR-2015**	08-APR-2015	✓	**24-MAR-2015**	08-APR-2015	✓
Soil Glass Jar - Unpreserved (EG035T-LL) GG04 3.95m, GG04 0.6m, GG04 1.95m, GG04 0.95m, GG04 2.95m	**12-MAR-2015**	**18-MAR-2015**	09-APR-2015	✓	**24-MAR-2015**	09-APR-2015	✓
Soil Glass Jar - Unpreserved (EG035T-LL) GG07 2.0m, GG07 2.95m, GG07 0.6m	**13-MAR-2015**	**18-MAR-2015**	10-APR-2015	✓	**24-MAR-2015**	10-APR-2015	✓
Soil Glass Jar - Unpreserved (EG035T-LL) GG10 0.6m, GG10 1.95m, GG10 3m(SPT), GG10 0.95m	**15-MAR-2015**	**18-MAR-2015**	12-APR-2015	✓	**24-MAR-2015**	12-APR-2015	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055-103	3	30	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	3	22	**13.6**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	3	22	**13.6**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	3	22	**13.6**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	22	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	22	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	22	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	22	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	22	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	22	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Total Mercury by FIMS (Low Level)	EG035T-LL	2	22	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	22	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055-103	SOIL	In-house. A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Total Fe and Al in Sediments by ICPAES	EG005-SD	SOIL	In house: Referenced to APHA 21st ed., 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3). LORs per NODG
Total Metals in Sediments by ICPMS	EG020-SD	SOIL	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector. Analyte list and LORs per NODG.
Total Mercury by FIMS (Low Level)	EG035T-LL	SOIL	In house: Referenced to AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW 846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG020-SD: Total Metals in Sediments by ICPMS	ES1506194-021	GG10 3m(SPT)	**Chromium**	7440-47-3	105 %	0-20%	**RPD exceeds LOR based limits**

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Laboratory Control outliers occur.**
- **For all matrices, no Matrix Spike outliers occur.**

Regular Sample Surrogates

- **For all regular sample matrices, no surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- **No Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

ALS Environmental

ADELAIDE 21 Burma Road Pooraka SA 5095
Ph: 08 8359 0890 E: adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053
Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 46 Callemondah Drive Clinton QLD 4680
Ph: 07 7471 6600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Cooling Method: Ice / Ice Pack / None
ORDER NUMBER: 245553		COC: (1) 2 3 4 5 6 7	Samples Received in Good Order? Yes / No / N/A
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: (1) 2 3 4 5 6 7	Sufficient Sample for Analysis? Yes / No / N/A
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 26-Feb-15	DATE/TIME: 26-Feb-15 1815
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: KSchafer	RECEIVED BY: AM
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 2-3-15 1600	DATE/TIME: 3-3-15 09:15

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS (MATRIX: SOLID (S) WATER (W))			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins & Furans	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	BH48 0.0 - 0.6D	26/02/2015	S	Glass Jar (150 ml)	1				1					
2	BH53 0.0 - 0.5D	26/02/2015	S	Glass Jar (150 ml)	1				1					
3	EB28 0.0 - 0.5D	26/02/2015	S	Glass Jar (150 ml)	1				1					
				TOTAL	3				3					

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

SCANNED

Environmental Division
Brisbane
Work Order
EB1501257

Telephone : +61-7-3243 7222

CERTIFICATE OF ANALYSIS

Client	**AURECON AUSTRALASIA PTY LTD**	**Laboratory :**	Environmental Division Brisbane		
Contact	MS GEORGINA KERR	**Contact**	CUSTOMER.SERVICES.EB	**Work Order:**	**EB1501257**
Address:	LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	**Address:**	2 Byth Street Stafford QLD 4053 Australia		
Project	GPC Geochemical Investigation	**Quote #**	SY/1021/14 V2	**Received:**	2 Mar 2015
Order #	245553			**Issued**	17 Mar 2015
C-O-C #	- Not provided -				
Site	- Not provided -				
E-mail	georgina.kerr@aurecongroup.com	**E-mail**	ALSEnviro.Brisbane@alsglobal.com	**Number of Samples**	
Phone	3173 8396	**Phone**	+61-7-3243 7222	**Received:**	3
Fax	3173 8001	**Fax**	+61-7-3243 7218	**Analysed:**	3

Notes
LOR = Limit of reporting
I-TEF = International toxic equivalency factor
I-TEQ = International toxic equivalence
WHO-TEF = World Health Organistaion toxic equivalency factor
WHO-TEQ = World Health Organisation toxic equivalence

1 I -TEQ(zero) and WHO-TEQ(zero) calculated treating <LOR as zero concentration
2 I -TEQ(0.5 LOR) and WHO-TEQ(0.5 zero) calculated treating <LOR as 0.5 LoR concentration
3 I-TEQ(LOR) and WHO-TEQ(LOR) calculated treating <LOR as LoR concentration
4 Totals LORs are calculated by multiplying the number of peaks by the individual LOR per compound
5 13C12 Rec(%) = The absolute recovery of Isotopically labelled compound added by the Laboratory to both quantitate and measure extraction efficiency.

T = tetra
Pe = penta
Hx = hexa
Hp =hepta
O = octa
CDD, dioxin = chlorinated dibenzo-p-dioxin
CDF, furan = chlorinated dibenzofuran

Work order specific comments

Samples analysed 'as received', results reported on 'dry weight' basis.

Samples BH48 0.0 - 0.6D; BH53 0.0 - 0.5D; BH28 0.0 - 0.5D showed lower than usual Labelled Compound recoveries due to matrix interferences. Sufficient recovery was achieved for quantitation.

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Accredited for compliance with ISO/IED 17025

This document has been digitally signed by those names that appear on this report and are the authorised signatories. Digital signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatory	Position	Department
Peter Blow	HRMS Chemist	GC/HR-MS - NATA 825 (818 - Brisbane)

Client	: AURECON AUSTRALASIA PTY LTD	**Work Order**	: EB1501257
Project	: GPC Geochemical Investigation	**ALS Quote Reference**	: SY/1021/14 V2

ANALYTICAL RESULTS FOR DIOXINS AND FURANS

Method Code EP300

Laboratory Sample ID: EB1501257001
Client Sample ID: BH48 0.0 - 0.6D

Qc Lot Number: 3857751
Sample Matrix: SOIL

Date Sampled: 26-Feb-2015
Date Extracted: 12-Mar-2015
Date Analysed: 12-Mar-2015

Compound	Conc pg/g	LOR pg/g	WHO-TEF	WHO-TEQ$_1$ (zero)	WHO-TEQ$_2$ (0.5 LOR)	WHO-TEQ$_3$ (LOR)	I-TEF	I-TEQ$_1$ (zero)	I-TEQ$_2$ (0.5 LOR)	I-TEQ$_3$ (LOR)	$^{13}C_{12}$ Rec(%)
2378-TCDD	0.9	0.5	1	0.87	0.87	0.87	1	0.87	0.87	0.87	61.5
12378-PeCDD	<2.5	2.5	1	0.00	1.24	2.47	0.5	0.00	0.62	1.24	97.3
123478-HxCDD	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	48.8
123678-HxCDD	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	50.7
123789-HxCDD	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	-
1234678-HpCDD	9.9	2.5	0.01	0.10	0.10	0.10	0.01	0.10	0.10	0.10	42.4
OCDD	466.0	9.9	0.0003	0.14	0.14	0.14	0.001	0.47	0.47	0.47	17.1
2378-TCDF	<0.5	0.5	0.1	0.00	0.02	0.05	0.1	0.00	0.02	0.05	53.1
12378-PeCDF	<2.5	2.5	0.03	0.00	0.04	0.07	0.05	0.00	0.06	0.12	61.9
23478-PeCDF	<2.5	2.5	0.3	0.00	0.37	0.74	0.5	0.00	0.62	1.24	65.6
123478-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	38.5
123678-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	44.1
234678-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	45.5
123789-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	54.8
1234678-HpCDF	<2.5	2.5	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	25.7
1234789-HpCDF	<2.5	2.5	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	45.0
OCDF	<4.9	4.9	0.0003	0.00	0.00	0.00	0.001	0.00	0.00	0.00	-
Total TEQ	-	-	-	1.11	3.67	6.23	-	1.44	3.65	5.87	-

Group Totals	Conc pg/g	LOR$_4$ pg/g	No. of Peaks
Tetra-Dioxins	0.9	0.5	1
Penta-Dioxins	<2.5	2.5	1
Hexa-Dioxins	<14.8	14.8	6
Hepta-Dioxins	24.1	4.9	2
Octa-Dioxin	466.0	9.9	1
Tetra-Furans	6.9	3.5	7
Penta-Furans	<2.5	2.5	1
Hexa-Furans	<2.5	2.5	1
Hepta-Furans	<7.4	7.4	3
Octa-Furan	<4.9	4.9	1
S **PCDD/Fs**	497.9		

An ALS Limited Company

Client	: AURECON AUSTRALASIA PTY LTD	**Work Order**	: EB1501257
Project	: GPC Geochemical Investigation	**ALS Quote Reference**	: SY/1021/14 V2

ANALYTICAL RESULTS FOR DIOXINS AND FURANS

Method Code EP300

Laboratory Sample ID: EB1501257002
Client Sample ID: BH53 0.0 - 0.5D

Qc Lot Number: 3857751
Sample Matrix: SOIL

Date Sampled: 26-Feb-2015
Date Extracted: 12-Mar-2015
Date Analysed: 12-Mar-2015

Compound	Conc pg/g	LOR pg/g	WHO-TEF	WHO-TEQ$_1$ (zero)	WHO-TEQ$_2$ (0.5 LOR)	WHO-TEQ$_3$ (LOR)	I-TEF	I-TEQ$_1$ (zero)	I-TEQ$_2$ (0.5 LOR)	I-TEQ$_3$ (LOR)	$^{13}C_{12}$ Rec(%)
2378-TCDD	<0.5	0.5	1	0.00	0.24	0.48	1	0.00	0.24	0.48	75.6
12378-PeCDD	<2.4	2.4	1	0.00	1.21	2.41	0.5	0.00	0.60	1.21	86.3
123478-HxCDD	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	63.4
123678-HxCDD	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	72.7
123789-HxCDD	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	-
1234678-HpCDD	19.3	2.4	0.01	0.19	0.19	0.19	0.01	0.19	0.19	0.19	47.0
OCDD	504.0	9.7	0.0003	0.15	0.15	0.15	0.001	0.50	0.50	0.50	14.2
2378-TCDF	<0.5	0.5	0.1	0.00	0.02	0.05	0.1	0.00	0.02	0.05	59.3
12378-PeCDF	<2.4	2.4	0.03	0.00	0.04	0.07	0.05	0.00	0.06	0.12	61.6
23478-PeCDF	<2.4	2.4	0.3	0.00	0.36	0.72	0.5	0.00	0.60	1.21	62.5
123478-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	56.9
123678-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	63.9
234678-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	64.3
123789-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	69.8
1234678-HpCDF	<2.4	2.4	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	35.5
1234789-HpCDF	<2.4	2.4	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	51.9
OCDF	6.8	4.8	0.0003	0.00	0.00	0.00	0.001	0.01	0.01	0.01	-
Total TEQ	-	-	-	0.35	3.09	5.82	-	0.70	3.10	5.51	-

Group Totals	Conc pg/g	LOR$_4$ pg/g	No. of Peaks
Tetra-Dioxins	3.8	1.9	4
Penta-Dioxins	<7.2	7.2	3
Hexa-Dioxins	40.0	16.9	7
Hepta-Dioxins	74.0	4.8	2
Octa-Dioxin	504.0	9.7	1
Tetra-Furans	<0.5	0.5	1
Penta-Furans	<2.4	2.4	1
Hexa-Furans	<2.4	2.4	1
Hepta-Furans	<4.8	4.8	2
Octa-Furan	6.8	4.8	1
S **PCDD/Fs**	628.6		

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ANALYTICAL RESULTS FOR DIOXINS AND FURANS

Method Code EP300

Laboratory Sample ID: EB1501257003
Client Sample ID: BH28 0.0 - 0.5D
Qc Lot Number: 3857751
Sample Matrix: SOIL
Date Sampled: 26-Feb-2015
Date Extracted: 12-Mar-2015
Date Analysed: 12-Mar-2015

Compound	Conc pg/g	LOR pg/g	WHO-TEF	WHO-TEQ$_1$ (zero)	WHO-TEQ$_2$ (0.5 LOR)	WHO-TEQ$_3$ (LOR)	I-TEF	I-TEQ$_1$ (zero)	I-TEQ$_2$ (0.5 LOR)	I-TEQ$_3$ (LOR)	$^{13}C_{12}$ Rec(%)
2378-TCDD	<0.5	0.5	1	0.00	0.25	0.50	1	0.00	0.25	0.50	24.9
12378-PeCDD	<2.5	2.5	1	0.00	1.25	2.50	0.5	0.00	0.62	1.25	41.2
123478-HxCDD	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	22.7
123678-HxCDD	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	23.2
123789-HxCDD	3.9	2.5	0.1	0.39	0.39	0.39	0.1	0.39	0.39	0.39	-
1234678-HpCDD	36.7	2.5	0.01	0.37	0.37	0.37	0.01	0.37	0.37	0.37	14.5
OCDD	1250.0	10.0	0.0003	0.38	0.38	0.38	0.001	1.25	1.25	1.25	2.4
2378-TCDF	<0.5	0.5	0.1	0.00	0.02	0.05	0.1	0.00	0.02	0.05	28.2
12378-PeCDF	<2.5	2.5	0.03	0.00	0.04	0.07	0.05	0.00	0.06	0.12	31.5
23478-PeCDF	<2.5	2.5	0.3	0.00	0.37	0.75	0.5	0.00	0.62	1.25	32.9
123478-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	24.3
123678-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	25.2
234678-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	25.2
123789-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	27.1
1234678-HpCDF	<2.5	2.5	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	10.7
1234789-HpCDF	<2.5	2.5	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	19.4
OCDF	<5.0	5.0	0.0003	0.00	0.00	0.00	0.001	0.00	0.00	0.00	-
Total TEQ	-	-	-	1.14	3.84	6.55	-	2.01	4.37	6.73	-

Group Totals	Conc pg/g	LOR$_4$ pg/g	No. of Peaks
Tetra-Dioxins	5.5	1.5	3
Penta-Dioxins	<12.5	12.5	5
Hexa-Dioxins	88.3	10.0	4
Hepta-Dioxins	145.0	5.0	2
Octa-Dioxin	1250.0	10.0	1
Tetra-Furans	<0.5	0.5	1
Penta-Furans	<2.5	2.5	1
Hexa-Furans	<2.5	2.5	1
Hepta-Furans	<2.5	2.5	1
Octa-Furan	<5.0	5.0	1
S **PCDD/Fs**	1488.8		

QUALITY CONTROL REPORT

Client	**AURECON AUSTRALASIA PTY LTD**	**Laboratory :**	Environmental Division Brisbane		
Contact	SALLY LEYLAND	**Contact**	CUSTOMER.SERVICES.EB	**Work Order:**	**EB1501257**
Address:	LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	**Address:**	Stafford QLD 4053 Australia		

Project	GPC Geochemical Investigation	**Quote #**	SY/1021/14 V2	**Received:**	2 Mar 2015
Order #	245553			**Issued**	17 Mar 2015
C-O-C #	- Not provided -				
Site	- Not provided -				
E-mail	sally.leyland@aurecongroup.com	**E-mail**	ALSEnviro.Brisbane@alsglobal.c	**Number of Samples**	
Phone	3173 8006	**Phone**	+61-7-3243 7222	**Received:**	3
Fax	3173 8001	**Fax**	+61-7-3243 7218	**Analysed:**	4

Samples analysed 'as received', results reported on 'dry weight' basis.

Work order specific comments

Samples BH48 0.0 - 0.6D; BH53 0.0 - 0.5D; BH28 0.0 - 0.5D showed lower than usual Labelled Compound recoveries due to matrix interferences. Sufficient recovery was achieved for quantitation.

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This document has been digitally signed by those names that appear on this report and are the authorised signatories. Digital signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatory	Position	Department
Peter Blow	HRMS Chemist	GC/HR-MS - NATA 825 (818 - Brisbane)

Environmetal www.alsglobal.com

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Quality Control Report
Laboratory Duplicates (DUP)

	Original Result	**Duplicate Result**
Laboratory Sample Id :	EB1501227001	4651131-007
Client Sample Id :	Anonymous	Anonymous
Sample Mass (g) :	10.0	10.0
Qc Lot Number :	3857752	3857752
Moisture Content (%) :		

Compound	**Conc pg/g**	**LOR pg/g**	**Conc pg/g**	**LOR pg/g**	**RPD (%)**
2378-TCDD	0.7	0.5	0.6	0.5	15.4
12378-PeCDD	<2.5	2.5	<2.4	2.4	-
123478-HxCDD	<2.5	2.5	<2.4	2.4	-
123678-HxCDD	<2.5	2.5	<2.4	2.4	-
123789-HxCDD	<2.5	2.5	<2.4	2.4	-
1234678-HpCDD	21.7	2.5	19.8	2.4	9.2
OCDD	462.0	9.8	473.0	9.8	2.4
2378-TCDF	<0.5	0.5	<0.5	0.5	-
12378-PeCDF	<2.5	2.5	<2.4	2.4	-
23478-PeCDF	<2.5	2.5	<2.4	2.4	-
123478-HxCDF	<2.5	2.5	<2.4	2.4	-
123678-HxCDF	<2.5	2.5	<2.4	2.4	-
234678-HxCDF	<2.5	2.5	<2.4	2.4	-
123789-HxCDF	<2.5	2.5	<2.4	2.4	-
1234678-HpCDF	<2.5	2.5	<2.4	2.4	-
1234789-HpCDF	<2.5	2.5	<2.4	2.4	-
OCDF	<4.9	4.9	<4.9	4.9	-

Group Totals	**Conc pg/g**	**LOR pg/g**	**Conc pg/g**	**LOR pg/g**	**RPD (%)**
Tetra-Dioxins	4.3	2.0	5.2	1.5	18.9
Penta-Dioxins	<17.2	17.2	<14.7	14.7	-
Hexa-Dioxins	51.2	14.7	52.4	9.8	2.3
Hepta-Dioxins	76.5	7.4	83.8	4.9	9.1
Octa-Dioxin	462.0	9.8	473.0	9.8	2.4
Tetra-Furans	<0.5	0.5	<0.5	0.5	-
Penta-Furans	<2.5	2.5	<2.4	2.4	-
Hexa-Furans	<2.5	2.5	<2.4	2.4	-
Hepta-Furans	<4.9	4.9	<2.4	2.4	-
Octa-Furan	<4.9	4.9	<4.9	4.9	-
Σ PCDD/Fs	**594.0**		**614.4**		**3.4**

Notes
LOR = Limit of reporting
T = tetra
Pe = penta
Hx = hexa
Hp = hepta
O = octa
CDD, dioxin = chlorinated debenzo-p-dioxin
CDF, furan = chlorinated debenzofuran
RPD = relative per cent difference
Permitted ranges for RPD are depencant upon the magnitude of the result in comparison to the LOR.
Result < 10x LOR, no limit, result between 10x and 20x LOR, 50%; result > 20x LOR, 20%
- = Where results are less than the LOR, no RPD is reported.

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Quality Control Report
Laboratory Duplicates (DUP)

	Original Result	Duplicate Result
Laboratory Sample Id :	EB1501257001	4651131-026
Client Sample Id :	BH48 0.0 - 0.6D	BH48 0.0 - 0.6D
Sample Mass (g) :	10.0	10.0
Qc Lot Number :	3857752	3857752
Moisture Content (%) :		

Compound	Conc pg/g	LOR pg/g	Conc pg/g	LOR pg/g	RPD (%)
2378-TCDD	0.9	0.5	<0.5	0.5	-
12378-PeCDD	<2.5	2.5	<2.4	2.4	-
123478-HxCDD	<2.5	2.5	<2.4	2.4	-
123678-HxCDD	<2.5	2.5	<2.4	2.4	-
123789-HxCDD	<2.5	2.5	<2.4	2.4	-
1234678-HpCDD	9.9	2.5	7.9	2.4	22.5
OCDD	466.0	9.9	459.0	9.8	1.5
2378-TCDF	<0.5	0.5	<0.5	0.5	-
12378-PeCDF	<2.5	2.5	<2.4	2.4	-
23478-PeCDF	<2.5	2.5	<2.4	2.4	-
123478-HxCDF	<2.5	2.5	<2.4	2.4	-
123678-HxCDF	<2.5	2.5	<2.4	2.4	-
234678-HxCDF	<2.5	2.5	<2.4	2.4	-
123789-HxCDF	<2.5	2.5	<2.4	2.4	-
1234678-HpCDF	<2.5	2.5	<2.4	2.4	-
1234789-HpCDF	<2.5	2.5	<2.4	2.4	-
OCDF	<4.9	4.9	<4.9	4.9	-

Group Totals	Conc pg/g	LOR pg/g	Conc pg/g	LOR pg/g	RPD (%)
Tetra-Dioxins	0.9	0.5	<0.5	0.5	-
Penta-Dioxins	<2.5	2.5	<2.4	2.4	-
Hexa-Dioxins	<14.8	14.8	<19.6	19.6	-
Hepta-Dioxins	24.1	4.9	20.6	4.9	15.7
Octa-Dioxin	466.0	9.9	459.0	9.8	1.5
Tetra-Furans	6.9	3.5	1.5	1.0	128.6
Penta-Furans	<2.5	2.5	<2.4	2.4	-
Hexa-Furans	<2.5	2.5	<2.4	2.4	-
Hepta-Furans	<7.4	7.4	<7.3	7.3	-
Octa-Furan	<4.9	4.9	<4.9	4.9	-
Σ **PCDD/Fs**	**497.9**		**481.1**		**3.4**

Notes
LOR = Limit of reporting
T = tetra
Pe = penta
Hx = hexa
Hp = hepta
O = octa
CDD, dioxin = chlorinated debenzo-p-dioxin
CDF, furan = chlorinated debenzofuran
RPD = relative per cent difference
Permitted ranges for RPD are depencant upon the magnitude of the result in comparison to the LOR.
Result < 10x LOR, no limit, result between 10x and 20x LOR, 50%; result > 20x LOR, 20%
- = Where results are less than the LOR, no RPD is reported.

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Quality Control Results
Laboratory Control Samples(LCS)

Laboratory Sample Id : 4651131-010
QC Lot Number : 3857752
Sample Name : BCR 529 Sandy soil

Compound	Conc pg/g	Lower 1 pg/g	Upper 1 pg/g	$^{13}C_{12}$ Rec(%)	Lower 2 (%)	Upper 2 (%)
2378-TCDD	4150.0	3900	5100	53.1	25	164
12378-PeCDD	484.0	390	490	54.0	25	181
123478-HxCDD	944.0	900	1500	47.5	32	141
123678-HxCDD	4510.0	4500	6300	44.2	28	130
123789-HxCDD	3310.0	2600	3400	-	-	-
2378-TCDF	86.9	65	91	36.7	24	169
12378-PeCDF	138.0	110	170	46.0	24	185
23478-PeCDF	390.0	290	430	46.1	21	178
123478-HxCDF	3810.0	2900	3900	37.9	26	152
123678-HxCDF	1050.0	940	1240	49.1	26	123
234678-HxCDF	380.0	330	410	46.7	28	136
123789-HxCDF	570.0	12	32	45.2	29	147

Notes
1. Acceptable concentration limits are as quoted on the analytical certificate for the cerified reference material
2. Acceptable recovery limits are derived from EPA1613 Revision B
T = tetra
Pe = penta
Hx = hexa
Hp = hepta
O = octa

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Quality Control Report
Method Blank (MB)

Laboratory Sample ID: 4651131-001
Qc Lot Number : 3857752

Sample Matrix: SOIL
Date Extracted: 12-Mar-2015
Date Analysed: 12-Mar-2015

Compound	Conc pg/g	LOR pg/g	WHO-TEF	WHO-TE Q_1	WHO-TE Q_2	WHO-TE Q_3	I-TEF	I-TEQ$_1$ (zero)	I-TEQ$_2$ (0.5 LOR)	I-TEQ$_3$ (LOR)	$^{13}C_{12}$ Rec(%)
2378-TCDD	<0.5	0.5	1	0.00	0.25	0.50	1	0.00	0.25	0.50	73.2
12378-PeCDD	<2.5	2.5	1	0.00	1.25	2.50	0.5	0.00	0.63	1.25	88.1
123478-HxCDD	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	61.7
123678-HxCDD	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	65.0
123789-HxCDD	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	-
1234678-HpCD	<2.5	2.5	0.01	0.00	0.01	0.03	0.01	0.00	0.01	0.03	65.4
OCDD	<10.0	10.0	0.0003	0.00	0.00	0.00	0.001	0.00	0.01	0.01	42.2
2378-TCDF	<0.5	0.5	0.1	0.00	0.03	0.05	0.1	0.00	0.03	0.05	56.9
12378-PeCDF	<2.5	2.5	0.03	0.00	0.04	0.08	0.05	0.00	0.06	0.13	64.4
23478-PeCDF	<2.5	2.5	0.3	0.00	0.38	0.75	0.5	0.00	0.63	1.25	70.3
123478-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	51.5
123678-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	57.8
234678-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	60.9
123789-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	60.0
1234678-HpCD	<2.5	2.5	0.01	0.00	0.01	0.03	0.01	0.00	0.01	0.03	52.6
1234789-HpCD	<2.5	2.5	0.01	0.00	0.01	0.03	0.01	0.00	0.01	0.03	59.5
OCDF	<5.0	5.0	0.0003	0.00	0.00	0.00	0.001	0.00	0.00	0.01	-
			S **TEQ$_{(WHO)}$**	0.00	2.89	5.72	S **TEQ$_{(I)}$**	0.00	2.55	5.04	

Group Totals	Conc pg/g	LOR$_4$ pg/g	No. of Peaks
Tetra-Dioxins	<0.5	0.5	1
Penta-Dioxins	<2.5	2.5	1
Hexa-Dioxins	<2.5	2.5	1
Hepta-Dioxins	<2.5	2.5	1
Octa-Dioxin	<10.0	10.0	1
Tetra-Furans	<0.5	0.5	1
Penta-Furans	<2.5	2.5	1
Hexa-Furans	<2.5	2.5	1
Hepta-Furans	<2.5	2.5	1
Octa-Furan	<5.0	5.0	1
S **PCDD/Fs**	0.00		

Notes
LOR = Limit of reporting
I-TEF = International toxic equivalency factor
I-TEQ = International toxic equivalence (pg/g)
WHO-TEF = World Health Organistaion toxic equivalency factor
WHO-TEQ = World Health Organisation toxic equivalence (pg/g)
T = tetra
Pe = penta
Hx = hexa
Hp =hepta
O = octa
CDD, dioxin = chlorinated dibenzo-p-dioxin
CDF, furan = chlorinated dibenzofuran
1 I -TEQ$_{(zero)}$ and WHO-TEQ$_{(zero)}$ calculated treating <LOR as zero concentration (pg/g)
2 I-TEQ$_{(0.5\ LOR)}$ and WHO-TEQ$_{(0.5\ LOR)}$ calculated treating <LOR as 50% LoR concentration (pg/g)
3 I-TEQ$_{(LOR)}$ and WHO-TEQ$_{(LOR)}$ calculated treating <LOR as LoR concentration (pg/g)
4 Totals LORs are calculated by mutiplying the number of peaks by the individual LOR per compound

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody seal intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice brick present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 27-Feb-15	DATE/TIME: 27-Feb-15 1930
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: KSchafer	RECEIVED BY:
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:		DATE/TIME: 2-3-15 1600	DATE/TIME: 3-3-15 09:15

				CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins & Furans	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	BH31 0.0 - 0.5 D	27/02/2015	S	Glass Jar (150 ml)	1				1					
2	BH41 0.0 - 0.5 D	27/02/2015	S	Glass Jar (150 ml)	1				1					
~~3~~	~~BH41 0.0 - 0.5 D~~	27/02/2015	S	Glass Jar (150 ml)	1				~~1~~					
				TOTAL	3				3					

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Environmental Division
Brisbane
Work Order
EB1501320

Telephone : +61-7-3243 7222

CERTIFICATE OF ANALYSIS

Client	**AURECON AUSTRALASIA PTY LTD**	**Laboratory :**	Environmental Division Brisbane		
Contact	MS GEORGINA KERR	**Contact**	CUSTOMER.SERVICES.EB	**Work Order:**	**EB1501320**
Address:	LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	**Address:**	2 Byth Street Stafford QLD 4053 Australia		
Project	GPC Geochemical Investigation	**Quote #**	SY/1021/14 V2	**Received:**	2 Mar 2015
Order #	245553			**Issued**	17 Mar 2015
C-O-C #	- Not provided -				
Site	- Not provided -				
E-mail	georgina.kerr@aurecongroup.com	**E-mail**	ALSEnviro.Brisbane@alsglobal.com	**Number of Samples**	
Phone	3173 8396	**Phone**	+61-7-3243 7222	**Received:**	2
Fax	3173 8001	**Fax**	+61-7-3243 7218	**Analysed:**	2

Notes

LOR = Limit of reporting
I-TEF = International toxic equivalency factor
I-TEQ = International toxic equivalence
WHO-TEF = World Health Organistaion toxic equivalency factor
WHO-TEQ = World Health Organisation toxic equivalence

1 I -TEQ(zero) and WHO-TEQ(zero) calculated treating <LOR as zero concentration
2 I -TEQ(0.5 LOR) and WHO-TEQ(0.5 zero) calculated treating <LOR as 0.5 LoR concentration
3 I-TEQ(LOR) and WHO-TEQ(LOR) calculated treating <LOR as LoR concentration
4 Totals LORs are calculated by multiplying the number of peaks by the individual LOR per compound
5 13C12 Rec(%) = The absolute recovery of Isotopically labelled compound added by the Laboratory to both quantitate and measure extraction efficiency.

T = tetra
Pe = penta
Hx = hexa
Hp =hepta
O = octa
CDD, dioxin = chlorinated dibenzo-p-dioxin
CDF, furan = chlorinated dibenzofuran

Samples analysed 'as received', results reported on 'dry weight' basis.

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NATA Accredited Laboratory - 825

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Accredited for compliance with ISO/IED 17025

This document has been digitally signed by those names that appear on this report and are the authorised signatories. Digital signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatory	Position	Department
Peter Blow	HRMS Chemist	GC/HR-MS - NATA 825 (818 - Brisbane)

Client	: AURECON AUSTRALASIA PTY LTD	**Work Order**	: EB1501320
Project	: GPC Geochemical Investigation	**ALS Quote Reference**	: SY/1021/14 V2

ANALYTICAL RESULTS FOR DIOXINS AND FURANS

Method Code EP300

Laboratory Sample ID: EB1501320001
Client Sample ID: BH31 0.0 - 0.5 D

Qc Lot Number: 3857751
Sample Matrix: SOIL

Date Sampled: 27-Feb-2015
Date Extracted: 12-Mar-2015
Date Analysed: 12-Mar-2015

Compound	Conc pg/g	LOR pg/g	WHO-TEF	WHO-TEQ$_1$ (zero)	WHO-TEQ$_2$ (0.5 LOR)	WHO-TEQ$_3$ (LOR)	I-TEF	I-TEQ$_1$ (zero)	I-TEQ$_2$ (0.5 LOR)	I-TEQ$_3$ (LOR)	$^{13}C_{12}$ Rec(%)
2378-TCDD	1.0	0.5	1	1.01	1.01	1.01	1	1.01	1.01	1.01	52.7
12378-PeCDD	<2.4	2.4	1	0.00	1.21	2.42	0.5	0.00	0.61	1.21	72.7
123478-HxCDD	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	40.6
123678-HxCDD	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	51.2
123789-HxCDD	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	-
1234678-HpCDD	12.7	2.4	0.01	0.13	0.13	0.13	0.01	0.13	0.13	0.13	49.4
OCDD	109.0	9.7	0.0003	0.03	0.03	0.03	0.001	0.11	0.11	0.11	29.2
2378-TCDF	<0.5	0.5	0.1	0.00	0.02	0.05	0.1	0.00	0.02	0.05	35.3
12378-PeCDF	<2.4	2.4	0.03	0.00	0.04	0.07	0.05	0.00	0.06	0.12	42.0
23478-PeCDF	<2.4	2.4	0.3	0.00	0.36	0.73	0.5	0.00	0.61	1.21	43.8
123478-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	32.8
123678-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	42.6
234678-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	43.4
123789-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	43.1
1234678-HpCDF	2.9	2.4	0.01	0.03	0.03	0.03	0.01	0.03	0.03	0.03	33.3
1234789-HpCDF	<2.4	2.4	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	40.3
OCDF	8.9	4.8	0.0003	0.00	0.00	0.00	0.001	0.01	0.01	0.01	-
Total TEQ	-	-	-	1.20	3.70	6.20	-	1.28	3.44	5.60	-

Group Totals	Conc pg/g	LOR$_4$ pg/g	No. of Peaks
Tetra-Dioxins	<3.4	3.4	7
Penta-Dioxins	<7.3	7.3	3
Hexa-Dioxins	<17.0	17.0	7
Hepta-Dioxins	23.6	4.8	2
Octa-Dioxin	109.0	9.7	1
Tetra-Furans	5.8	3.9	8
Penta-Furans	<17.0	17.0	7
Hexa-Furans	<14.5	14.5	6
Hepta-Furans	<7.3	7.3	3
Octa-Furan	8.9	4.8	1
S **PCDD/Fs**	147.3		

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Client	: AURECON AUSTRALASIA PTY LTD	**Work Order**	: EB1501320
Project	: GPC Geochemical Investigation	**ALS Quote Reference**	: SY/1021/14 V2

ANALYTICAL RESULTS FOR DIOXINS AND FURANS

Method Code EP300

Laboratory Sample ID: EB1501320002
Client Sample ID: BH41 0.0 - 0.5 D

Qc Lot Number: 3857752
Sample Matrix: SOIL

Date Sampled: 27-Feb-2015
Date Extracted: 12-Mar-2015
Date Analysed: 12-Mar-2015

Compound	Conc pg/g	LOR pg/g	WHO-TEF	WHO-TEQ$_1$ (zero)	WHO-TEQ$_2$ (0.5 LOR)	WHO-TEQ$_3$ (LOR)	I-TEF	I-TEQ$_1$ (zero)	I-TEQ$_2$ (0.5 LOR)	I-TEQ$_3$ (LOR)	$^{13}C_{12}$ Rec(%)
2378-TCDD	<0.5	0.5	1	0.00	0.24	0.49	1	0.00	0.24	0.49	75.9
12378-PeCDD	<2.4	2.4	1	0.00	1.22	2.45	0.5	0.00	0.61	1.22	122.3
123478-HxCDD	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	55.8
123678-HxCDD	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	64.7
123789-HxCDD	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	-
1234678-HpCDD	7.9	2.4	0.01	0.08	0.08	0.08	0.01	0.08	0.08	0.08	48.1
OCDD	341.0	9.8	0.0003	0.10	0.10	0.10	0.001	0.34	0.34	0.34	18.3
2378-TCDF	<0.5	0.5	0.1	0.00	0.02	0.05	0.1	0.00	0.02	0.05	62.2
12378-PeCDF	<2.4	2.4	0.03	0.00	0.04	0.07	0.05	0.00	0.06	0.12	71.1
23478-PeCDF	<2.4	2.4	0.3	0.00	0.37	0.73	0.5	0.00	0.61	1.22	76.8
123478-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	44.0
123678-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	49.6
234678-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	51.6
123789-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	59.9
1234678-HpCDF	<2.4	2.4	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	29.0
1234789-HpCDF	<2.4	2.4	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	47.5
OCDF	<4.9	4.9	0.0003	0.00	0.00	0.00	0.001	0.00	0.00	0.00	-
Total TEQ	-	-	-	0.18	2.96	5.74	-	0.42	2.86	5.29	-

Group Totals	Conc pg/g	LOR$_4$ pg/g	No. of Peaks
Tetra-Dioxins	<0.5	0.5	1
Penta-Dioxins	<2.4	2.4	1
Hexa-Dioxins	16.2	9.8	4
Hepta-Dioxins	26.9	4.9	2
Octa-Dioxin	341.0	9.8	1
Tetra-Furans	<0.5	0.5	1
Penta-Furans	<2.4	2.4	1
Hexa-Furans	<2.4	2.4	1
Hepta-Furans	<2.4	2.4	1
Octa-Furan	<4.9	4.9	1
S **PCDD/Fs**	384.1		

QUALITY CONTROL REPORT

Client	**AURECON AUSTRALASIA PTY LTD**	**Laboratory :**	Environmental Division Brisbane		
Contact	MS GEORGINA KERR	**Contact**	CUSTOMER.SERVICES.EB	**Work Order:**	**EB1501320**
Address:	LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	**Address:**	Stafford QLD 4053 Australia		

Project	GPC Geochemical Investigation	**Quote #**	SY/1021/14 V2	**Received:**	2 Mar 2015
Order #	245553			**Issued**	17 Mar 2015
C-O-C #	- Not provided -				
Site	- Not provided -				
E-mail	georgina.kerr@aurecongroup.com	**E-mail**	ALSEnviro.Brisbane@alsglobal.c	**Number of Samples**	
Phone	3173 8396	**Phone**	+61-7-3243 7222	**Received:**	2
Fax	3173 8001	**Fax**	+61-7-3243 7218	**Analysed:**	4

Samples analysed 'as received', results reported on 'dry weight' basis.

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Signatory	Position	Department
Peter Blow	HRMS Chemist	GC/HR-MS - NATA 825 (818 - Brisbane)

Quality Control Report
Laboratory Duplicates (DUP)

	Original Result	**Duplicate Result**
Laboratory Sample Id :	EB1501227001	4651131-007
Client Sample Id :	Anonymous	Anonymous
Sample Mass (g) :	10.0	10.0
Qc Lot Number :	3857752	3857752
Moisture Content (%) :		

Compound	**Conc pg/g**	**LOR pg/g**	**Conc pg/g**	**LOR pg/g**	**RPD (%)**
2378-TCDD	0.7	0.5	0.6	0.5	15.4
12378-PeCDD	<2.5	2.5	<2.4	2.4	-
123478-HxCDD	<2.5	2.5	<2.4	2.4	-
123678-HxCDD	<2.5	2.5	<2.4	2.4	-
123789-HxCDD	<2.5	2.5	<2.4	2.4	-
1234678-HpCDD	21.7	2.5	19.8	2.4	9.2
OCDD	462.0	9.8	473.0	9.8	2.4
2378-TCDF	<0.5	0.5	<0.5	0.5	-
12378-PeCDF	<2.5	2.5	<2.4	2.4	-
23478-PeCDF	<2.5	2.5	<2.4	2.4	-
123478-HxCDF	<2.5	2.5	<2.4	2.4	-
123678-HxCDF	<2.5	2.5	<2.4	2.4	-
234678-HxCDF	<2.5	2.5	<2.4	2.4	-
123789-HxCDF	<2.5	2.5	<2.4	2.4	-
1234678-HpCDF	<2.5	2.5	<2.4	2.4	-
1234789-HpCDF	<2.5	2.5	<2.4	2.4	-
OCDF	<4.9	4.9	<4.9	4.9	-

Group Totals	**Conc pg/g**	**LOR pg/g**	**Conc pg/g**	**LOR pg/g**	**RPD (%)**
Tetra-Dioxins	4.3	2.0	5.2	1.5	18.9
Penta-Dioxins	<17.2	17.2	<14.7	14.7	-
Hexa-Dioxins	51.2	14.7	52.4	9.8	2.3
Hepta-Dioxins	76.5	7.4	83.8	4.9	9.1
Octa-Dioxin	462.0	9.8	473.0	9.8	2.4
Tetra-Furans	<0.5	0.5	<0.5	0.5	-
Penta-Furans	<2.5	2.5	<2.4	2.4	-
Hexa-Furans	<2.5	2.5	<2.4	2.4	-
Hepta-Furans	<4.9	4.9	<2.4	2.4	-
Octa-Furan	<4.9	4.9	<4.9	4.9	-
Σ **PCDD/Fs**	**594.0**		**614.4**		**3.4**

Notes
LOR = Limit of reporting
T = tetra
Pe = penta
Hx = hexa
Hp = hepta
O = octa
CDD, dioxin = chlorinated debenzo-p-dioxin
CDF, furan = chlorinated debenzofuran
RPD = relative per cent difference
Permitted ranges for RPD are depencant upon the magnitude of the result in comparison to the LOR.
Result < 10x LOR, no limit, result between 10x and 20x LOR, 50%; result > 20x LOR, 20%
- = Where results are less than the LOR, no RPD is reported.

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Quality Control Report
Laboratory Duplicates (DUP)

	Original Result	**Duplicate Result**
Laboratory Sample Id :	EB1501257001	4651131-026
Client Sample Id :	Anonymous	Anonymous
Sample Mass (g) :	10.0	10.0
Qc Lot Number :	3857752	3857752
Moisture Content (%) :		

Compound	**Conc pg/g**	**LOR pg/g**	**Conc pg/g**	**LOR pg/g**	**RPD (%)**
2378-TCDD	0.9	0.5	<0.5	0.5	-
12378-PeCDD	<2.5	2.5	<2.4	2.4	-
123478-HxCDD	<2.5	2.5	<2.4	2.4	-
123678-HxCDD	<2.5	2.5	<2.4	2.4	-
123789-HxCDD	<2.5	2.5	<2.4	2.4	-
1234678-HpCDD	9.9	2.5	7.9	2.4	22.5
OCDD	466.0	9.9	459.0	9.8	1.5
2378-TCDF	<0.5	0.5	<0.5	0.5	-
12378-PeCDF	<2.5	2.5	<2.4	2.4	-
23478-PeCDF	<2.5	2.5	<2.4	2.4	-
123478-HxCDF	<2.5	2.5	<2.4	2.4	-
123678-HxCDF	<2.5	2.5	<2.4	2.4	-
234678-HxCDF	<2.5	2.5	<2.4	2.4	-
123789-HxCDF	<2.5	2.5	<2.4	2.4	-
1234678-HpCDF	<2.5	2.5	<2.4	2.4	-
1234789-HpCDF	<2.5	2.5	<2.4	2.4	-
OCDF	<4.9	4.9	<4.9	4.9	-

Group Totals	**Conc pg/g**	**LOR pg/g**	**Conc pg/g**	**LOR pg/g**	**RPD (%)**
Tetra-Dioxins	0.9	0.5	<0.5	0.5	-
Penta-Dioxins	<2.5	2.5	<2.4	2.4	-
Hexa-Dioxins	<14.8	14.8	<19.6	19.6	-
Hepta-Dioxins	24.1	4.9	20.6	4.9	15.7
Octa-Dioxin	466.0	9.9	459.0	9.8	1.5
Tetra-Furans	6.9	3.5	1.5	1.0	128.6
Penta-Furans	<2.5	2.5	<2.4	2.4	-
Hexa-Furans	<2.5	2.5	<2.4	2.4	-
Hepta-Furans	<7.4	7.4	<7.3	7.3	-
Octa-Furan	<4.9	4.9	<4.9	4.9	-
Σ **PCDD/Fs**	**497.9**		**481.1**		**3.4**

Notes
LOR = Limit of reporting
T = tetra
Pe = penta
Hx = hexa
Hp = hepta
O = octa
CDD, dioxin = chlorinated debenzo-p-dioxin
CDF, furan = chlorinated debenzofuran
RPD = relative per cent difference
Permitted ranges for RPD are depencant upon the magnitude of the result in comparison to the LOR.
Result < 10x LOR, no limit, result between 10x and 20x LOR, 50%; result > 20x LOR, 20%
- = Where results are less than the LOR, no RPD is reported.

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Quality Control Results
Laboratory Control Samples(LCS)

Laboratory Sample Id : 4651131-010
QC Lot Number : 3857752
Sample Name : BCR 529 Sandy soil

Compound	Conc pg/g	Lower 1 pg/g	Upper 1 pg/g	$^{13}C_{12}$ Rec(%)	Lower 2 (%)	Upper 2 (%)
2378-TCDD	4150.0	3900	5100	53.1	25	164
12378-PeCDD	484.0	390	490	54.0	25	181
123478-HxCDD	944.0	900	1500	47.5	32	141
123678-HxCDD	4510.0	4500	6300	44.2	28	130
123789-HxCDD	3310.0	2600	3400	-	-	-
2378-TCDF	86.9	65	91	36.7	24	169
12378-PeCDF	138.0	110	170	46.0	24	185
23478-PeCDF	390.0	290	430	46.1	21	178
123478-HxCDF	3810.0	2900	3900	37.9	26	152
123678-HxCDF	1050.0	940	1240	49.1	26	123
234678-HxCDF	380.0	330	410	46.7	28	136
123789-HxCDF	570.0	12	32	45.2	29	147

Notes
1. Acceptable concentration limits are as quoted on the analytical certificate for the cerified reference material
2. Acceptable recovery limits are derived from EPA1613 Revision B
T = tetra
Pe = penta
Hx = hexa
Hp = hepta
O = octa

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Quality Control Report
Method Blank (MB)

Laboratory Sample ID: 4651131-001
Qc Lot Number : 3857752

Sample Matrix: SOIL
Date Extracted: 12-Mar-2015
Date Analysed: 12-Mar-2015

Compound	Conc pg/g	LOR pg/g	WHO-TEF	WHO-TE Q_1	WHO-TE Q_2	WHO-TE Q_3	I-TEF	I-TEQ$_1$ (zero)	I-TEQ$_2$ (0.5 LOR)	I-TEQ$_3$ (LOR)	$^{13}C_{12}$ Rec(%)
2378-TCDD	<0.5	0.5	1	0.00	0.25	0.50	1	0.00	0.25	0.50	73.2
12378-PeCDD	<2.5	2.5	1	0.00	1.25	2.50	0.5	0.00	0.63	1.25	88.1
123478-HxCDD	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	61.7
123678-HxCDD	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	65.0
123789-HxCDD	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	-
1234678-HpCD	<2.5	2.5	0.01	0.00	0.01	0.03	0.01	0.00	0.01	0.03	65.4
OCDD	<10.0	10.0	0.0003	0.00	0.00	0.00	0.001	0.00	0.01	0.01	42.2
2378-TCDF	<0.5	0.5	0.1	0.00	0.03	0.05	0.1	0.00	0.03	0.05	56.9
12378-PeCDF	<2.5	2.5	0.03	0.00	0.04	0.08	0.05	0.00	0.06	0.13	64.4
23478-PeCDF	<2.5	2.5	0.3	0.00	0.38	0.75	0.5	0.00	0.63	1.25	70.3
123478-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	51.5
123678-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	57.8
234678-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	60.9
123789-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	60.0
1234678-HpCD	<2.5	2.5	0.01	0.00	0.01	0.03	0.01	0.00	0.01	0.03	52.6
1234789-HpCD	<2.5	2.5	0.01	0.00	0.01	0.03	0.01	0.00	0.01	0.03	59.5
OCDF	<5.0	5.0	0.0003	0.00	0.00	0.00	0.001	0.00	0.00	0.01	-
			S **TEQ$_{(WHO)}$**	0.00	2.89	5.72	S **TEQ$_{(I)}$**	0.00	2.55	5.04	

Group Totals	Conc pg/g	LOR$_4$ pg/g	No. of Peaks
Tetra-Dioxins	<0.5	0.5	1
Penta-Dioxins	<2.5	2.5	1
Hexa-Dioxins	<2.5	2.5	1
Hepta-Dioxins	<2.5	2.5	1
Octa-Dioxin	<10.0	10.0	1
Tetra-Furans	<0.5	0.5	1
Penta-Furans	<2.5	2.5	1
Hexa-Furans	<2.5	2.5	1
Hepta-Furans	<2.5	2.5	1
Octa-Furan	<5.0	5.0	1
S **PCDD/Fs**	0.00		

Notes
LOR = Limit of reporting
I-TEF = International toxic equivalency factor
I-TEQ = International toxic equivalence (pg/g)
WHO-TEF = World Health Organistaion toxic equivalency factor
WHO-TEQ = World Health Organisation toxic equivalence (pg/g)
T = tetra
Pe = penta
Hx = hexa
Hp =hepta
O = octa
CDD, dioxin = chlorinated dibenzo-p-dioxin
CDF, furan = chlorinated dibenzofuran
1 I -TEQ$_{(zero)}$ and WHO-TEQ$_{(zero)}$ calculated treating <LOR as zero concentration (pg/g)
2 I-TEQ$_{(0.5\ LOR)}$ and WHO-TEQ$_{(0.5\ LOR)}$ calculated treating <LOR as 50% LoR concentration (pg/g)
3 I-TEQ$_{(LOR)}$ and WHO-TEQ$_{(LOR)}$ calculated treating <LOR as LoR concentration (pg/g)
4 Totals LORs are calculated by mutiplying the number of peaks by the individual LOR per compound

ALS Environmental

CHAIN OF CUSTODY

ALS Laboratory: please tick →

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround		Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comment:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*	*Kschafer*	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		3 February 2015	3 February 2015	4.2.15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
	PC1 0.5D	3/02/2015	S	Glass Jar (150 ml)	1				1					Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
				TOTAL:	1				1					

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric F Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Environmental Division
Brisbane
Work Order
EB1500621

Telephone : +61-7-3243 7222

CERTIFICATE OF ANALYSIS

Client	**AURECON AUSTRALASIA PTY LTD**	**Laboratory :**	Environmental Division Brisbane		
Contact	SALLY LEYLAND	**Contact**	CUSTOMER.SERVICES.EB	**Work Order:**	**EB1500621**
Address:	LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	**Address:**	2 Byth Street Stafford QLD 4053 Australia		
Project	GPC Geochemical Investigation	**Quote #**	SY/1021/14 V2	**Received:**	9 Feb 2015
Order #	245553			**Issued**	17 Feb 2015
C-O-C #	- Not provided -				
Site	- Not provided -				
E-mail	sally.leyland@aurecongroup.com	**E-mail**	ALSEnviro.Brisbane@alsglobal.com	**Number of Samples**	
Phone	3173 8006	**Phone**	+61-7-3243 7222	**Received:**	1
Fax	3173 8001	**Fax**	+61-7-3243 7218	**Analysed:**	1

Notes
LOR = Limit of reporting
I-TEF = International toxic equivalency factor
I-TEQ = International toxic equivalence
WHO-TEF = World Health Organistaion toxic equivalency factor
WHO-TEQ = World Health Organisation toxic equivalence

1 I -TEQ(zero) and WHO-TEQ(zero) calculated treating <LOR as zero concentration
2 I -TEQ(0.5 LOR) and WHO-TEQ(0.5 zero) calculated treating <LOR as 0.5 LoR concentration
3 I-TEQ(LOR) and WHO-TEQ(LOR) calculated treating <LOR as LoR concentration
4 Totals LORs are calculated by multiplying the number of peaks by the individual LOR per compound
5 13C12 Rec(%) = The absolute recovery of Isotopically labelled compound added by the Laboratory to both quantitate and measure extraction efficiency.

T = tetra
Pe = penta
Hx = hexa
Hp =hepta
O = octa
CDD, dioxin = chlorinated dibenzo-p-dioxin
CDF, furan = chlorinated dibenzofuran

Work order specific comments

Samples analysed 'as received', results reported on 'dry weight' basis.

Lower than usual Labelled Compound recoveries were observed due to matrix interferences. Sufficient recovery was achieved for quantitation.

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NATA Accredited Laboratory - 825

This document is issued in accordance with NATA's accreditation requirements.

Accredited for compliance with ISO/IED 17025

This document has been digitally signed by those names that appear on this report and are the authorised signatories. Digital signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatory	Position	Department
Peter Blow	HRMS Chemist	GC/HR-MS - NATA 825 (818 - Brisbane)

Client	: AURECON AUSTRALASIA PTY LTD	**Work Order**	: EB1500621
Project	: GPC Geochemical Investigation	**ALS Quote Reference**	: SY/1021/14 V2

ANALYTICAL RESULTS FOR DIOXINS AND FURANS

Method Code EP300

Laboratory Sample ID: EB1500621001
Client Sample ID: PC1 0.5D
Qc Lot Number: 3823911
Sample Matrix: SOIL
Date Sampled: 03-Feb-2015
Date Extracted: 13-Feb-2015
Date Analysed: 13-Feb-2015

Compound	Conc pg/g	LOR pg/g	WHO-TEF	WHO-TEQ$_1$ (zero)	WHO-TEQ$_2$ (0.5 LOR)	WHO-TEQ$_3$ (LOR)	I-TEF	I-TEQ$_1$ (zero)	I-TEQ$_2$ (0.5 LOR)	I-TEQ$_3$ (LOR)	$^{13}C_{12}$ Rec(%)
2378-TCDD	<0.5	0.5	1	0.00	0.25	0.49	1	0.00	0.25	0.49	60.2
12378-PeCDD	<2.5	2.5	1	0.00	1.23	2.46	0.5	0.00	0.62	1.23	90.6
123478-HxCDD	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	56.3
123678-HxCDD	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	45.4
123789-HxCDD	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	-
1234678-HpCDD	21.9	2.5	0.01	0.22	0.22	0.22	0.01	0.22	0.22	0.22	36.5
OCDD	482.0	9.9	0.0003	0.14	0.14	0.14	0.001	0.48	0.48	0.48	11.7
2378-TCDF	<0.5	0.5	0.1	0.00	0.02	0.05	0.1	0.00	0.02	0.05	58.3
12378-PeCDF	<2.5	2.5	0.03	0.00	0.04	0.07	0.05	0.00	0.06	0.12	69.4
23478-PeCDF	<2.5	2.5	0.3	0.00	0.37	0.74	0.5	0.00	0.62	1.23	69.1
123478-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	53.9
123678-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	48.8
234678-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	52.5
123789-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	56.1
1234678-HpCDF	<2.5	2.5	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	29.9
1234789-HpCDF	<2.5	2.5	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	36.9
OCDF	<4.9	4.9	0.0003	0.00	0.00	0.00	0.001	0.00	0.00	0.00	-
Total TEQ	-	-	-	0.36	3.16	5.96	-	0.70	3.15	5.61	-

Group Totals	Conc pg/g	LOR$_4$ pg/g	No. of Peaks
Tetra-Dioxins	4.3	2.5	5
Penta-Dioxins	<19.7	19.7	8
Hexa-Dioxins	71.9	17.2	7
Hepta-Dioxins	95.6	4.9	2
Octa-Dioxin	482.0	9.9	1
Tetra-Furans	<3.0	3.0	6
Penta-Furans	<2.5	2.5	1
Hexa-Furans	<2.5	2.5	1
Hepta-Furans	<4.9	4.9	2
Octa-Furan	<4.9	4.9	1
S **PCDD/Fs**	653.8		

QUALITY CONTROL REPORT

Client	**AURECON AUSTRALASIA PTY LTD**	**Laboratory :**	Environmental Division Brisbane		
Contact	SALLY LEYLAND	**Contact**	CUSTOMER.SERVICES.EB	**Work Order:**	**EB1500621**
Address:	LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	**Address:**	Stafford QLD 4053 Australia		

Project	GPC Geochemical Investigation	**Quote #**	SY/1021/14 V2	**Received:**	9 Feb 2015
Order #	245553			**Issued**	17 Feb 2015
C-O-C #	- Not provided -				
Site	- Not provided -				
E-mail	sally.leyland@aurecongroup.com	**E-mail**	ALSEnviro.Brisbane@alsglobal.c	**Number of Samples**	
Phone	3173 8006	**Phone**	+61-7-3243 7222	**Received:**	1
Fax	3173 8001	**Fax**	+61-7-3243 7218	**Analysed:**	3

Samples analysed 'as received', results reported on 'dry weight' basis.

Work order specific comments

Lower than usual Labelled Compound recoveries were observed due to matrix interferences. Sufficient recovery was achieved for quantitation.

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This document is issued in accordance with NATA's accreditation requirements.

Accredited for compliance with ISO/IED 17025

This document has been digitally signed by those names that appear on this report and are the authorised signatories. Digital signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatory	Position	Department
Peter Blow	HRMS Chemist	GC/HR-MS - NATA 825 (818 - Brisbane)

Quality Control Report
Laboratory Duplicates (DUP)

	Original Result	Duplicate Result
Laboratory Sample Id :	EB1500367001	4606075-007
Client Sample Id :	Anonymous	Anonymous
Sample Mass (g) :	10.0	10.0
Qc Lot Number :	3823912	3823912
Moisture Content (%) :		

Compound	Conc pg/g	LOR pg/g	Conc pg/g	LOR pg/g	RPD (%)
2378-TCDD	<0.5	0.5	<0.5	0.5	-
12378-PeCDD	<2.4	2.4	<2.4	2.4	-
123478-HxCDD	<2.4	2.4	<2.4	2.4	-
123678-HxCDD	<2.4	2.4	<2.4	2.4	-
123789-HxCDD	<2.4	2.4	<2.4	2.4	-
1234678-HpCDD	114.0	2.4	130.0	2.4	13.1
OCDD	2660.0	9.7	2860.0	9.7	7.2
2378-TCDF	<0.5	0.5	<0.5	0.5	-
12378-PeCDF	<2.4	2.4	<2.4	2.4	-
23478-PeCDF	<2.4	2.4	<2.4	2.4	-
123478-HxCDF	<2.4	2.4	<2.4	2.4	-
123678-HxCDF	<2.4	2.4	<2.4	2.4	-
234678-HxCDF	<2.4	2.4	<2.4	2.4	-
123789-HxCDF	<2.4	2.4	<2.4	2.4	-
1234678-HpCDF	2.8	2.4	2.8	2.4	0.0
1234789-HpCDF	<2.4	2.4	<2.4	2.4	-
OCDF	<4.8	4.8	<4.8	4.8	-

Group Totals	Conc pg/g	LOR pg/g	Conc pg/g	LOR pg/g	RPD (%)
Tetra-Dioxins	<0.5	0.5	<0.5	0.5	-
Penta-Dioxins	<2.4	2.4	<2.4	2.4	-
Hexa-Dioxins	36.6	12.1	33.9	14.5	7.7
Hepta-Dioxins	275.0	4.8	304.0	4.8	10.0
Octa-Dioxin	2660.0	9.7	2860.0	9.7	7.2
Tetra-Furans	4.6	1.0	3.5	1.0	27.2
Penta-Furans	<2.4	2.4	<2.4	2.4	-
Hexa-Furans	<2.4	2.4	<2.4	2.4	-
Hepta-Furans	6.3	4.8	6.1	4.8	3.2
Octa-Furan	<4.8	4.8	<4.8	4.8	-
Σ **PCDD/Fs**	**2982.5**		**3207.5**		**7.3**

Notes
LOR = Limit of reporting
T = tetra
Pe = penta
Hx = hexa
Hp = hepta
O = octa
CDD, dioxin = chlorinated debenzo-p-dioxin
CDF, furan = chlorinated debenzofuran
RPD = relative per cent difference
Permitted ranges for RPD are depencant upon the magnitude of the result in comparison to the LOR.
Result < 10x LOR, no limit, result between 10x and 20x LOR, 50%; result > 20x LOR, 20%
- = Where results are less than the LOR, no RPD is reported.

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Quality Control Report
Laboratory Duplicates (DUP)

	Original Result	Duplicate Result
Laboratory Sample Id :	EB1500615006	4606075-026
Client Sample Id :	Anonymous	Anonymous
Sample Mass (g) :	10.0	10.0
Qc Lot Number :	3823912	3823912
Moisture Content (%) :		

Compound	Conc pg/g	LOR pg/g	Conc pg/g	LOR pg/g	RPD (%)
2378-TCDD	<0.5	0.5	<0.5	0.5	-
12378-PeCDD	<2.5	2.5	<2.5	2.5	-
123478-HxCDD	<2.5	2.5	<2.5	2.5	-
123678-HxCDD	<2.5	2.5	<2.5	2.5	-
123789-HxCDD	<2.5	2.5	<2.5	2.5	-
1234678-HpCDD	6.3	2.5	2.5	2.5	86.4
OCDD	123.0	9.8	101.0	9.9	19.6
2378-TCDF	<0.5	0.5	<0.5	0.5	-
12378-PeCDF	<2.5	2.5	<2.5	2.5	-
23478-PeCDF	<2.5	2.5	<2.5	2.5	-
123478-HxCDF	<2.5	2.5	<2.5	2.5	-
123678-HxCDF	<2.5	2.5	<2.5	2.5	-
234678-HxCDF	<2.5	2.5	<2.5	2.5	-
123789-HxCDF	<2.5	2.5	<2.5	2.5	-
1234678-HpCDF	<2.5	2.5	<2.5	2.5	-
1234789-HpCDF	<2.5	2.5	<2.5	2.5	-
OCDF	<4.9	4.9	<5.0	5.0	-

Group Totals	Conc pg/g	LOR pg/g	Conc pg/g	LOR pg/g	RPD (%)
Tetra-Dioxins	<0.5	0.5	<0.5	0.5	-
Penta-Dioxins	<2.5	2.5	<2.5	2.5	-
Hexa-Dioxins	<14.8	14.8	<14.9	14.9	-
Hepta-Dioxins	12.7	4.9	5.9	5.0	73.1
Octa-Dioxin	123.0	9.8	101.0	9.9	19.6
Tetra-Furans	<4.9	4.9	<7.4	7.4	-
Penta-Furans	<2.5	2.5	<2.5	2.5	-
Hexa-Furans	<17.2	17.2	<17.4	17.4	-
Hepta-Furans	<7.4	7.4	<7.4	7.4	-
Octa-Furan	<4.9	4.9	<5.0	5.0	-
Σ **PCDD/Fs**	**135.7**		**106.9**		**23.7**

Notes
LOR = Limit of reporting
T = tetra
Pe = penta
Hx = hexa
Hp = hepta
O = octa
CDD, dioxin = chlorinated debenzo-p-dioxin
CDF, furan = chlorinated debenzofuran
RPD = relative per cent difference
Permitted ranges for RPD are depencant upon the magnitude of the result in comparison to the LOR.
Result < 10x LOR, no limit, result between 10x and 20x LOR, 50%; result > 20x LOR, 20%
- = Where results are less than the LOR, no RPD is reported.

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Quality Control Results
Laboratory Control Samples(LCS)

Laboratory Sample Id : 4606075-010
QC Lot Number : 3823912
Sample Name : BCR 529 Sandy soil

Compound	Conc pg/g	Lower 1 pg/g	Upper 1 pg/g	$^{13}C_{12}$ Rec(%)	Lower 2 (%)	Upper 2 (%)
2378-TCDD	4530.0	3900	5100	68.2	25	164
12378-PeCDD	440.0	390	490	67.9	25	181
123478-HxCDD	1080.0	900	1500	76.4	32	141
123678-HxCDD	4900.0	4500	6300	60.3	28	130
123789-HxCDD	3140.0	2600	3400	-	-	-
2378-TCDF	68.4	65	91	48.8	24	169
12378-PeCDF	168.0	110	170	57.4	24	185
23478-PeCDF	426.0	290	430	53.9	21	178
123478-HxCDF	3440.0	2900	3900	71.4	26	152
123678-HxCDF	1040.0	940	1240	64.3	26	123
234678-HxCDF	364.0	330	410	66.5	28	136
123789-HxCDF	571.0	12	32	61.9	29	147

Notes
1. Acceptable concentration limits are as quoted on the analytical certificate for the cerified reference material
2. Acceptable recovery limits are derived from EPA1613 Revision B
T = tetra
Pe = penta
Hx = hexa
Hp = hepta
O = octa

An ALS Limited Company

Quality Control Report
Method Blank (MB)

Laboratory Sample ID: 4606075-001
Qc Lot Number : 3823912

Sample Matrix: SOIL
Date Extracted: 13-Feb-2015
Date Analysed: 13-Feb-2015

Compound	Conc pg/g	LOR pg/g	WHO-TEF	WHO-TE Q_1	WHO-TE Q_2	WHO-TE Q_3	I-TEF	I-TEQ$_1$ (zero)	I-TEQ$_2$ (0.5 LOR)	I-TEQ$_3$ (LOR)	$^{13}C_{12}$ Rec(%)
2378-TCDD	<0.5	0.5	1	0.00	0.25	0.50	1	0.00	0.25	0.50	70.4
12378-PeCDD	<2.5	2.5	1	0.00	1.25	2.50	0.5	0.00	0.63	1.25	80.3
123478-HxCDD	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	69.1
123678-HxCDD	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	59.5
123789-HxCDD	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	-
1234678-HpCD	<2.5	2.5	0.01	0.00	0.01	0.03	0.01	0.00	0.01	0.03	47.2
OCDD	<10.0	10.0	0.0003	0.00	0.00	0.00	0.001	0.00	0.01	0.01	16.9
2378-TCDF	<0.5	0.5	0.1	0.00	0.03	0.05	0.1	0.00	0.03	0.05	45.6
12378-PeCDF	<2.5	2.5	0.03	0.00	0.04	0.08	0.05	0.00	0.06	0.13	59.9
23478-PeCDF	<2.5	2.5	0.3	0.00	0.38	0.75	0.5	0.00	0.63	1.25	65.0
123478-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	61.0
123678-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	56.2
234678-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	61.3
123789-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	54.7
1234678-HpCD	<2.5	2.5	0.01	0.00	0.01	0.03	0.01	0.00	0.01	0.03	42.0
1234789-HpCD	<2.5	2.5	0.01	0.00	0.01	0.03	0.01	0.00	0.01	0.03	37.4
OCDF	<5.0	5.0	0.0003	0.00	0.00	0.00	0.001	0.00	0.00	0.01	-
			S **TEQ(WHO)**	0.00	2.89	5.72	S **TEQ(I)**	0.00	2.55	5.04	

Group Totals	Conc pg/g	LOR$_4$ pg/g	No. of Peaks
Tetra-Dioxins	<0.5	0.5	1
Penta-Dioxins	<2.5	2.5	1
Hexa-Dioxins	<2.5	2.5	1
Hepta-Dioxins	<2.5	2.5	1
Octa-Dioxin	<10.0	10.0	1
Tetra-Furans	<0.5	0.5	1
Penta-Furans	<2.5	2.5	1
Hexa-Furans	<2.5	2.5	1
Hepta-Furans	<2.5	2.5	1
Octa-Furan	<5.0	5.0	1
S **PCDD/Fs**	0.00		

Notes
LOR = Limit of reporting
I-TEF = International toxic equivalency factor
I-TEQ = International toxic equivalence (pg/g)
WHO-TEF = World Health Organistaion toxic equivalency factor
WHO-TEQ = World Health Organisation toxic equivalence (pg/g)
T = tetra
Pe = penta
Hx = hexa
Hp =hepta
O = octa
CDD, dioxin = chlorinated dibenzo-p-dioxin
CDF, furan = chlorinated dibenzofuran
1 I -TEQ(zero) and WHO-TEQ(zero) calculated treating <LOR as zero concentration (pg/g)
2 I-TEQ(0.5 LOR) and WHO-TEQ(0.5 LOR) calculated treating <LOR as 50% LoR concentration (pg/g)
3 I-TEQ(LOR) and WHO-TEQ(LOR) calculated treating <LOR as LoR concentration (pg/g)
4 Totals LORs are calculated by mutiplying the number of peaks by the individual LOR per compound

CERTIFICATE OF ANALYSIS

Client	**AURECON AUSTRALASIA PTY LTD**	**Laboratory :**	Environmental Division Brisbane		
Contact	SALLY LEYLAND	**Contact**	CUSTOMER.SERVICES.EB	**Work Order:**	**EB1500759**
Address:	LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	**Address:**	2 Byth Street Stafford QLD 4053 Australia		
Project	GPC Geochemical Investigation	**Quote #**	SY/1021/14 V2	**Received:**	5 Feb 2015
Order #	245553			**Issued**	17 Feb 2015
C-O-C #	- Not provided -				
Site	- Not provided -				
E-mail	sally.leyland@aurecongroup.com	**E-mail**	ALSEnviro.Brisbane@alsglobal.com	**Number of Samples**	
Phone	3173 8006	**Phone**	+61-7-3243 7222	**Received:**	1
Fax	3173 8001	**Fax**	+61-7-3243 7218	**Analysed:**	1

Notes

LOR = Limit of reporting
I-TEF = International toxic equivalency factor
I-TEQ = International toxic equivalence
WHO-TEF = World Health Organistaion toxic equivalency factor
WHO-TEQ = World Health Organisation toxic equivalence

1 I -TEQ(zero) and WHO-TEQ(zero) calculated treating <LOR as zero concentration
2 I -TEQ(0.5 LOR) and WHO-TEQ(0.5 zero) calculated treating <LOR as 0.5 LoR concentration
3 I-TEQ(LOR) and WHO-TEQ(LOR) calculated treating <LOR as LoR concentration
4 Totals LORs are calculated by multiplying the number of peaks by the individual LOR per compound
5 13C12 Rec(%) = The absolute recovery of Isotopically labelled compound added by the Laboratory to both quantitate and measure extraction efficiency.

T = tetra
Pe = penta
Hx = hexa
Hp =hepta
O = octa
CDD, dioxin = chlorinated dibenzo-p-dioxin
CDF, furan = chlorinated dibenzofuran

Samples analysed 'as received', results reported on 'dry weight' basis.

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Accredited for compliance with ISO/IED 17025

This document has been digitally signed by those names that appear on this report and are the authorised signatories. Digital signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatory	Position	Department
Peter Blow	HRMS Chemist	GC/HR-MS - NATA 825 (818 - Brisbane)

Client	: AURECON AUSTRALASIA PTY LTD	**Work Order**	: EB1500759
Project	: GPC Geochemical Investigation	**ALS Quote Reference**	: SY/1021/14 V2

ANALYTICAL RESULTS FOR DIOXINS AND FURANS

Method Code EP300

Laboratory Sample ID: EB1500759001
Client Sample ID: WB4 0.2D

Qc Lot Number: 3823911
Sample Matrix: SOIL

Date Sampled: 04-Feb-2015
Date Extracted: 13-Feb-2015
Date Analysed: 13-Feb-2015

Compound	Conc pg/g	LOR pg/g	WHO-TEF	WHO-TEQ$_1$ (zero)	WHO-TEQ$_2$ (0.5 LOR)	WHO-TEQ$_3$ (LOR)	I-TEF	I-TEQ$_1$ (zero)	I-TEQ$_2$ (0.5 LOR)	I-TEQ$_3$ (LOR)	$^{13}C_{12}$ Rec(%)
2378-TCDD	<0.5	0.5	1	0.00	0.25	0.50	1	0.00	0.25	0.50	69.8
12378-PeCDD	<2.5	2.5	1	0.00	1.24	2.49	0.5	0.00	0.62	1.24	97.7
123478-HxCDD	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	72.8
123678-HxCDD	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	57.9
123789-HxCDD	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	-
1234678-HpCDD	2.6	2.5	0.01	0.03	0.03	0.03	0.01	0.03	0.03	0.03	51.6
OCDD	50.7	9.9	0.0003	0.02	0.02	0.02	0.001	0.05	0.05	0.05	21.0
2378-TCDF	<0.5	0.5	0.1	0.00	0.02	0.05	0.1	0.00	0.02	0.05	69.3
12378-PeCDF	<2.5	2.5	0.03	0.00	0.04	0.07	0.05	0.00	0.06	0.12	79.8
23478-PeCDF	<2.5	2.5	0.3	0.00	0.37	0.75	0.5	0.00	0.62	1.24	77.4
123478-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	69.2
123678-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	62.3
234678-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	68.3
123789-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	63.1
1234678-HpCDF	<2.5	2.5	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	48.4
1234789-HpCDF	<2.5	2.5	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	46.8
OCDF	<5.0	5.0	0.0003	0.00	0.00	0.00	0.001	0.00	0.00	0.00	-
Total TEQ	-	-	-	0.04	2.86	5.68	-	0.08	2.55	5.03	-

Group Totals	Conc pg/g	LOR$_4$ pg/g	No. of Peaks
Tetra-Dioxins	<0.5	0.5	1
Penta-Dioxins	<2.5	2.5	1
Hexa-Dioxins	5.9	2.5	1
Hepta-Dioxins	9.4	5.0	2
Octa-Dioxin	50.7	9.9	1
Tetra-Furans	<0.5	0.5	1
Penta-Furans	<2.5	2.5	1
Hexa-Furans	<2.5	2.5	1
Hepta-Furans	<2.5	2.5	1
Octa-Furan	<5.0	5.0	1
S **PCDD/Fs**	66.0		

QUALITY CONTROL REPORT

Client	**AURECON AUSTRALASIA PTY LTD**	**Laboratory :**	Environmental Division Brisbane		
Contact	SALLY LEYLAND	**Contact**	CUSTOMER.SERVICES.EB	**Work Order:**	**EB1500759**
Address:	LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	**Address:**	Stafford QLD 4053 Australia		

Project	GPC Geochemical Investigation	**Quote #**	SY/1021/14 V2	**Received:**	5 Feb 2015
Order #	245553			**Issued**	17 Feb 2015
C-O-C #	- Not provided -				
Site	- Not provided -				
E-mail	sally.leyland@aurecongroup.com	**E-mail**	ALSEnviro.Brisbane@alsglobal.c	**Number of Samples**	
Phone	3173 8006	**Phone**	+61-7-3243 7222	**Received:**	1
Fax	3173 8001	**Fax**	+61-7-3243 7218	**Analysed:**	3

Samples analysed 'as received', results reported on 'dry weight' basis.

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This document has been digitally signed by those names that appear on this report and are the authorised signatories. Digital signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatory	Position	Department
Peter Blow	HRMS Chemist	GC/HR-MS - NATA 825 (818 - Brisbane)

Quality Control Report
Laboratory Duplicates (DUP)

	Original Result	Duplicate Result
Laboratory Sample Id :	EB1500367001	4606075-007
Client Sample Id :	Anonymous	Anonymous
Sample Mass (g) :	10.0	10.0
Qc Lot Number :	3823912	3823912
Moisture Content (%) :		

Compound	Conc pg/g	LOR pg/g	Conc pg/g	LOR pg/g	RPD (%)
2378-TCDD	<0.5	0.5	<0.5	0.5	-
12378-PeCDD	<2.4	2.4	<2.4	2.4	-
123478-HxCDD	<2.4	2.4	<2.4	2.4	-
123678-HxCDD	<2.4	2.4	<2.4	2.4	-
123789-HxCDD	<2.4	2.4	<2.4	2.4	-
1234678-HpCDD	114.0	2.4	130.0	2.4	13.1
OCDD	2660.0	9.7	2860.0	9.7	7.2
2378-TCDF	<0.5	0.5	<0.5	0.5	-
12378-PeCDF	<2.4	2.4	<2.4	2.4	-
23478-PeCDF	<2.4	2.4	<2.4	2.4	-
123478-HxCDF	<2.4	2.4	<2.4	2.4	-
123678-HxCDF	<2.4	2.4	<2.4	2.4	-
234678-HxCDF	<2.4	2.4	<2.4	2.4	-
123789-HxCDF	<2.4	2.4	<2.4	2.4	-
1234678-HpCDF	2.8	2.4	2.8	2.4	0.0
1234789-HpCDF	<2.4	2.4	<2.4	2.4	-
OCDF	<4.8	4.8	<4.8	4.8	-

Group Totals	Conc pg/g	LOR pg/g	Conc pg/g	LOR pg/g	RPD (%)
Tetra-Dioxins	<0.5	0.5	<0.5	0.5	-
Penta-Dioxins	<2.4	2.4	<2.4	2.4	-
Hexa-Dioxins	36.6	12.1	33.9	14.5	7.7
Hepta-Dioxins	275.0	4.8	304.0	4.8	10.0
Octa-Dioxin	2660.0	9.7	2860.0	9.7	7.2
Tetra-Furans	4.6	1.0	3.5	1.0	27.2
Penta-Furans	<2.4	2.4	<2.4	2.4	-
Hexa-Furans	<2.4	2.4	<2.4	2.4	-
Hepta-Furans	6.3	4.8	6.1	4.8	3.2
Octa-Furan	<4.8	4.8	<4.8	4.8	-
S **PCDD/Fs**	**2982.5**		**3207.5**		**7.3**

Notes
LOR = Limit of reporting
T = tetra
Pe = penta
Hx = hexa
Hp = hepta
O = octa
CDD, dioxin = chlorinated debenzo-p-dioxin
CDF, furan = chlorinated debenzofuran
RPD = relative per cent difference
Permitted ranges for RPD are depencant upon the magnitude of the result in comparison to the LOR.
Result < 10x LOR, no limit, result between 10x and 20x LOR, 50%; result > 20x LOR, 20%
- = Where results are less than the LOR, no RPD is reported.

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Quality Control Report
Laboratory Duplicates (DUP)

	Original Result	**Duplicate Result**
Laboratory Sample Id :	EB1500615006	4606075-026
Client Sample Id :	Anonymous	Anonymous
Sample Mass (g) :	10.0	10.0
Qc Lot Number :	3823912	3823912
Moisture Content (%) :		

Compound	**Conc pg/g**	**LOR pg/g**	**Conc pg/g**	**LOR pg/g**	**RPD (%)**
2378-TCDD	<0.5	0.5	<0.5	0.5	-
12378-PeCDD	<2.5	2.5	<2.5	2.5	-
123478-HxCDD	<2.5	2.5	<2.5	2.5	-
123678-HxCDD	<2.5	2.5	<2.5	2.5	-
123789-HxCDD	<2.5	2.5	<2.5	2.5	-
1234678-HpCDD	6.3	2.5	2.5	2.5	86.4
OCDD	123.0	9.8	101.0	9.9	19.6
2378-TCDF	<0.5	0.5	<0.5	0.5	-
12378-PeCDF	<2.5	2.5	<2.5	2.5	-
23478-PeCDF	<2.5	2.5	<2.5	2.5	-
123478-HxCDF	<2.5	2.5	<2.5	2.5	-
123678-HxCDF	<2.5	2.5	<2.5	2.5	-
234678-HxCDF	<2.5	2.5	<2.5	2.5	-
123789-HxCDF	<2.5	2.5	<2.5	2.5	-
1234678-HpCDF	<2.5	2.5	<2.5	2.5	-
1234789-HpCDF	<2.5	2.5	<2.5	2.5	-
OCDF	<4.9	4.9	<5.0	5.0	-

Group Totals	**Conc pg/g**	**LOR pg/g**	**Conc pg/g**	**LOR pg/g**	**RPD (%)**
Tetra-Dioxins	<0.5	0.5	<0.5	0.5	-
Penta-Dioxins	<2.5	2.5	<2.5	2.5	-
Hexa-Dioxins	<14.8	14.8	<14.9	14.9	-
Hepta-Dioxins	12.7	4.9	5.9	5.0	73.1
Octa-Dioxin	123.0	9.8	101.0	9.9	19.6
Tetra-Furans	<4.9	4.9	<7.4	7.4	-
Penta-Furans	<2.5	2.5	<2.5	2.5	-
Hexa-Furans	<17.2	17.2	<17.4	17.4	-
Hepta-Furans	<7.4	7.4	<7.4	7.4	-
Octa-Furan	<4.9	4.9	<5.0	5.0	-
S **PCDD/Fs**	**135.7**		**106.9**		**23.7**

Notes
LOR = Limit of reporting
T = tetra
Pe = penta
Hx = hexa
Hp = hepta
O = octa
CDD, dioxin = chlorinated debenzo-p-dioxin
CDF, furan = chlorinated debenzofuran
RPD = relative per cent difference
Permitted ranges for RPD are depencant upon the magnitude of the result in comparison to the LOR.
Result < 10x LOR, no limit, result between 10x and 20x LOR, 50%; result > 20x LOR, 20%
- = Where results are less than the LOR, no RPD is reported.

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Quality Control Results
Laboratory Control Samples(LCS)

Laboratory Sample Id : 4606075-010
QC Lot Number : 3823912
Sample Name : BCR 529 Sandy soil

Compound	Conc pg/g	Lower 1 pg/g	Upper 1 pg/g	$^{13}C_{12}$ Rec(%)	Lower 2 (%)	Upper 2 (%)
2378-TCDD	4530.0	3900	5100	68.2	25	164
12378-PeCDD	440.0	390	490	67.9	25	181
123478-HxCDD	1080.0	900	1500	76.4	32	141
123678-HxCDD	4900.0	4500	6300	60.3	28	130
123789-HxCDD	3140.0	2600	3400	-	-	-
2378-TCDF	68.4	65	91	48.8	24	169
12378-PeCDF	168.0	110	170	57.4	24	185
23478-PeCDF	426.0	290	430	53.9	21	178
123478-HxCDF	3440.0	2900	3900	71.4	26	152
123678-HxCDF	1040.0	940	1240	64.3	26	123
234678-HxCDF	364.0	330	410	66.5	28	136
123789-HxCDF	571.0	12	32	61.9	29	147

Notes
1. Acceptable concentration limits are as quoted on the analytical certificate for the cerified reference material
2. Acceptable recovery limits are derived from EPA1613 Revision B
T = tetra
Pe = penta
Hx = hexa
Hp = hepta
O = octa

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Quality Control Report
Method Blank (MB)

Laboratory Sample ID: 4606075-001
Qc Lot Number : 3823912

Sample Matrix: SOIL
Date Extracted: 13-Feb-2015
Date Analysed: 13-Feb-2015

Compound	Conc pg/g	LOR pg/g	WHO-TEF	WHO-TE Q_1	WHO-TE Q_2	WHO-TE Q_3	I-TEF	I-TEQ_1 (zero)	I-TEQ_2 (0.5 LOR)	I-TEQ_3 (LOR)	$^{13}C_{12}$ Rec(%)
2378-TCDD	<0.5	0.5	1	0.00	0.25	0.50	1	0.00	0.25	0.50	70.4
12378-PeCDD	<2.5	2.5	1	0.00	1.25	2.50	0.5	0.00	0.63	1.25	80.3
123478-HxCDD	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	69.1
123678-HxCDD	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	59.5
123789-HxCDD	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	-
1234678-HpCD	<2.5	2.5	0.01	0.00	0.01	0.03	0.01	0.00	0.01	0.03	47.2
OCDD	<10.0	10.0	0.0003	0.00	0.00	0.00	0.001	0.00	0.01	0.01	16.9
2378-TCDF	<0.5	0.5	0.1	0.00	0.03	0.05	0.1	0.00	0.03	0.05	45.6
12378-PeCDF	<2.5	2.5	0.03	0.00	0.04	0.08	0.05	0.00	0.06	0.13	59.9
23478-PeCDF	<2.5	2.5	0.3	0.00	0.38	0.75	0.5	0.00	0.63	1.25	65.0
123478-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	61.0
123678-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	56.2
234678-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	61.3
123789-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	54.7
1234678-HpCD	<2.5	2.5	0.01	0.00	0.01	0.03	0.01	0.00	0.01	0.03	42.0
1234789-HpCD	<2.5	2.5	0.01	0.00	0.01	0.03	0.01	0.00	0.01	0.03	37.4
OCDF	<5.0	5.0	0.0003	0.00	0.00	0.00	0.001	0.00	0.00	0.01	-
			S **TEQ(WHO)**	0.00	2.89	5.72	S **TEQ(I)**	0.00	2.55	5.04	

Group Totals	Conc pg/g	LOR_4 pg/g	No. of Peaks
Tetra-Dioxins	<0.5	0.5	1
Penta-Dioxins	<2.5	2.5	1
Hexa-Dioxins	<2.5	2.5	1
Hepta-Dioxins	<2.5	2.5	1
Octa-Dioxin	<10.0	10.0	1
Tetra-Furans	<0.5	0.5	1
Penta-Furans	<2.5	2.5	1
Hexa-Furans	<2.5	2.5	1
Hepta-Furans	<2.5	2.5	1
Octa-Furan	<5.0	5.0	1
S **PCDD/Fs**	0.00		

Notes
LOR = Limit of reporting
I-TEF = International toxic equivalency factor
I-TEQ = International toxic equivalence (pg/g)
WHO-TEF = World Health Organistaion toxic equivalency factor
WHO-TEQ = World Health Organisation toxic equivalence (pg/g)
T = tetra
Pe = penta
Hx = hexa
Hp =hepta
O = octa
CDD, dioxin = chlorinated dibenzo-p-dioxin
CDF, furan = chlorinated dibenzofuran
1 I -$TEQ_{(zero)}$ and $WHO\text{-}TEQ_{(zero)}$ calculated treating <LOR as zero concentration (pg/g)
2 I-$TEQ_{(0.5\ LOR)}$ and $WHO\text{-}TEQ_{(0.5\ LOR)}$ calculated treating <LOR as 50% LoR concentration (pg/g)
3 I-$TEQ_{(LOR)}$ and $WHO\text{-}TEQ_{(LOR)}$ calculated treating <LOR as LoR concentration (pg/g)
4 Totals LORs are calculated by mutiplying the number of peaks by the individual LOR per compound

EB

CHAIN OF CUSTODY

ALS Laboratory: please tick →

❑ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
❑BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
❑GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
❑MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
❑MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
❑MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
❑NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
❑NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
❑PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
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❑TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
❑WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) **Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround		Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Cooler Present and Intact? Yes / No / N/A
ORDER NUMBER: 245553		COC: (1) 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: (1) 2 3 4 5 6 7	Other comments:

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		5 February 2015	5 February 2015	8/2/15 @ 16.00.	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	PC5 0.0-0.5D	5/02/2015	S	Glass Jar (150 ml)	1				1					
				TOTAL	1				1					

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserv
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Environmental Division Brisbane

Work Order

EB1500666

Telephone : +61-7-3243 7222

CERTIFICATE OF ANALYSIS

Client	**AURECON AUSTRALASIA PTY LTD**	**Laboratory :**	Environmental Division Brisbane		
Contact	SALLY LEYLAND	**Contact**	CUSTOMER.SERVICES.EB	**Work Order:**	**EB1500666**
Address:	LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	**Address:**	2 Byth Street Stafford QLD 4053 Australia		
Project	GPC Geochemical Investigation	**Quote #**	SY/1021/14 V2	**Received:**	9 Feb 2015
Order #	245553			**Issued**	17 Feb 2015
C-O-C #	- Not provided -				
Site	- Not provided -				
E-mail	sally.leyland@aurecongroup.com	**E-mail**	ALSEnviro.Brisbane@alsglobal.com	**Number of Samples**	
Phone	3173 8006	**Phone**	+61-7-3243 7222	**Received:**	1
Fax	3173 8001	**Fax**	+61-7-3243 7218	**Analysed:**	1

Notes

LOR = Limit of reporting
I-TEF = International toxic equivalency factor
I-TEQ = International toxic equivalence
WHO-TEF = World Health Organistaion toxic equivalency factor
WHO-TEQ = World Health Organisation toxic equivalence

1 I -TEQ(zero) and WHO-TEQ(zero) calculated treating <LOR as zero concentration
2 I -TEQ(0.5 LOR) and WHO-TEQ(0.5 zero) calculated treating <LOR as 0.5 LoR concentration
3 I-TEQ(LOR) and WHO-TEQ(LOR) calculated treating <LOR as LoR concentration
4 Totals LORs are calculated by multiplying the number of peaks by the individual LOR per compound
5 13C12 Rec(%) = The absolute recovery of Isotopically labelled compound added by the Laboratory to both quantitate and measure extraction efficiency.

T = tetra
Pe = penta
Hx = hexa
Hp =hepta
O = octa
CDD, dioxin = chlorinated dibenzo-p-dioxin
CDF, furan = chlorinated dibenzofuran

Work order specific comments

Samples analysed 'as received', results reported on 'dry weight' basis.

Lower than usual Labelled Compound recoveries were observed due to matrix interferences. Sufficient recovery was achieved for quantitation.

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This document is issued in accordance with NATA's accreditation requirements.

Accredited for compliance with ISO/IED 17025

This document has been digitally signed by those names that appear on this report and are the authorised signatories. Digital signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatory	Position	Department
Peter Blow	HRMS Chemist	GC/HR-MS - NATA 825 (818 - Brisbane)

ANALYTICAL RESULTS FOR DIOXINS AND FURANS

Method Code EP300

Laboratory Sample ID: EB1500666001
Client Sample ID: PC5 0.0-0.5D
Qc Lot Number: 3823911
Sample Matrix: SOIL
Date Sampled: 05-Feb-2015
Date Extracted: 13-Feb-2015
Date Analysed: 13-Feb-2015

Compound	Conc pg/g	LOR pg/g	WHO-TEF	WHO-TEQ$_1$ (zero)	WHO-TEQ$_2$ (0.5 LOR)	WHO-TEQ$_3$ (LOR)	I-TEF	I-TEQ$_1$ (zero)	I-TEQ$_2$ (0.5 LOR)	I-TEQ$_3$ (LOR)	$^{13}C_{12}$ Rec(%)
2378-TCDD	<0.5	0.5	1	0.00	0.24	0.49	1	0.00	0.24	0.49	39.7
12378-PeCDD	<2.4	2.4	1	0.00	1.22	2.44	0.5	0.00	0.61	1.22	66.5
123478-HxCDD	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	36.3
123678-HxCDD	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	27.7
123789-HxCDD	3.8	2.4	0.1	0.38	0.38	0.38	0.1	0.38	0.38	0.38	-
1234678-HpCDD	53.2	2.4	0.01	0.53	0.53	0.53	0.01	0.53	0.53	0.53	23.7
OCDD	1030.0	9.8	0.0003	0.31	0.31	0.31	0.001	1.03	1.03	1.03	8.6
2378-TCDF	<0.5	0.5	0.1	0.00	0.02	0.05	0.1	0.00	0.02	0.05	40.2
12378-PeCDF	<2.4	2.4	0.03	0.00	0.04	0.07	0.05	0.00	0.06	0.12	46.9
23478-PeCDF	<2.4	2.4	0.3	0.00	0.37	0.73	0.5	0.00	0.61	1.22	45.7
123478-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	29.7
123678-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	26.4
234678-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	29.7
123789-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	32.4
1234678-HpCDF	<2.4	2.4	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	17.3
1234789-HpCDF	<2.4	2.4	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	23.5
OCDF	6.1	4.9	0.0003	0.00	0.00	0.00	0.001	0.01	0.01	0.01	-
Total TEQ	-	-	-	1.22	3.87	6.52	-	1.95	4.25	6.56	-

Group Totals	Conc pg/g	LOR$_4$ pg/g	No. of Peaks
Tetra-Dioxins	9.7	2.4	5
Penta-Dioxins	22.1	19.5	8
Hexa-Dioxins	152.0	19.5	8
Hepta-Dioxins	228.0	4.9	2
Octa-Dioxin	1030.0	9.8	1
Tetra-Furans	<0.5	0.5	1
Penta-Furans	<2.4	2.4	1
Hexa-Furans	<14.6	14.6	6
Hepta-Furans	<4.9	4.9	2
Octa-Furan	6.1	4.9	1
S **PCDD/Fs**	1447.9		

QUALITY CONTROL REPORT

Client	**AURECON AUSTRALASIA PTY LTD**	**Laboratory :**	Environmental Division Brisbane		
Contact	SALLY LEYLAND	**Contact**	CUSTOMER.SERVICES.EB	**Work Order:**	**EB1500666**
Address:	LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	**Address:**	Stafford QLD 4053 Australia		

Project	GPC Geochemical Investigation	**Quote #**	SY/1021/14 V2	**Received:**	9 Feb 2015
Order #	245553			**Issued**	17 Feb 2015
C-O-C #	- Not provided -				
Site	- Not provided -				
E-mail	sally.leyland@aurecongroup.com	**E-mail**	ALSEnviro.Brisbane@alsglobal.c	**Number of Samples**	
Phone	3173 8006	**Phone**	+61-7-3243 7222	**Received:**	1
Fax	3173 8001	**Fax**	+61-7-3243 7218	**Analysed:**	3

Samples analysed 'as received', results reported on 'dry weight' basis.

Work order specific comments

Lower than usual Labelled Compound recoveries were observed due to matrix interferences. Sufficient recovery was achieved for quantitation.

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This document has been digitally signed by those names that appear on this report and are the authorised signatories. Digital signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatory	Position	Department
Peter Blow	HRMS Chemist	GC/HR-MS - NATA 825 (818 - Brisbane)

Quality Control Report
Laboratory Duplicates (DUP)

	Original Result	Duplicate Result
Laboratory Sample Id :	EB1500367001	4606075-007
Client Sample Id :	Anonymous	Anonymous
Sample Mass (g) :	10.0	10.0
Qc Lot Number :	3823912	3823912
Moisture Content (%) :		

Compound	Conc pg/g	LOR pg/g	Conc pg/g	LOR pg/g	RPD (%)
2378-TCDD	<0.5	0.5	<0.5	0.5	-
12378-PeCDD	<2.4	2.4	<2.4	2.4	-
123478-HxCDD	<2.4	2.4	<2.4	2.4	-
123678-HxCDD	<2.4	2.4	<2.4	2.4	-
123789-HxCDD	<2.4	2.4	<2.4	2.4	-
1234678-HpCDD	114.0	2.4	130.0	2.4	13.1
OCDD	2660.0	9.7	2860.0	9.7	7.2
2378-TCDF	<0.5	0.5	<0.5	0.5	-
12378-PeCDF	<2.4	2.4	<2.4	2.4	-
23478-PeCDF	<2.4	2.4	<2.4	2.4	-
123478-HxCDF	<2.4	2.4	<2.4	2.4	-
123678-HxCDF	<2.4	2.4	<2.4	2.4	-
234678-HxCDF	<2.4	2.4	<2.4	2.4	-
123789-HxCDF	<2.4	2.4	<2.4	2.4	-
1234678-HpCDF	2.8	2.4	2.8	2.4	0.0
1234789-HpCDF	<2.4	2.4	<2.4	2.4	-
OCDF	<4.8	4.8	<4.8	4.8	-

Group Totals	Conc pg/g	LOR pg/g	Conc pg/g	LOR pg/g	RPD (%)
Tetra-Dioxins	<0.5	0.5	<0.5	0.5	-
Penta-Dioxins	<2.4	2.4	<2.4	2.4	-
Hexa-Dioxins	36.6	12.1	33.9	14.5	7.7
Hepta-Dioxins	275.0	4.8	304.0	4.8	10.0
Octa-Dioxin	2660.0	9.7	2860.0	9.7	7.2
Tetra-Furans	4.6	1.0	3.5	1.0	27.2
Penta-Furans	<2.4	2.4	<2.4	2.4	-
Hexa-Furans	<2.4	2.4	<2.4	2.4	-
Hepta-Furans	6.3	4.8	6.1	4.8	3.2
Octa-Furan	<4.8	4.8	<4.8	4.8	-
Σ **PCDD/Fs**	**2982.5**		**3207.5**		**7.3**

Notes
LOR = Limit of reporting
T = tetra
Pe = penta
Hx = hexa
Hp = hepta
O = octa
CDD, dioxin = chlorinated debenzo-p-dioxin
CDF, furan = chlorinated debenzofuran
RPD = relative per cent difference
Permitted ranges for RPD are depencant upon the magnitude of the result in comparison to the LOR.
Result < 10x LOR, no limit, result between 10x and 20x LOR, 50%; result > 20x LOR, 20%
- = Where results are less than the LOR, no RPD is reported.

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Quality Control Report
Laboratory Duplicates (DUP)

	Original Result	Duplicate Result
Laboratory Sample Id :	EB1500615006	4606075-026
Client Sample Id :	Anonymous	Anonymous
Sample Mass (g) :	10.0	10.0
Qc Lot Number :	3823912	3823912
Moisture Content (%) :		

Compound	Conc pg/g	LOR pg/g	Conc pg/g	LOR pg/g	RPD (%)
2378-TCDD	<0.5	0.5	<0.5	0.5	-
12378-PeCDD	<2.5	2.5	<2.5	2.5	-
123478-HxCDD	<2.5	2.5	<2.5	2.5	-
123678-HxCDD	<2.5	2.5	<2.5	2.5	-
123789-HxCDD	<2.5	2.5	<2.5	2.5	-
1234678-HpCDD	6.3	2.5	2.5	2.5	86.4
OCDD	123.0	9.8	101.0	9.9	19.6
2378-TCDF	<0.5	0.5	<0.5	0.5	-
12378-PeCDF	<2.5	2.5	<2.5	2.5	-
23478-PeCDF	<2.5	2.5	<2.5	2.5	-
123478-HxCDF	<2.5	2.5	<2.5	2.5	-
123678-HxCDF	<2.5	2.5	<2.5	2.5	-
234678-HxCDF	<2.5	2.5	<2.5	2.5	-
123789-HxCDF	<2.5	2.5	<2.5	2.5	-
1234678-HpCDF	<2.5	2.5	<2.5	2.5	-
1234789-HpCDF	<2.5	2.5	<2.5	2.5	-
OCDF	<4.9	4.9	<5.0	5.0	-

Group Totals	Conc pg/g	LOR pg/g	Conc pg/g	LOR pg/g	RPD (%)
Tetra-Dioxins	<0.5	0.5	<0.5	0.5	-
Penta-Dioxins	<2.5	2.5	<2.5	2.5	-
Hexa-Dioxins	<14.8	14.8	<14.9	14.9	-
Hepta-Dioxins	12.7	4.9	5.9	5.0	73.1
Octa-Dioxin	123.0	9.8	101.0	9.9	19.6
Tetra-Furans	<4.9	4.9	<7.4	7.4	-
Penta-Furans	<2.5	2.5	<2.5	2.5	-
Hexa-Furans	<17.2	17.2	<17.4	17.4	-
Hepta-Furans	<7.4	7.4	<7.4	7.4	-
Octa-Furan	<4.9	4.9	<5.0	5.0	-
S **PCDD/Fs**	**135.7**		**106.9**		**23.7**

Notes
LOR = Limit of reporting
T = tetra
Pe = penta
Hx = hexa
Hp = hepta
O = octa
CDD, dioxin = chlorinated debenzo-p-dioxin
CDF, furan = chlorinated debenzofuran
RPD = relative per cent difference
Permitted ranges for RPD are depencant upon the magnitude of the result in comparison to the LOR.
Result < 10x LOR, no limit, result between 10x and 20x LOR, 50%; result > 20x LOR, 20%
- = Where results are less than the LOR, no RPD is reported.

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Quality Control Results
Laboratory Control Samples(LCS)

Laboratory Sample Id : 4606075-010
QC Lot Number : 3823912
Sample Name : BCR 529 Sandy soil

Compound	Conc pg/g	Lower 1 pg/g	Upper 1 pg/g	$^{13}C_{12}$ Rec(%)	Lower 2 (%)	Upper 2 (%)
2378-TCDD	4530.0	3900	5100	68.2	25	164
12378-PeCDD	440.0	390	490	67.9	25	181
123478-HxCDD	1080.0	900	1500	76.4	32	141
123678-HxCDD	4900.0	4500	6300	60.3	28	130
123789-HxCDD	3140.0	2600	3400	-	-	-
2378-TCDF	68.4	65	91	48.8	24	169
12378-PeCDF	168.0	110	170	57.4	24	185
23478-PeCDF	426.0	290	430	53.9	21	178
123478-HxCDF	3440.0	2900	3900	71.4	26	152
123678-HxCDF	1040.0	940	1240	64.3	26	123
234678-HxCDF	364.0	330	410	66.5	28	136
123789-HxCDF	571.0	12	32	61.9	29	147

Notes
1. Acceptable concentration limits are as quoted on the analytical certificate for the cerified reference material
2. Acceptable recovery limits are derived from EPA1613 Revision B
T = tetra
Pe = penta
Hx = hexa
Hp = hepta
O = octa

An ALS Limited Company

Quality Control Report
Method Blank (MB)

Laboratory Sample ID: 4606075-001
Qc Lot Number : 3823912

Sample Matrix: SOIL
Date Extracted: 13-Feb-2015
Date Analysed: 13-Feb-2015

Compound	Conc pg/g	LOR pg/g	WHO-TEF	WHO-TE Q_1	WHO-TE Q_2	WHO-TE Q_3	I-TEF	I-TEQ$_1$ (zero)	I-TEQ$_2$ (0.5 LOR)	I-TEQ$_3$ (LOR)	$^{13}C_{12}$ Rec(%)
2378-TCDD	<0.5	0.5	1	0.00	0.25	0.50	1	0.00	0.25	0.50	70.4
12378-PeCDD	<2.5	2.5	1	0.00	1.25	2.50	0.5	0.00	0.63	1.25	80.3
123478-HxCDD	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	69.1
123678-HxCDD	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	59.5
123789-HxCDD	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	-
1234678-HpCD	<2.5	2.5	0.01	0.00	0.01	0.03	0.01	0.00	0.01	0.03	47.2
OCDD	<10.0	10.0	0.0003	0.00	0.00	0.00	0.001	0.00	0.01	0.01	16.9
2378-TCDF	<0.5	0.5	0.1	0.00	0.03	0.05	0.1	0.00	0.03	0.05	45.6
12378-PeCDF	<2.5	2.5	0.03	0.00	0.04	0.08	0.05	0.00	0.06	0.13	59.9
23478-PeCDF	<2.5	2.5	0.3	0.00	0.38	0.75	0.5	0.00	0.63	1.25	65.0
123478-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	61.0
123678-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	56.2
234678-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	61.3
123789-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	54.7
1234678-HpCD	<2.5	2.5	0.01	0.00	0.01	0.03	0.01	0.00	0.01	0.03	42.0
1234789-HpCD	<2.5	2.5	0.01	0.00	0.01	0.03	0.01	0.00	0.01	0.03	37.4
OCDF	<5.0	5.0	0.0003	0.00	0.00	0.00	0.001	0.00	0.00	0.01	-
			S **TEQ$_{(WHO)}$**	0.00	2.89	5.72	S **TEQ$_{(I)}$**	0.00	2.55	5.04	

Group Totals	Conc pg/g	LOR$_4$ pg/g	No. of Peaks
Tetra-Dioxins	<0.5	0.5	1
Penta-Dioxins	<2.5	2.5	1
Hexa-Dioxins	<2.5	2.5	1
Hepta-Dioxins	<2.5	2.5	1
Octa-Dioxin	<10.0	10.0	1
Tetra-Furans	<0.5	0.5	1
Penta-Furans	<2.5	2.5	1
Hexa-Furans	<2.5	2.5	1
Hepta-Furans	<2.5	2.5	1
Octa-Furan	<5.0	5.0	1
S **PCDD/Fs**	0.00		

Notes
LOR = Limit of reporting
I-TEF = International toxic equivalency factor
I-TEQ = International toxic equivalence (pg/g)
WHO-TEF = World Health Organistaion toxic equivalency factor
WHO-TEQ = World Health Organisation toxic equivalence (pg/g)
T = tetra
Pe = penta
Hx = hexa
Hp =hepta
O = octa
CDD, dioxin = chlorinated dibenzo-p-dioxin
CDF, furan = chlorinated dibenzofuran
1 I -TEQ$_{(zero)}$ and WHO-TEQ$_{(zero)}$ calculated treating <LOR as zero concentration (pg/g)
2 I-TEQ$_{(0.5\ LOR)}$ and WHO-TEQ$_{(0.5\ LOR)}$ calculated treating <LOR as 50% LoR concentration (pg/g)
3 I-TEQ$_{(LOR)}$ and WHO-TEQ$_{(LOR)}$ calculated treating <LOR as LoR concentration (pg/g)
4 Totals LORs are calculated by mutiplying the number of peaks by the individual LOR per compound

CHAIN OF CUSTODY

ALS Laboratory: please tick →

❑ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
❑BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
❑GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
❑MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
❑MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
❑MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
❑NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
❑NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
❑PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
❑SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 5555 E: samples.sydney@alsglobal.com
❑TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townesville.environmental@alsglobal.com
❑WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround		Custody Seal Intact?
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice cubes present?
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt:
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comments:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	KSchafer	
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
11 February 2015	11 February 2015 1730	12-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS					ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
1	WB19 0.2D	11/02/2015	S	Glass Jar (150 ml)	1				1					Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
				TOTAL	1				1					

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserv
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SI
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

l Glass;

SCANNED

JH . 13.2.15 .

Environmental Division
Brisbane
Work Order
EB1500850

Telephone : + 61-7-3243 7222

CERTIFICATE OF ANALYSIS

Work Order	: **EB1500850**	Page	: 1 of 5
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: sally.leyland@aurecongroup.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61 7 3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61 7 3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553		
C-O-C number	: ----	Date Samples Received	: 13-FEB-2015
Sampler	: Georgina Kerr	Issue Date	: 20-FEB-2015
Site	: ----		
		No. of samples received	: 1
Quote number	: SY/1021/14 V2	No. of samples analysed	: 1

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Peter Blow	HRMS Chemist	GC/HR-MS

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB19 0.2D	----	----	----	----
				Client sampling date / time	11-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB1500850-001	----	----	----	----
Dioxins - Individual									
2378-TCDD	1746-01-6	0.25	pg/g		<0.5	----	----	----	----
12378-PeCDD	40321-76-4	1.25	pg/g		<2.4	----	----	----	----
123478-HxCDD	39227-28-6	1.25	pg/g		<2.4	----	----	----	----
123678-HxCDD	57653-85-7	1.25	pg/g		<2.4	----	----	----	----
123789-HxCDD	19408-74-3	1.25	pg/g		<2.4	----	----	----	----
1234678-HpCDD	35822-46-9	1.25	pg/g		**5.0**	----	----	----	----
OCDD	3268-87-9	5	pg/g		**84.0**	----	----	----	----
2378-TCDF	51207-31-9	0.25	pg/g		<0.5	----	----	----	----
12378-PeCDF	57117-41-6	1.25	pg/g		<2.4	----	----	----	----
23478-PeCDF	57117-31-4	1.25	pg/g		<2.4	----	----	----	----
123478-HxCDF	70648-26-9	1.25	pg/g		<2.4	----	----	----	----
123678-HxCDF	57117-44-9	1.25	pg/g		<2.4	----	----	----	----
234678-HxCDF	60851-34-5	1.25	pg/g		<2.4	----	----	----	----
123789-HxCDF	72918-21-9	1.25	pg/g		<2.4	----	----	----	----
1234678-HpCDF	67562-39-4	1.25	pg/g		<2.4	----	----	----	----
1234789-HpCDF	55673-89-7	1.25	pg/g		<2.4	----	----	----	----
OCDF	39001-02-0	2.5	pg/g		<4.9	----	----	----	----
Total TEQ	----	0	pg/g		-	----	----	----	----
Dioxins - Total									
Tetra-Dioxins	----	0.25	pg/g		<0.5	----	----	----	----
Penta-Dioxins	----	1.25	pg/g		<2.4	----	----	----	----
Hexa-Dioxins	----	1.25	pg/g		<9.8	----	----	----	----
Hepta-Dioxins	----	1.25	pg/g		**14.3**	----	----	----	----
Octa-Dioxin	----	5	pg/g		**84.0**	----	----	----	----
Tetra-Furans	----	0.25	pg/g		<0.5	----	----	----	----
Penta-Furans	----	1.25	pg/g		<2.4	----	----	----	----
Hexa-Furans	----	1.25	pg/g		<2.4	----	----	----	----
Hepta-Furans	----	1.25	pg/g		<2.4	----	----	----	----
Octa-Furan	----	2.5	pg/g		<4.9	----	----	----	----
Dioxins - Individual									
2378-TCDD (13C12)	76523-40-5	0.1	%		**67.9**	----	----	----	----
12378-PeCDD (13C12)	109719-79-1	0.1	%		**59.4**	----	----	----	----
123478-HxCDD (13C12)	109719-80-4	0.1	%		**73.1**	----	----	----	----
123678-HxCDD (13C12)	109719-81-5	0.1	%		**73.4**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB19 0.2D	----	----	----	----
			Client sampling date / time	11-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit	EB1500850-001	----	----	----	----
Dioxins - Individual - Continued								
1234678-HpCDD (13C12)	109719-83-7	0.1	%	60.5	----	----	----	----
OCDD (13C12)	114423-97-1	0.1	%	30.2	----	----	----	----
2378-TCDF (13C12)	89059-46-1	0.1	%	36.1	----	----	----	----
12378-PeCDF (13C12)	109719-77-9	0.1	%	42.0	----	----	----	----
23478-PeCDF (13C12)	116843-02-8	0.1	%	40.5	----	----	----	----
123478-HxCDF (13C12)	114423-98-2	0.1	%	56.4	----	----	----	----
123678-HxCDF (13C12)	116843-03-9	0.1	%	62.1	----	----	----	----
234678-HxCDF (13C12)	116843-05-1	0.1	%	63.4	----	----	----	----
123789-HxCDF (13C12)	116843-04-0	0.1	%	59.0	----	----	----	----
1234678-HpCDF (13C12)	109719-84-8	0.1	%	49.9	----	----	----	----
1234789-HpCDF (13C12)	109719-94-0	0.1	%	48.4	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
Dioxins - Individual			
2378-TCDD (13C12)	76523-40-5	25	164
12378-PeCDD (13C12)	109719-79-1	25	181
123478-HxCDD (13C12)	109719-80-4	32	141
123678-HxCDD (13C12)	109719-81-5	28	130
1234678-HpCDD (13C12)	109719-83-7	23	140
OCDD (13C12)	114423-97-1	17	157
2378-TCDF (13C12)	89059-46-1	24	169
12378-PeCDF (13C12)	109719-77-9	24	185
23478-PeCDF (13C12)	116843-02-8	21	178
123478-HxCDF (13C12)	114423-98-2	26	152
123678-HxCDF (13C12)	116843-03-9	26	123
234678-HxCDF (13C12)	116843-05-1	28	136
123789-HxCDF (13C12)	116843-04-0	29	147
1234678-HpCDF (13C12)	109719-84-8	28	143
1234789-HpCDF (13C12)	109719-94-0	26	138

CERTIFICATE OF ANALYSIS

Client	**AURECON AUSTRALASIA PTY LTD**	**Laboratory :**	Environmental Division Brisbane		
Contact	SALLY LEYLAND	**Contact**	CUSTOMER.SERVICES.EB	**Work Order:**	**EB1500850**
Address:	LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	**Address:**	2 Byth Street Stafford QLD 4053 Australia		
Project	GPC Geochemical Investigation	**Quote #**	SY/1021/14 V2	**Received:**	12 Feb 2015
Order #	245553			**Issued**	20 Feb 2015
C-O-C #	- Not provided -				
Site	- Not provided -				
E-mail	sally.leyland@aurecongroup.com	**E-mail**	ALSEnviro.Brisbane@alsglobal.com	**Number of Samples**	
Phone	3173 8006	**Phone**	+61-7-3243 7222	**Received:**	1
Fax	3173 8001	**Fax**	+61-7-3243 7218	**Analysed:**	1

Notes

LOR = Limit of reporting
I-TEF = International toxic equivalency factor
I-TEQ = International toxic equivalence
WHO-TEF = World Health Organistaion toxic equivalency factor
WHO-TEQ = World Health Organisation toxic equivalence

1 I -TEQ(zero) and WHO-TEQ(zero) calculated treating <LOR as zero concentration
2 I -TEQ(0.5 LOR) and WHO-TEQ(0.5 zero) calculated treating <LOR as 0.5 LoR concentration
3 I-TEQ(LOR) and WHO-TEQ(LOR) calculated treating <LOR as LoR concentration
4 Totals LORs are calculated by multiplying the number of peaks by the individual LOR per compound
5 13C12 Rec(%) = The absolute recovery of Isotopically labelled compound added by the Laboratory to both quantitate and measure extraction efficiency.

T = tetra
Pe = penta
Hx = hexa
Hp =hepta
O = octa
CDD, dioxin = chlorinated dibenzo-p-dioxin
CDF, furan = chlorinated dibenzofuran

Samples analysed 'as received', results reported on 'dry weight' basis.

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Accredited for compliance with ISO/IED 17025

This document has been digitally signed by those names that appear on this report and are the authorised signatories. Digital signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatory	Position	Department
Peter Blow	HRMS Chemist	GC/HR-MS - NATA 825 (818 - Brisbane)

Client	: AURECON AUSTRALASIA PTY LTD	**Work Order**	: EB1500850
Project	: GPC Geochemical Investigation	**ALS Quote Reference**	: SY/1021/14 V2

ANALYTICAL RESULTS FOR DIOXINS AND FURANS

Method Code EP300

Laboratory Sample ID: EB1500850001
Client Sample ID: WB19 0.2D

Qc Lot Number: 3823911
Sample Matrix: SOIL

Date Sampled: 11-Feb-2015
Date Extracted: 13-Feb-2015
Date Analysed: 13-Feb-2015

Compound	Conc pg/g	LOR pg/g	WHO-TEF	WHO-TEQ$_1$ (zero)	WHO-TEQ$_2$ (0.5 LOR)	WHO-TEQ$_3$ (LOR)	I-TEF	I-TEQ$_1$ (zero)	I-TEQ$_2$ (0.5 LOR)	I-TEQ$_3$ (LOR)	$^{13}C_{12}$ Rec(%)
2378-TCDD	<0.5	0.5	1	0.00	0.24	0.49	1	0.00	0.24	0.49	67.9
12378-PeCDD	<2.4	2.4	1	0.00	1.22	2.45	0.5	0.00	0.61	1.22	59.4
123478-HxCDD	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	73.1
123678-HxCDD	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	73.4
123789-HxCDD	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	-
1234678-HpCDD	5.0	2.4	0.01	0.05	0.05	0.05	0.01	0.05	0.05	0.05	60.5
OCDD	84.0	9.8	0.0003	0.03	0.03	0.03	0.001	0.08	0.08	0.08	30.2
2378-TCDF	<0.5	0.5	0.1	0.00	0.02	0.05	0.1	0.00	0.02	0.05	36.1
12378-PeCDF	<2.4	2.4	0.03	0.00	0.04	0.07	0.05	0.00	0.06	0.12	42.0
23478-PeCDF	<2.4	2.4	0.3	0.00	0.37	0.73	0.5	0.00	0.61	1.22	40.5
123478-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	56.4
123678-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	62.1
234678-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	63.4
123789-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	59.0
1234678-HpCDF	<2.4	2.4	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	49.9
1234789-HpCDF	<2.4	2.4	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	48.4
OCDF	<4.9	4.9	0.0003	0.00	0.00	0.00	0.001	0.00	0.00	0.00	-
Total TEQ	-	-	-	0.08	2.85	5.63	-	0.13	2.57	5.01	-

Group Totals	Conc pg/g	LOR$_4$ pg/g	No. of Peaks
Tetra-Dioxins	<0.5	0.5	1
Penta-Dioxins	<2.4	2.4	1
Hexa-Dioxins	<9.8	9.8	4
Hepta-Dioxins	14.3	4.9	2
Octa-Dioxin	84.0	9.8	1
Tetra-Furans	<0.5	0.5	1
Penta-Furans	<2.4	2.4	1
Hexa-Furans	<2.4	2.4	1
Hepta-Furans	<2.4	2.4	1
Octa-Furan	<4.9	4.9	1
S **PCDD/Fs**	98.3		

QUALITY CONTROL REPORT

Client	**AURECON AUSTRALASIA PTY LTD**	**Laboratory :**	Environmental Division Brisbane		
Contact	SALLY LEYLAND	**Contact**	CUSTOMER.SERVICES.EB	**Work Order:**	**EB1500850**
Address:	LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	**Address:**	Stafford QLD 4053 Australia		

Project	GPC Geochemical Investigation	**Quote #**	SY/1021/14 V2	**Received:**	12 Feb 2015
Order #	245553			**Issued**	20 Feb 2015
C-O-C #	- Not provided -				
Site	- Not provided -				
E-mail	sally.leyland@aurecongroup.com	**E-mail**	ALSEnviro.Brisbane@alsglobal.c	**Number of Samples**	
Phone	3173 8006	**Phone**	+61-7-3243 7222	**Received:**	1
Fax	3173 8001	**Fax**	+61-7-3243 7218	**Analysed:**	3

Samples analysed 'as received', results reported on 'dry weight' basis.

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Accredited for compliance with ISO/IED 17025

This document has been digitally signed by those names that appear on this report and are the authorised signatories. Digital signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatory	Position	Department
Peter Blow	HRMS Chemist	GC/HR-MS - NATA 825 (818 - Brisbane)

Quality Control Report
Laboratory Duplicates (DUP)

	Original Result	Duplicate Result
Laboratory Sample Id :	EB1500367001	4606075-007
Client Sample Id :	Anonymous	Anonymous
Sample Mass (g) :	10.0	10.0
Qc Lot Number :	3823912	3823912
Moisture Content (%) :		

Compound	Conc pg/g	LOR pg/g	Conc pg/g	LOR pg/g	RPD (%)
2378-TCDD	<0.5	0.5	<0.5	0.5	-
12378-PeCDD	<2.4	2.4	<2.4	2.4	-
123478-HxCDD	<2.4	2.4	<2.4	2.4	-
123678-HxCDD	<2.4	2.4	<2.4	2.4	-
123789-HxCDD	<2.4	2.4	<2.4	2.4	-
1234678-HpCDD	114.0	2.4	130.0	2.4	13.1
OCDD	2660.0	9.7	2860.0	9.7	7.2
2378-TCDF	<0.5	0.5	<0.5	0.5	-
12378-PeCDF	<2.4	2.4	<2.4	2.4	-
23478-PeCDF	<2.4	2.4	<2.4	2.4	-
123478-HxCDF	<2.4	2.4	<2.4	2.4	-
123678-HxCDF	<2.4	2.4	<2.4	2.4	-
234678-HxCDF	<2.4	2.4	<2.4	2.4	-
123789-HxCDF	<2.4	2.4	<2.4	2.4	-
1234678-HpCDF	2.8	2.4	2.8	2.4	0.0
1234789-HpCDF	<2.4	2.4	<2.4	2.4	-
OCDF	<4.8	4.8	<4.8	4.8	-

Group Totals	Conc pg/g	LOR pg/g	Conc pg/g	LOR pg/g	RPD (%)
Tetra-Dioxins	<0.5	0.5	<0.5	0.5	-
Penta-Dioxins	<2.4	2.4	<2.4	2.4	-
Hexa-Dioxins	36.6	12.1	33.9	14.5	7.7
Hepta-Dioxins	275.0	4.8	304.0	4.8	10.0
Octa-Dioxin	2660.0	9.7	2860.0	9.7	7.2
Tetra-Furans	4.6	1.0	3.5	1.0	27.2
Penta-Furans	<2.4	2.4	<2.4	2.4	-
Hexa-Furans	<2.4	2.4	<2.4	2.4	-
Hepta-Furans	6.3	4.8	6.1	4.8	3.2
Octa-Furan	<4.8	4.8	<4.8	4.8	-
Σ **PCDD/Fs**	**2982.5**		**3207.5**		**7.3**

Notes
LOR = Limit of reporting
T = tetra
Pe = penta
Hx = hexa
Hp = hepta
O = octa
CDD, dioxin = chlorinated debenzo-p-dioxin
CDF, furan = chlorinated debenzofuran
RPD = relative per cent difference
Permitted ranges for RPD are depencant upon the magnitude of the result in comparison to the LOR.
Result < 10x LOR, no limit, result between 10x and 20x LOR, 50%; result > 20x LOR, 20%
- = Where results are less than the LOR, no RPD is reported.

An ALS Limited Company

Quality Control Report
Laboratory Duplicates (DUP)

	Original Result	Duplicate Result
Laboratory Sample Id :	EB1500615006	4606075-026
Client Sample Id :	Anonymous	Anonymous
Sample Mass (g) :	10.0	10.0
Qc Lot Number :	3823912	3823912
Moisture Content (%) :		

Compound	**Conc pg/g**	**LOR pg/g**	**Conc pg/g**	**LOR pg/g**	**RPD (%)**
2378-TCDD	<0.5	0.5	<0.5	0.5	-
12378-PeCDD	<2.5	2.5	<2.5	2.5	-
123478-HxCDD	<2.5	2.5	<2.5	2.5	-
123678-HxCDD	<2.5	2.5	<2.5	2.5	-
123789-HxCDD	<2.5	2.5	<2.5	2.5	-
1234678-HpCDD	6.3	2.5	2.5	2.5	86.4
OCDD	123.0	9.8	101.0	9.9	19.6
2378-TCDF	<0.5	0.5	<0.5	0.5	-
12378-PeCDF	<2.5	2.5	<2.5	2.5	-
23478-PeCDF	<2.5	2.5	<2.5	2.5	-
123478-HxCDF	<2.5	2.5	<2.5	2.5	-
123678-HxCDF	<2.5	2.5	<2.5	2.5	-
234678-HxCDF	<2.5	2.5	<2.5	2.5	-
123789-HxCDF	<2.5	2.5	<2.5	2.5	-
1234678-HpCDF	<2.5	2.5	<2.5	2.5	-
1234789-HpCDF	<2.5	2.5	<2.5	2.5	-
OCDF	<4.9	4.9	<5.0	5.0	-

Group Totals	**Conc pg/g**	**LOR pg/g**	**Conc pg/g**	**LOR pg/g**	**RPD (%)**
Tetra-Dioxins	<0.5	0.5	<0.5	0.5	-
Penta-Dioxins	<2.5	2.5	<2.5	2.5	-
Hexa-Dioxins	<14.8	14.8	<14.9	14.9	-
Hepta-Dioxins	12.7	4.9	5.9	5.0	73.1
Octa-Dioxin	123.0	9.8	101.0	9.9	19.6
Tetra-Furans	<4.9	4.9	<7.4	7.4	-
Penta-Furans	<2.5	2.5	<2.5	2.5	-
Hexa-Furans	<17.2	17.2	<17.4	17.4	-
Hepta-Furans	<7.4	7.4	<7.4	7.4	-
Octa-Furan	<4.9	4.9	<5.0	5.0	-
S **PCDD/Fs**	**135.7**		**106.9**		**23.7**

Notes
LOR = Limit of reporting
T = tetra
Pe = penta
Hx = hexa
Hp = hepta
O = octa
CDD, dioxin = chlorinated debenzo-p-dioxin
CDF, furan = chlorinated debenzofuran
RPD = relative per cent difference
Permitted ranges for RPD are depencant upon the magnitude of the result in comparison to the LOR.
Result < 10x LOR, no limit, result between 10x and 20x LOR, 50%; result > 20x LOR, 20%
- = Where results are less than the LOR, no RPD is reported.

An ALS Limited Company

Quality Control Results
Laboratory Control Samples(LCS)

Laboratory Sample Id : 4606075-010
QC Lot Number : 3823912
Sample Name : BCR 529 Sandy soil

Compound	Conc pg/g	Lower 1 pg/g	Upper 1 pg/g	$^{13}C_{12}$ Rec(%)	Lower 2 (%)	Upper 2 (%)
2378-TCDD	4530.0	3900	5100	68.2	25	164
12378-PeCDD	440.0	390	490	67.9	25	181
123478-HxCDD	1080.0	900	1500	76.4	32	141
123678-HxCDD	4900.0	4500	6300	60.3	28	130
123789-HxCDD	3140.0	2600	3400	-	-	-
2378-TCDF	68.4	65	91	48.8	24	169
12378-PeCDF	168.0	110	170	57.4	24	185
23478-PeCDF	426.0	290	430	53.9	21	178
123478-HxCDF	3440.0	2900	3900	71.4	26	152
123678-HxCDF	1040.0	940	1240	64.3	26	123
234678-HxCDF	364.0	330	410	66.5	28	136
123789-HxCDF	571.0	12	32	61.9	29	147

Notes
1. Acceptable concentration limits are as quoted on the analytical certificate for the cerified reference material
2. Acceptable recovery limits are derived from EPA1613 Revision B
T = tetra
Pe = penta
Hx = hexa
Hp = hepta
O = octa

An ALS Limited Company

Quality Control Report
Method Blank (MB)

Laboratory Sample ID: 4606075-001
Qc Lot Number : 3823912

Sample Matrix: SOIL
Date Extracted: 13-Feb-2015
Date Analysed: 13-Feb-2015

Compound	Conc pg/g	LOR pg/g	WHO-TEF	WHO-TE Q_1	WHO-TE Q_2	WHO-TE Q_3	I-TEF	I-TEQ$_1$ (zero)	I-TEQ$_2$ (0.5 LOR)	I-TEQ$_3$ (LOR)	$^{13}C_{12}$ Rec(%)
2378-TCDD	<0.5	0.5	1	0.00	0.25	0.50	1	0.00	0.25	0.50	70.4
12378-PeCDD	<2.5	2.5	1	0.00	1.25	2.50	0.5	0.00	0.63	1.25	80.3
123478-HxCDD	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	69.1
123678-HxCDD	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	59.5
123789-HxCDD	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	-
1234678-HpCD	<2.5	2.5	0.01	0.00	0.01	0.03	0.01	0.00	0.01	0.03	47.2
OCDD	<10.0	10.0	0.0003	0.00	0.00	0.00	0.001	0.00	0.01	0.01	16.9
2378-TCDF	<0.5	0.5	0.1	0.00	0.03	0.05	0.1	0.00	0.03	0.05	45.6
12378-PeCDF	<2.5	2.5	0.03	0.00	0.04	0.08	0.05	0.00	0.06	0.13	59.9
23478-PeCDF	<2.5	2.5	0.3	0.00	0.38	0.75	0.5	0.00	0.63	1.25	65.0
123478-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	61.0
123678-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	56.2
234678-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	61.3
123789-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	54.7
1234678-HpCD	<2.5	2.5	0.01	0.00	0.01	0.03	0.01	0.00	0.01	0.03	42.0
1234789-HpCD	<2.5	2.5	0.01	0.00	0.01	0.03	0.01	0.00	0.01	0.03	37.4
OCDF	<5.0	5.0	0.0003	0.00	0.00	0.00	0.001	0.00	0.00	0.01	-
			Σ **TEQ$_{(WHO)}$**	0.00	2.89	5.72	Σ **TEQ$_{(I)}$**	0.00	2.55	5.04	

Group Totals	Conc pg/g	LOR$_4$ pg/g	No. of Peaks
Tetra-Dioxins	<0.5	0.5	1
Penta-Dioxins	<2.5	2.5	1
Hexa-Dioxins	<2.5	2.5	1
Hepta-Dioxins	<2.5	2.5	1
Octa-Dioxin	<10.0	10.0	1
Tetra-Furans	<0.5	0.5	1
Penta-Furans	<2.5	2.5	1
Hexa-Furans	<2.5	2.5	1
Hepta-Furans	<2.5	2.5	1
Octa-Furan	<5.0	5.0	1
Σ **PCDD/Fs**	0.00		

Notes
LOR = Limit of reporting
I-TEF = International toxic equivalency factor
I-TEQ = International toxic equivalence (pg/g)
WHO-TEF = World Health Organistaion toxic equivalency factor
WHO-TEQ = World Health Organisation toxic equivalence (pg/g)
T = tetra
Pe = penta
Hx = hexa
Hp =hepta
O = octa
CDD, dioxin = chlorinated dibenzo-p-dioxin
CDF, furan = chlorinated dibenzofuran
1 I -TEQ$_{(zero)}$ and WHO-TEQ$_{(zero)}$ calculated treating <LOR as zero concentration (pg/g)
2 I-TEQ$_{(0.5\ LOR)}$ and WHO-TEQ$_{(0.5\ LOR)}$ calculated treating <LOR as 50% LoR concentration (pg/g)
3 I-TEQ$_{(LOR)}$ and WHO-TEQ$_{(LOR)}$ calculated treating <LOR as LoR concentration (pg/g)
4 Totals LORs are calculated by mutiplying the number of peaks by the individual LOR per compound

ALS Environmental

CHAIN OF CUSTODY

ALS Laboratory: please tick →

- ☐ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
- ☐BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
- ☐GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
- ☐MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
- ☐MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
- ☐MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
- ☐NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
- ☐NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
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- ☐TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
- ☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd

OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000

PROJECT: GPC Geochemical Investigation

ORDER NUMBER: 245553

PROJECT MANAGER: Sally Leyland — **CONTACT PH:** 07 3173 8006

SAMPLER: Georgina Kerr — **SAMPLER MOBILE:** 04 7773 6809

COC emailed to ALS? (YES / ~~NO~~) — **EDD FORMAT (or default):**

Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com

Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com

TURNAROUND REQUIREMENTS : ☐ Standard TAT **(List due date):**

(Standard TAT may be longer for some tests e.g.. Ultra Trace Organics) **Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround

ALS QUOTE NO.: SY - 1021-14 V2

COC SEQUENCE NUMBER (Circle)

COC: 1 2 3 4 5 6 7

OF: 1 2 3 4 5 6 7

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact: YES NO N/A

Free ice / frozen ice bricks present upon receipt: YES NO N/A

Random Sample Temperature on Receipt: °C

Other comment:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	KSchafer	AM
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
12 February 2015	12 February 2015 1730	16.2.15 1600	08:25 17 02.15

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins & Furans	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
	BH28 0.2 - 0.7D	12/02/2015	S	Glass Jar (150 ml)	1				1					
				TOTAL	1				1					

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

AM Environmental Division Brisbane

Work Order

EB1500854

SCANNED

Alison 17-2-15

Telephone : +61-7-3243 7222

CERTIFICATE OF ANALYSIS

Work Order	: **EB1500854**	Page	: 1 of 5
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: sally.leyland@aurecongroup.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61 7 3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61 7 3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553		
C-O-C number	: ----	Date Samples Received	: 17-FEB-2015
Sampler	: Georgina Kerr	Issue Date	: 27-FEB-2015
Site	: ----		
		No. of samples received	: 1
Quote number	: SY/1021/14 V2	No. of samples analysed	: 1

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Peter Blow	HRMS Chemist	GC/HR-MS

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH28 0.2 - 0.7D	----	----	----	----
			Client sampling date / time	12-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit	EB1500854-001	----	----	----	----
Dioxins - Individual								
2378-TCDD	1746-01-6	0.25	pg/g	<0.5	----	----	----	----
12378-PeCDD	40321-76-4	1.25	pg/g	<2.5	----	----	----	----
123478-HxCDD	39227-28-6	1.25	pg/g	<2.5	----	----	----	----
123678-HxCDD	57653-85-7	1.25	pg/g	<2.5	----	----	----	----
123789-HxCDD	19408-74-3	1.25	pg/g	<2.5	----	----	----	----
1234678-HpCDD	35822-46-9	1.25	pg/g	**22.0**	----	----	----	----
OCDD	3268-87-9	5	pg/g	**444.0**	----	----	----	----
2378-TCDF	51207-31-9	0.25	pg/g	<0.5	----	----	----	----
12378-PeCDF	57117-41-6	1.25	pg/g	<2.5	----	----	----	----
23478-PeCDF	57117-31-4	1.25	pg/g	<2.5	----	----	----	----
123478-HxCDF	70648-26-9	1.25	pg/g	<2.5	----	----	----	----
123678-HxCDF	57117-44-9	1.25	pg/g	<2.5	----	----	----	----
234678-HxCDF	60851-34-5	1.25	pg/g	<2.5	----	----	----	----
123789-HxCDF	72918-21-9	1.25	pg/g	<2.5	----	----	----	----
1234678-HpCDF	67562-39-4	1.25	pg/g	<2.5	----	----	----	----
1234789-HpCDF	55673-89-7	1.25	pg/g	<2.5	----	----	----	----
OCDF	39001-02-0	2.5	pg/g	<5.0	----	----	----	----
Total TEQ	----	0	pg/g	**-**	----	----	----	----
Dioxins - Total								
Tetra-Dioxins	----	0.25	pg/g	<19.9	----	----	----	----
Penta-Dioxins	----	1.25	pg/g	<22.4	----	----	----	----
Hexa-Dioxins	----	1.25	pg/g	**88.4**	----	----	----	----
Hepta-Dioxins	----	1.25	pg/g	**115.0**	----	----	----	----
Octa-Dioxin	----	5	pg/g	**444.0**	----	----	----	----
Tetra-Furans	----	0.25	pg/g	<4.0	----	----	----	----
Penta-Furans	----	1.25	pg/g	<39.8	----	----	----	----
Hexa-Furans	----	1.25	pg/g	<49.8	----	----	----	----
Hepta-Furans	----	1.25	pg/g	<12.5	----	----	----	----
Octa-Furan	----	2.5	pg/g	<5.0	----	----	----	----
Dioxins - Individual								
2378-TCDD (13C12)	76523-40-5	0.1	%	**76.6**	----	----	----	----
12378-PeCDD (13C12)	109719-79-1	0.1	%	**71.0**	----	----	----	----
123478-HxCDD (13C12)	109719-80-4	0.1	%	**57.5**	----	----	----	----
123678-HxCDD (13C12)	109719-81-5	0.1	%	**55.0**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH28 0.2 - 0.7D	----	----	----	----
				Client sampling date / time	12-FEB-2015 15:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB1500854-001	----	----	----	----
Dioxins - Individual - Continued									
1234678-HpCDD (13C12)	109719-83-7	0.1	%		**46.5**	----	----	----	----
OCDD (13C12)	114423-97-1	0.1	%		**19.7**	----	----	----	----
2378-TCDF (13C12)	89059-46-1	0.1	%		**47.5**	----	----	----	----
12378-PeCDF (13C12)	109719-77-9	0.1	%		**52.9**	----	----	----	----
23478-PeCDF (13C12)	116843-02-8	0.1	%		**52.0**	----	----	----	----
123478-HxCDF (13C12)	114423-98-2	0.1	%		**48.1**	----	----	----	----
123678-HxCDF (13C12)	116843-03-9	0.1	%		**48.1**	----	----	----	----
234678-HxCDF (13C12)	116843-05-1	0.1	%		**50.9**	----	----	----	----
123789-HxCDF (13C12)	116843-04-0	0.1	%		**58.7**	----	----	----	----
1234678-HpCDF (13C12)	109719-84-8	0.1	%		**31.6**	----	----	----	----
1234789-HpCDF (13C12)	109719-94-0	0.1	%		**49.5**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
Dioxins - Individual			
2378-TCDD (13C12)	76523-40-5	25	164
12378-PeCDD (13C12)	109719-79-1	25	181
123478-HxCDD (13C12)	109719-80-4	32	141
123678-HxCDD (13C12)	109719-81-5	28	130
1234678-HpCDD (13C12)	109719-83-7	23	140
OCDD (13C12)	114423-97-1	17	157
2378-TCDF (13C12)	89059-46-1	24	169
12378-PeCDF (13C12)	109719-77-9	24	185
23478-PeCDF (13C12)	116843-02-8	21	178
123478-HxCDF (13C12)	114423-98-2	26	152
123678-HxCDF (13C12)	116843-03-9	26	123
234678-HxCDF (13C12)	116843-05-1	28	136
123789-HxCDF (13C12)	116843-04-0	29	147
1234678-HpCDF (13C12)	109719-84-8	28	143
1234789-HpCDF (13C12)	109719-94-0	26	138

CERTIFICATE OF ANALYSIS

Client	**AURECON AUSTRALASIA PTY LTD**	**Laboratory :**	Environmental Division Brisbane		
Contact	SALLY LEYLAND	**Contact**	CUSTOMER.SERVICES.EB	**Work Order:**	**EB1500854**
Address:	LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	**Address:**	2 Byth Street Stafford QLD 4053 Australia		
Project	GPC Geochemical Investigation	**Quote #**	SY/1021/14 V2	**Received:**	16 Feb 2015
Order #	245553			**Issued**	27 Feb 2015
C-O-C #	- Not provided -				
Site	- Not provided -				
E-mail	sally.leyland@aurecongroup.com	**E-mail**	ALSEnviro.Brisbane@alsglobal.com	**Number of Samples**	
Phone	3173 8006	**Phone**	+61-7-3243 7222	**Received:**	1
Fax	3173 8001	**Fax**	+61-7-3243 7218	**Analysed:**	1

Notes

LOR = Limit of reporting
I-TEF = International toxic equivalency factor
I-TEQ = International toxic equivalence
WHO-TEF = World Health Organistaion toxic equivalency factor
WHO-TEQ = World Health Organisation toxic equivalence

1 I -TEQ(zero) and WHO-TEQ(zero) calculated treating <LOR as zero concentration
2 I -TEQ(0.5 LOR) and WHO-TEQ(0.5 zero) calculated treating <LOR as 0.5 LoR concentration
3 I-TEQ(LOR) and WHO-TEQ(LOR) calculated treating <LOR as LoR concentration
4 Totals LORs are calculated by multiplying the number of peaks by the individual LOR per compound
5 13C12 Rec(%) = The absolute recovery of Isotopically labelled compound added by the Laboratory to both quantitate and measure extraction efficiency.

T = tetra
Pe = penta
Hx = hexa
Hp =hepta
O = octa
CDD, dioxin = chlorinated dibenzo-p-dioxin
CDF, furan = chlorinated dibenzofuran

Samples analysed 'as received', results reported on 'dry weight' basis.

ALSE - Excellence in Analytical Testing

NATA Accredited Laboratory - 825

This document is issued in accordance with NATA's accreditation requirements.

Accredited for compliance with ISO/IED 17025

This document has been digitally signed by those names that appear on this report and are the authorised signatories. Digital signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatory	Position	Department
Peter Blow	HRMS Chemist	GC/HR-MS - NATA 825 (818 - Brisbane)

Client	: AURECON AUSTRALASIA PTY LTD	**Work Order**	: EB1500854
Project	: GPC Geochemical Investigation	**ALS Quote Reference**	: SY/1021/14 V2

ANALYTICAL RESULTS FOR DIOXINS AND FURANS

Method Code EP300

Laboratory Sample ID: EB1500854001
Client Sample ID: BH28 0.2 - 0.7D

Qc Lot Number: 3837962
Sample Matrix: SOIL

Date Sampled: 12-Feb-2015
Date Extracted: 25-Feb-2015
Date Analysed: 25-Feb-2015

Compound	Conc pg/g	LOR pg/g	WHO-TEF	WHO-TEQ$_1$ (zero)	WHO-TEQ$_2$ (0.5 LOR)	WHO-TEQ$_3$ (LOR)	I-TEF	I-TEQ$_1$ (zero)	I-TEQ$_2$ (0.5 LOR)	I-TEQ$_3$ (LOR)	$^{13}C_{12}$ Rec(%)
2378-TCDD	<0.5	0.5	1	0.00	0.25	0.50	1	0.00	0.25	0.50	76.6
12378-PeCDD	<2.5	2.5	1	0.00	1.25	2.49	0.5	0.00	0.62	1.25	71.0
123478-HxCDD	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	57.5
123678-HxCDD	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	55.0
123789-HxCDD	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	-
1234678-HpCDD	22.0	2.5	0.01	0.22	0.22	0.22	0.01	0.22	0.22	0.22	46.5
OCDD	444.0	10.0	0.0003	0.13	0.13	0.13	0.001	0.44	0.44	0.44	19.7
2378-TCDF	<0.5	0.5	0.1	0.00	0.02	0.05	0.1	0.00	0.02	0.05	47.5
12378-PeCDF	<2.5	2.5	0.03	0.00	0.04	0.07	0.05	0.00	0.06	0.12	52.9
23478-PeCDF	<2.5	2.5	0.3	0.00	0.37	0.75	0.5	0.00	0.62	1.25	52.0
123478-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	48.1
123678-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	48.1
234678-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	50.9
123789-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	58.7
1234678-HpCDF	<2.5	2.5	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	31.6
1234789-HpCDF	<2.5	2.5	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	49.5
OCDF	<5.0	5.0	0.0003	0.00	0.00	0.00	0.001	0.00	0.00	0.00	-
Total TEQ	-	-	-	0.35	3.18	6.01	-	0.66	3.14	5.62	-

Group Totals	Conc pg/g	LOR$_4$ pg/g	No. of Peaks
Tetra-Dioxins	<19.9	19.9	40
Penta-Dioxins	<22.4	22.4	9
Hexa-Dioxins	88.4	22.4	9
Hepta-Dioxins	115.0	5.0	2
Octa-Dioxin	444.0	10.0	1
Tetra-Furans	<4.0	4.0	8
Penta-Furans	<39.8	39.8	16
Hexa-Furans	<49.8	49.8	20
Hepta-Furans	<12.5	12.5	5
Octa-Furan	<5.0	5.0	1
S **PCDD/Fs**	647.4		

QUALITY CONTROL REPORT

Client	**AURECON AUSTRALASIA PTY LTD**	**Laboratory :**	Environmental Division Brisbane		
Contact	SALLY LEYLAND	**Contact**	CUSTOMER.SERVICES.EB	**Work Order:**	**EB1500854**
Address:	LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	**Address:**	Stafford QLD 4053 Australia		

Project	GPC Geochemical Investigation	**Quote #**	SY/1021/14 V2	**Received:**	16 Feb 2015
Order #	245553			**Issued**	27 Feb 2015
C-O-C #	- Not provided -				
Site	- Not provided -				
E-mail	sally.leyland@aurecongroup.com	**E-mail**	ALSEnviro.Brisbane@alsglobal.c	**Number of Samples**	
Phone	3173 8006	**Phone**	+61-7-3243 7222	**Received:**	1
Fax	3173 8001	**Fax**	+61-7-3243 7218	**Analysed:**	3

Samples analysed 'as received', results reported on 'dry weight' basis.

ALSE - Excellence in Analytical Testing

NATA Accredited Laboratory - 825

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Accredited for compliance with ISO/IED 17025

This document has been digitally signed by those names that appear on this report and are the authorised signatories. Digital signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatory	Position	Department
Peter Blow	HRMS Chemist	GC/HR-MS - NATA 825 (818 - Brisbane)

Quality Control Report
Laboratory Duplicates (DUP)

	Original Result	Duplicate Result
Laboratory Sample Id :	EB1500884001	4624680-007
Client Sample Id :	Anonymous	Anonymous
Sample Mass (g) :	10.0	10.0
Qc Lot Number :	3837963	3837963
Moisture Content (%) :		

Compound	Conc pg/g	LOR pg/g	Conc pg/g	LOR pg/g	RPD (%)
2378-TCDD	<0.5	0.5	<0.5	0.5	-
12378-PeCDD	<2.5	2.5	<2.5	2.5	-
123478-HxCDD	<2.5	2.5	<2.5	2.5	-
123678-HxCDD	<2.5	2.5	<2.5	2.5	-
123789-HxCDD	<2.5	2.5	<2.5	2.5	-
1234678-HpCDD	3.7	2.5	3.9	2.5	5.3
OCDD	296.0	9.9	292.0	9.9	1.4
2378-TCDF	<0.5	0.5	<0.5	0.5	-
12378-PeCDF	<2.5	2.5	<2.5	2.5	-
23478-PeCDF	<2.5	2.5	<2.5	2.5	-
123478-HxCDF	<2.5	2.5	<2.5	2.5	-
123678-HxCDF	<2.5	2.5	<2.5	2.5	-
234678-HxCDF	<2.5	2.5	<2.5	2.5	-
123789-HxCDF	<2.5	2.5	<2.5	2.5	-
1234678-HpCDF	<2.5	2.5	<2.5	2.5	-
1234789-HpCDF	<2.5	2.5	<2.5	2.5	-
OCDF	<5.0	5.0	<4.9	4.9	-

Group Totals	Conc pg/g	LOR pg/g	Conc pg/g	LOR pg/g	RPD (%)
Tetra-Dioxins	<0.5	0.5	<0.5	0.5	-
Penta-Dioxins	<2.5	2.5	<2.5	2.5	-
Hexa-Dioxins	<7.4	7.4	<12.4	12.4	-
Hepta-Dioxins	11.5	5.0	11.8	4.9	2.6
Octa-Dioxin	296.0	9.9	292.0	9.9	1.4
Tetra-Furans	<0.5	0.5	<0.5	0.5	-
Penta-Furans	<2.5	2.5	<2.5	2.5	-
Hexa-Furans	<2.5	2.5	<2.5	2.5	-
Hepta-Furans	<2.5	2.5	<2.5	2.5	-
Octa-Furan	<5.0	5.0	<4.9	4.9	-
S **PCDD/Fs**	**307.5**		**303.8**		**1.2**

Notes
LOR = Limit of reporting
T = tetra
Pe = penta
Hx = hexa
Hp = hepta
O = octa
CDD, dioxin = chlorinated debenzo-p-dioxin
CDF, furan = chlorinated debenzofuran
RPD = relative per cent difference
Permitted ranges for RPD are depencant upon the magnitude of the result in comparison to the LOR.
Result < 10x LOR, no limit, result between 10x and 20x LOR, 50%; result > 20x LOR, 20%
- = Where results are less than the LOR, no RPD is reported.

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Quality Control Report
Laboratory Duplicates (DUP)

	Original Result	**Duplicate Result**
Laboratory Sample Id :	ES1504013001	4624680-027
Client Sample Id :	Anonymous	Anonymous
Sample Mass (g) :	10.0	10.0
Qc Lot Number :	3837963	3837963
Moisture Content (%) :		

Compound	**Conc pg/g**	**LOR pg/g**	**Conc pg/g**	**LOR pg/g**	**RPD (%)**
2378-TCDD	4.3	0.5	4.9	0.5	13.0
12378-PeCDD	7.8	2.5	8.3	2.5	6.2
123478-HxCDD	8.9	2.5	9.8	2.5	9.6
123678-HxCDD	50.3	2.5	57.3	2.5	13.0
123789-HxCDD	34.8	2.5	38.2	2.5	9.3
1234678-HpCDD	1740.0	2.5	1780.0	2.5	2.3
OCDD	35500.0	9.9	39000.0	9.8	9.4
2378-TCDF	7.2	0.5	8.7	0.5	18.9
12378-PeCDF	3.5	2.5	4.1	2.5	15.8
23478-PeCDF	5.4	2.5	6.1	2.5	12.2
123478-HxCDF	15.8	2.5	17.5	2.5	10.2
123678-HxCDF	7.5	2.5	8.5	2.5	12.5
234678-HxCDF	8.1	2.5	10.4	2.5	24.9
123789-HxCDF	<2.5	2.5	<2.5	2.5	-
1234678-HpCDF	326.0	2.5	363.0	2.5	10.7
1234789-HpCDF	16.5	2.5	18.5	2.5	11.4
OCDF	1270.0	4.9	1380.0	4.9	8.3

Group Totals	**Conc pg/g**	**LOR pg/g**	**Conc pg/g**	**LOR pg/g**	**RPD (%)**
Tetra-Dioxins	149.0	6.9	163.0	5.9	9.0
Penta-Dioxins	299.0	22.2	310.0	24.6	3.6
Hexa-Dioxins	2010.0	19.7	2180.0	17.2	8.1
Hepta-Dioxins	4880.0	4.9	5110.0	4.9	4.6
Octa-Dioxin	35500.0	9.9	39000.0	9.8	9.4
Tetra-Furans	111.0	9.4	136.0	10.8	20.2
Penta-Furans	71.4	29.6	83.6	32.0	15.7
Hexa-Furans	322.0	32.0	363.0	27.0	12.0
Hepta-Furans	1070.0	9.9	1170.0	9.8	8.9
Octa-Furan	1270.0	4.9	1380.0	4.9	8.3
Σ **PCDD/Fs**	**45682.4**		**49895.6**		**8.8**

Notes
LOR = Limit of reporting
T = tetra
Pe = penta
Hx = hexa
Hp = hepta
O = octa
CDD, dioxin = chlorinated debenzo-p-dioxin
CDF, furan = chlorinated debenzofuran
RPD = relative per cent difference
Permitted ranges for RPD are depencant upon the magnitude of the result in comparison to the LOR.
Result < 10x LOR, no limit, result between 10x and 20x LOR, 50%; result > 20x LOR, 20%
- = Where results are less than the LOR, no RPD is reported.

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Quality Control Results
Laboratory Control Samples(LCS)

Laboratory Sample Id : 4624680-010
QC Lot Number : 3837963
Sample Name : BCR 529 Sandy soil

Compound	Conc pg/g	Lower 1 pg/g	Upper 1 pg/g	$^{13}C_{12}$ Rec(%)	Lower 2 (%)	Upper 2 (%)
2378-TCDD	4170.0	3900	5100	65.2	25	164
12378-PeCDD	462.0	390	490	64.7	25	181
123478-HxCDD	1050.0	900	1500	64.0	32	141
123678-HxCDD	4980.0	4500	6300	47.4	28	130
123789-HxCDD	3160.0	2600	3400	-	-	-
2378-TCDF	83.7	65	91	42.0	24	169
12378-PeCDF	122.0	110	170	50.8	24	185
23478-PeCDF	370.0	290	430	49.3	21	178
123478-HxCDF	3070.0	2900	3900	59.7	26	152
123678-HxCDF	1090.0	940	1240	54.1	26	123
234678-HxCDF	385.0	330	410	58.7	28	136
123789-HxCDF	515.0	12	32	61.9	29	147

Notes
1. Acceptable concentration limits are as quoted on the analytical certificate for the cerified reference material
2. Acceptable recovery limits are derived from EPA1613 Revision B
T = tetra
Pe = penta
Hx = hexa
Hp = hepta
O = octa

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Quality Control Report
Method Blank (MB)

Laboratory Sample ID: 4624680-008
Qc Lot Number : 3837963

Sample Matrix: SOIL
Date Extracted: 25-Feb-2015
Date Analysed: 25-Feb-2015

Compound	Conc pg/g	LOR pg/g	WHO-TEF	WHO-TE Q_1	WHO-TE Q_2	WHO-TE Q_3	I-TEF	I-TEQ$_1$ (zero)	I-TEQ$_2$ (0.5 LOR)	I-TEQ$_3$ (LOR)	$^{13}C_{12}$ Rec(%)
2378-TCDD	<0.5	0.5	1	0.00	0.25	0.50	1	0.00	0.25	0.50	58.9
12378-PeCDD	<2.5	2.5	1	0.00	1.25	2.50	0.5	0.00	0.63	1.25	58.9
123478-HxCDD	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	55.8
123678-HxCDD	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	51.1
123789-HxCDD	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	-
1234678-HpCD	<2.5	2.5	0.01	0.00	0.01	0.03	0.01	0.00	0.01	0.03	63.3
OCDD	<10.0	10.0	0.0003	0.00	0.00	0.00	0.001	0.00	0.01	0.01	36.8
2378-TCDF	<0.5	0.5	0.1	0.00	0.03	0.05	0.1	0.00	0.03	0.05	33.2
12378-PeCDF	<2.5	2.5	0.03	0.00	0.04	0.08	0.05	0.00	0.06	0.13	41.2
23478-PeCDF	<2.5	2.5	0.3	0.00	0.38	0.75	0.5	0.00	0.63	1.25	41.0
123478-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	43.9
123678-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	43.0
234678-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	48.4
123789-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	51.6
1234678-HpCD	<2.5	2.5	0.01	0.00	0.01	0.03	0.01	0.00	0.01	0.03	43.3
1234789-HpCD	<2.5	2.5	0.01	0.00	0.01	0.03	0.01	0.00	0.01	0.03	54.4
OCDF	<5.0	5.0	0.0003	0.00	0.00	0.00	0.001	0.00	0.00	0.01	-
			S **TEQ(WHO)**	0.00	2.89	5.72	S **TEQ(I)**	0.00	2.55	5.04	

Group Totals	Conc pg/g	LOR$_4$ pg/g	No. of Peaks
Tetra-Dioxins	<0.5	0.5	1
Penta-Dioxins	<2.5	2.5	1
Hexa-Dioxins	<2.5	2.5	1
Hepta-Dioxins	<2.5	2.5	1
Octa-Dioxin	<10.0	10.0	1
Tetra-Furans	<0.5	0.5	1
Penta-Furans	<2.5	2.5	1
Hexa-Furans	<2.5	2.5	1
Hepta-Furans	<2.5	2.5	1
Octa-Furan	<5.0	5.0	1
S **PCDD/Fs**	0.00		

Notes
LOR = Limit of reporting
I-TEF = International toxic equivalency factor
I-TEQ = International toxic equivalence (pg/g)
WHO-TEF = World Health Organistaion toxic equivalency factor
WHO-TEQ = World Health Organisation toxic equivalence (pg/g)
T = tetra
Pe = penta
Hx = hexa
Hp =hepta
O = octa
CDD, dioxin = chlorinated dibenzo-p-dioxin
CDF, furan = chlorinated dibenzofuran
1 I -TEQ(zero) and WHO-TEQ(zero) calculated treating <LOR as zero concentration (pg/g)
2 I-TEQ(0.5 LOR) and WHO-TEQ(0.5 LOR) calculated treating <LOR as 50% LoR concentration (pg/g)
3 I-TEQ(LOR) and WHO-TEQ(LOR) calculated treating <LOR as LoR concentration (pg/g)
4 Totals LORs are calculated by mutiplying the number of peaks by the individual LOR per compound

EB

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0690 E: adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
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MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) **Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 245553	**COC SEQUENCE NUMBER (Circle)** COC: (1) 2 3 4 5 6 7	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland — **CONTACT PH:** 07 3173 8006	OF: (1) 2 3 4 5 6 7	Other comment:	

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:** Georgina Kerr	**RECEIVED BY:** Kelly Schafer	**RELINQUISHED BY:** KSchafer
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	DATE/TIME: 13 February 2015	DATE/TIME: 13 February 2015 1730	DATE/TIME: 16.2.15 1600
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com				**RECEIVED BY:**
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com				DATE/TIME: 17.02.15 08:25

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).							Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	BH1 0.0 - 0.5 D	13/02/2015	S	Glass Jar (150 ml)	1				1				
2	BH6 0.0-0.8m D	13/02/2015	S	Glass Jar (150 ml)	1				1				
3	BH10 0.0-0.3m D	13/02/2015	S	Glass Jar (150 ml)	1				1				
4	BH15 0.0-0.5m D	13/02/2015	S	Glass Jar (150 ml)	1				1				
5	BH21 0.0-0.6m D	13/02/2015	S	Glass Jar (150 ml)	1				1				
				TOTAL	5				5				

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Pre Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Environmental Division Brisbane

Work Order

EB1500884

Telephone : +61-7-3243 7222

SCANNED 17.2.15

CERTIFICATE OF ANALYSIS

Work Order	: **EB1500884**	Page	: 1 of 5
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: sally.leyland@aurecongroup.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61 7 3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61 7 3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553		
C-O-C number	: ----	Date Samples Received	: 17-FEB-2015
Sampler	: Georgina Kerr	Issue Date	: 27-FEB-2015
Site	: ----		
		No. of samples received	: 5
Quote number	: SY/1021/14 V2	No. of samples analysed	: 5

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Peter Blow	HRMS Chemist	GC/HR-MS

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **Lower than usual labelled Compound recoveries were observed in this batch due to matrix interferences. Sufficient recovery was achieved for quantitation.**

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	BH1 0.0 - 0.5 D	BH6 0.0-0.8m D	BH10 0.0-0.3m D	BH15 0.0-0.5m D	BH21 0.0-0.6m D
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
					EB1500884-001	EB1500884-002	EB1500884-003	EB1500884-004	EB1500884-005
Dioxins - Individual									
2378-TCDD	1746-01-6	0.25	pg/g		<0.5	<0.5	<0.5	<0.5	<0.5
12378-PeCDD	40321-76-4	1.25	pg/g		<2.5	<2.5	<2.4	<2.4	<2.4
123478-HxCDD	39227-28-6	1.25	pg/g		<2.5	<2.5	<2.4	<2.4	<2.4
123678-HxCDD	57653-85-7	1.25	pg/g		<2.5	<2.5	<2.4	<2.4	<2.4
123789-HxCDD	19408-74-3	1.25	pg/g		<2.5	<2.5	<2.4	<2.4	<2.4
1234678-HpCDD	35822-46-9	1.25	pg/g		**3.7**	**12.1**	**38.2**	**7.7**	**19.1**
OCDD	3268-87-9	5	pg/g		**296.0**	**802.0**	**3270.0**	**275.0**	**540.0**
2378-TCDF	51207-31-9	0.25	pg/g		<0.5	<0.5	<0.5	<0.5	<0.5
12378-PeCDF	57117-41-6	1.25	pg/g		<2.5	<2.5	<2.4	<2.4	<2.4
23478-PeCDF	57117-31-4	1.25	pg/g		<2.5	<2.5	<2.4	<2.4	<2.4
123478-HxCDF	70648-26-9	1.25	pg/g		<2.5	<2.5	<2.4	<2.4	<2.4
123678-HxCDF	57117-44-9	1.25	pg/g		<2.5	<2.5	<2.4	<2.4	<2.4
234678-HxCDF	60851-34-5	1.25	pg/g		<2.5	<2.5	<2.4	<2.4	<2.4
123789-HxCDF	72918-21-9	1.25	pg/g		<2.5	<2.5	<2.4	<2.4	<2.4
1234678-HpCDF	67562-39-4	1.25	pg/g		<2.5	<2.5	<2.4	<2.4	<2.4
1234789-HpCDF	55673-89-7	1.25	pg/g		<2.5	<2.5	<2.4	<2.4	<2.4
OCDF	39001-02-0	2.5	pg/g		<5.0	**11.5**	**11.6**	<4.9	<4.9
Total TEQ	----	0	pg/g		-	-	-	-	-
Dioxins - Total									
Tetra-Dioxins	----	0.25	pg/g		<0.5	<2.5	<2.0	<0.5	**5.2**
Penta-Dioxins	----	1.25	pg/g		<2.5	<2.5	<17.1	<14.6	<22.0
Hexa-Dioxins	----	1.25	pg/g		<7.4	<12.3	**22.9**	<19.4	**57.3**
Hepta-Dioxins	----	1.25	pg/g		**11.5**	**26.2**	**116.0**	**23.1**	**77.5**
Octa-Dioxin	----	5	pg/g		**296.0**	**802.0**	**3270.0**	**275.0**	**540.0**
Tetra-Furans	----	0.25	pg/g		<0.5	<2.5	<0.5	<0.5	<0.5
Penta-Furans	----	1.25	pg/g		<2.5	<2.5	<2.4	<2.4	<2.4
Hexa-Furans	----	1.25	pg/g		<2.5	<2.5	<14.7	<2.4	<2.4
Hepta-Furans	----	1.25	pg/g		<2.5	<4.9	<7.3	<4.9	<4.9
Octa-Furan	----	2.5	pg/g		<5.0	**11.5**	**11.6**	<4.9	<4.9
Dioxins - Individual									
2378-TCDD (13C12)	76523-40-5	0.1	%		**67.3**	**67.5**	**48.6**	**53.1**	**67.9**
12378-PeCDD (13C12)	109719-79-1	0.1	%		**56.5**	**56.4**	**36.9**	**42.4**	**56.8**
123478-HxCDD (13C12)	109719-80-4	0.1	%		**48.1**	**40.6**	**32.4**	**40.5**	**50.5**
123678-HxCDD (13C12)	109719-81-5	0.1	%		**45.7**	**41.7**	**34.5**	**40.1**	**46.2**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH1 0.0 - 0.5 D	BH6 0.0-0.8m D	BH10 0.0-0.3m D	BH15 0.0-0.5m D	BH21 0.0-0.6m D
				Client sampling date / time	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00	13-FEB-2015 15:00
Compound	CAS Number	LOR	Unit		EB1500884-001	EB1500884-002	EB1500884-003	EB1500884-004	EB1500884-005
Dioxins - Individual - Continued									
1234678-HpCDD (13C12)	109719-83-7	0.1	%		40.0	26.5	29.5	40.6	42.1
OCDD (13C12)	114423-97-1	0.1	%		15.2	8.3	13.1	25.9	17.6
2378-TCDF (13C12)	89059-46-1	0.1	%		35.9	38.2	28.4	30.4	41.1
12378-PeCDF (13C12)	109719-77-9	0.1	%		38.9	37.9	26.0	30.9	42.8
23478-PeCDF (13C12)	116843-02-8	0.1	%		40.9	39.6	27.9	30.9	43.9
123478-HxCDF (13C12)	114423-98-2	0.1	%		38.3	32.2	26.1	33.0	41.3
123678-HxCDF (13C12)	116843-03-9	0.1	%		39.9	33.1	29.8	34.5	40.7
234678-HxCDF (13C12)	116843-05-1	0.1	%		43.0	34.5	30.4	34.8	44.6
123789-HxCDF (13C12)	116843-04-0	0.1	%		48.7	44.8	36.5	38.4	49.9
1234678-HpCDF (13C12)	109719-84-8	0.1	%		24.8	15.3	18.4	29.9	27.9
1234789-HpCDF (13C12)	109719-94-0	0.1	%		43.4	34.3	30.6	36.4	43.5

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	Recovery Limits (%) High
Dioxins - Individual			
2378-TCDD (13C12)	76523-40-5	25	164
12378-PeCDD (13C12)	109719-79-1	25	181
123478-HxCDD (13C12)	109719-80-4	32	141
123678-HxCDD (13C12)	109719-81-5	28	130
1234678-HpCDD (13C12)	109719-83-7	23	140
OCDD (13C12)	114423-97-1	17	157
2378-TCDF (13C12)	89059-46-1	24	169
12378-PeCDF (13C12)	109719-77-9	24	185
23478-PeCDF (13C12)	116843-02-8	21	178
123478-HxCDF (13C12)	114423-98-2	26	152
123678-HxCDF (13C12)	116843-03-9	26	123
234678-HxCDF (13C12)	116843-05-1	28	136
123789-HxCDF (13C12)	116843-04-0	29	147
1234678-HpCDF (13C12)	109719-84-8	28	143
1234789-HpCDF (13C12)	109719-94-0	26	138

CERTIFICATE OF ANALYSIS

Client	**AURECON AUSTRALASIA PTY LTD**	**Laboratory :**	Environmental Division Brisbane		
Contact	SALLY LEYLAND	**Contact**	CUSTOMER.SERVICES.EB	**Work Order:**	**EB1500884**
Address:	LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	**Address:**	2 Byth Street Stafford QLD 4053 Australia		
Project	GPC Geochemical Investigation	**Quote #**	SY/1021/14 V2	**Received:**	16 Feb 2015
Order #	245553			**Issued**	27 Feb 2015
C-O-C #	- Not provided -				
Site	- Not provided -				
E-mail	sally.leyland@aurecongroup.com	**E-mail**	ALSEnviro.Brisbane@alsglobal.com	**Number of Samples**	
Phone	3173 8006	**Phone**	+61-7-3243 7222	**Received:**	5
Fax	3173 8001	**Fax**	+61-7-3243 7218	**Analysed:**	5

Notes
LOR = Limit of reporting
I-TEF = International toxic equivalency factor
I-TEQ = International toxic equivalence
WHO-TEF = World Health Organistaion toxic equivalency factor
WHO-TEQ = World Health Organisation toxic equivalence

1 I -TEQ(zero) and WHO-TEQ(zero) calculated treating <LOR as zero concentration
2 I -TEQ(0.5 LOR) and WHO-TEQ(0.5 zero) calculated treating <LOR as 0.5 LoR concentration
3 I-TEQ(LOR) and WHO-TEQ(LOR) calculated treating <LOR as LoR concentration
4 Totals LORs are calculated by multiplying the number of peaks by the individual LOR per compound
5 13C12 Rec(%) = The absolute recovery of Isotopically labelled compound added by the Laboratory to both quantitate and measure extraction efficiency.

T = tetra
Pe = penta
Hx = hexa
Hp =hepta
O = octa
CDD, dioxin = chlorinated dibenzo-p-dioxin
CDF, furan = chlorinated dibenzofuran

Work order specific comments

Samples analysed 'as received', results reported on 'dry weight' basis.

Lower than usual labelled Compound recoveries were observed in this batch due to matrix interferences. Sufficient recovery was achieved for quantitation.

ALSE - Excellence in Analytical Testing

NATA Accredited Laboratory - 825

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Accredited for compliance with ISO/IED 17025

This document has been digitally signed by those names that appear on this report and are the authorised signatories. Digital signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatory	Position	Department
Peter Blow	HRMS Chemist	GC/HR-MS - NATA 825 (818 - Brisbane)

Client	: AURECON AUSTRALASIA PTY LTD	**Work Order**	: EB1500884
Project	: GPC Geochemical Investigation	**ALS Quote Reference**	: SY/1021/14 V2

ANALYTICAL RESULTS FOR DIOXINS AND FURANS

Method Code EP300

Laboratory Sample ID: EB1500884001
Client Sample ID: BH1 0.0 - 0.5 D

Qc Lot Number: 3837962
Sample Matrix: SOIL

Date Sampled: 13-Feb-2015
Date Extracted: 25-Feb-2015
Date Analysed: 25-Feb-2015

Compound	Conc pg/g	LOR pg/g	WHO-TEF	WHO-TEQ$_1$ (zero)	WHO-TEQ$_2$ (0.5 LOR)	WHO-TEQ$_3$ (LOR)	I-TEF	I-TEQ$_1$ (zero)	I-TEQ$_2$ (0.5 LOR)	I-TEQ$_3$ (LOR)	$^{13}C_{12}$ Rec(%)
2378-TCDD	<0.5	0.5	1	0.00	0.25	0.50	1	0.00	0.25	0.50	67.3
12378-PeCDD	<2.5	2.5	1	0.00	1.24	2.48	0.5	0.00	0.62	1.24	56.5
123478-HxCDD	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	48.1
123678-HxCDD	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	45.7
123789-HxCDD	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	-
1234678-HpCDD	3.7	2.5	0.01	0.04	0.04	0.04	0.01	0.04	0.04	0.04	40.0
OCDD	296.0	9.9	0.0003	0.09	0.09	0.09	0.001	0.30	0.30	0.30	15.2
2378-TCDF	<0.5	0.5	0.1	0.00	0.02	0.05	0.1	0.00	0.02	0.05	35.9
12378-PeCDF	<2.5	2.5	0.03	0.00	0.04	0.07	0.05	0.00	0.06	0.12	38.9
23478-PeCDF	<2.5	2.5	0.3	0.00	0.37	0.74	0.5	0.00	0.62	1.24	40.9
123478-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	38.3
123678-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	39.9
234678-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	43.0
123789-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	48.7
1234678-HpCDF	<2.5	2.5	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	24.8
1234789-HpCDF	<2.5	2.5	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	43.4
OCDF	<5.0	5.0	0.0003	0.00	0.00	0.00	0.001	0.00	0.00	0.00	-
Total TEQ	-	-	-	0.13	2.94	5.75	-	0.33	2.80	5.27	-

Group Totals	Conc pg/g	LOR$_4$ pg/g	No. of Peaks
Tetra-Dioxins	<0.5	0.5	1
Penta-Dioxins	<2.5	2.5	1
Hexa-Dioxins	<7.4	7.4	3
Hepta-Dioxins	11.5	5.0	2
Octa-Dioxin	296.0	9.9	1
Tetra-Furans	<0.5	0.5	1
Penta-Furans	<2.5	2.5	1
Hexa-Furans	<2.5	2.5	1
Hepta-Furans	<2.5	2.5	1
Octa-Furan	<5.0	5.0	1
S **PCDD/Fs**	307.5		

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ANALYTICAL RESULTS FOR DIOXINS AND FURANS

Method Code EP300

Laboratory Sample ID: EB1500884002
Client Sample ID: BH6 0.0-0.8m D
Qc Lot Number: 3837963
Sample Matrix: SOIL
Date Sampled: 13-Feb-2015
Date Extracted: 25-Feb-2015
Date Analysed: 25-Feb-2015

Compound	Conc pg/g	LOR pg/g	WHO-TEF	WHO-TEQ$_1$ (zero)	WHO-TEQ$_2$ (0.5 LOR)	WHO-TEQ$_3$ (LOR)	I-TEF	I-TEQ$_1$ (zero)	I-TEQ$_2$ (0.5 LOR)	I-TEQ$_3$ (LOR)	$^{13}C_{12}$ Rec(%)
2378-TCDD	<0.5	0.5	1	0.00	0.25	0.49	1	0.00	0.25	0.49	67.5
12378-PeCDD	<2.5	2.5	1	0.00	1.23	2.47	0.5	0.00	0.62	1.23	56.4
123478-HxCDD	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	40.6
123678-HxCDD	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	41.7
123789-HxCDD	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	-
1234678-HpCDD	12.1	2.5	0.01	0.12	0.12	0.12	0.01	0.12	0.12	0.12	26.5
OCDD	802.0	9.9	0.0003	0.24	0.24	0.24	0.001	0.80	0.80	0.80	8.3
2378-TCDF	<0.5	0.5	0.1	0.00	0.02	0.05	0.1	0.00	0.02	0.05	38.2
12378-PeCDF	<2.5	2.5	0.03	0.00	0.04	0.07	0.05	0.00	0.06	0.12	37.9
23478-PeCDF	<2.5	2.5	0.3	0.00	0.37	0.74	0.5	0.00	0.62	1.23	39.6
123478-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	32.2
123678-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	33.1
234678-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	34.5
123789-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	44.8
1234678-HpCDF	<2.5	2.5	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	15.3
1234789-HpCDF	<2.5	2.5	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	34.3
OCDF	11.5	4.9	0.0003	0.00	0.00	0.00	0.001	0.01	0.01	0.01	-
Total TEQ	-	-	-	0.37	3.16	5.96	-	0.93	3.39	5.84	-

Group Totals	Conc pg/g	LOR$_4$ pg/g	No. of Peaks
Tetra-Dioxins	<2.5	2.5	5
Penta-Dioxins	<2.5	2.5	1
Hexa-Dioxins	<12.3	12.3	5
Hepta-Dioxins	26.2	4.9	2
Octa-Dioxin	802.0	9.9	1
Tetra-Furans	<2.5	2.5	5
Penta-Furans	<2.5	2.5	1
Hexa-Furans	<2.5	2.5	1
Hepta-Furans	<4.9	4.9	2
Octa-Furan	11.5	4.9	1
S **PCDD/Fs**	839.7		

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ANALYTICAL RESULTS FOR DIOXINS AND FURANS

Method Code EP300

Laboratory Sample ID: EB1500884003
Client Sample ID: BH10 0.0-0.3m D
Qc Lot Number: 3837963
Sample Matrix: SOIL
Date Sampled: 13-Feb-2015
Date Extracted: 25-Feb-2015
Date Analysed: 25-Feb-2015

Compound	Conc pg/g	LOR pg/g	WHO-TEF	WHO-TEQ$_1$ (zero)	WHO-TEQ$_2$ (0.5 LOR)	WHO-TEQ$_3$ (LOR)	I-TEF	I-TEQ$_1$ (zero)	I-TEQ$_2$ (0.5 LOR)	I-TEQ$_3$ (LOR)	$^{13}C_{12}$ Rec(%)
2378-TCDD	<0.5	0.5	1	0.00	0.24	0.49	1	0.00	0.24	0.49	48.6
12378-PeCDD	<2.4	2.4	1	0.00	1.22	2.44	0.5	0.00	0.61	1.22	36.9
123478-HxCDD	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	32.4
123678-HxCDD	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	34.5
123789-HxCDD	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	-
1234678-HpCDD	38.2	2.4	0.01	0.38	0.38	0.38	0.01	0.38	0.38	0.38	29.5
OCDD	3270.0	9.8	0.0003	0.98	0.98	0.98	0.001	3.27	3.27	3.27	13.1
2378-TCDF	<0.5	0.5	0.1	0.00	0.02	0.05	0.1	0.00	0.02	0.05	28.4
12378-PeCDF	<2.4	2.4	0.03	0.00	0.04	0.07	0.05	0.00	0.06	0.12	26.0
23478-PeCDF	<2.4	2.4	0.3	0.00	0.37	0.73	0.5	0.00	0.61	1.22	27.9
123478-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	26.1
123678-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	29.8
234678-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	30.4
123789-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	36.5
1234678-HpCDF	<2.4	2.4	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	18.4
1234789-HpCDF	<2.4	2.4	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	30.6
OCDF	11.6	4.9	0.0003	0.00	0.00	0.00	0.001	0.01	0.01	0.01	-
Total TEQ	-	-	-	1.37	4.14	6.91	-	3.66	6.10	8.53	-

Group Totals	Conc pg/g	LOR$_4$ pg/g	No. of Peaks
Tetra-Dioxins	<2.0	2.0	4
Penta-Dioxins	<17.1	17.1	7
Hexa-Dioxins	22.9	17.1	7
Hepta-Dioxins	116.0	4.9	2
Octa-Dioxin	3270.0	9.8	1
Tetra-Furans	<0.5	0.5	1
Penta-Furans	<2.4	2.4	1
Hexa-Furans	<14.7	14.7	6
Hepta-Furans	<7.3	7.3	3
Octa-Furan	11.6	4.9	1
S **PCDD/Fs**	3420.5		

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ANALYTICAL RESULTS FOR DIOXINS AND FURANS

Method Code EP300

Laboratory Sample ID: EB1500884004
Client Sample ID: BH15 0.0-0.5m D
Qc Lot Number: 3837963
Sample Matrix: SOIL
Date Sampled: 13-Feb-2015
Date Extracted: 25-Feb-2015
Date Analysed: 25-Feb-2015

Compound	Conc pg/g	LOR pg/g	WHO-TEF	WHO-TEQ$_1$ (zero)	WHO-TEQ$_2$ (0.5 LOR)	WHO-TEQ$_3$ (LOR)	I-TEF	I-TEQ$_1$ (zero)	I-TEQ$_2$ (0.5 LOR)	I-TEQ$_3$ (LOR)	$^{13}C_{12}$ Rec(%)
2378-TCDD	<0.5	0.5	1	0.00	0.24	0.49	1	0.00	0.24	0.49	53.1
12378-PeCDD	<2.4	2.4	1	0.00	1.21	2.43	0.5	0.00	0.61	1.21	42.4
123478-HxCDD	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	40.5
123678-HxCDD	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	40.1
123789-HxCDD	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	-
1234678-HpCDD	7.7	2.4	0.01	0.08	0.08	0.08	0.01	0.08	0.08	0.08	40.6
OCDD	275.0	9.7	0.0003	0.08	0.08	0.08	0.001	0.28	0.28	0.28	25.9
2378-TCDF	<0.5	0.5	0.1	0.00	0.02	0.05	0.1	0.00	0.02	0.05	30.4
12378-PeCDF	<2.4	2.4	0.03	0.00	0.04	0.07	0.05	0.00	0.06	0.12	30.9
23478-PeCDF	<2.4	2.4	0.3	0.00	0.36	0.73	0.5	0.00	0.61	1.21	30.9
123478-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	33.0
123678-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	34.5
234678-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	34.8
123789-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	38.4
1234678-HpCDF	<2.4	2.4	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	29.9
1234789-HpCDF	<2.4	2.4	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	36.4
OCDF	<4.9	4.9	0.0003	0.00	0.00	0.00	0.001	0.00	0.00	0.00	-
Total TEQ	-	-	-	0.16	2.92	5.68	-	0.35	2.77	5.19	-

Group Totals	Conc pg/g	LOR$_4$ pg/g	No. of Peaks
Tetra-Dioxins	<0.5	0.5	1
Penta-Dioxins	<14.6	14.6	6
Hexa-Dioxins	<19.4	19.4	8
Hepta-Dioxins	23.1	4.9	2
Octa-Dioxin	275.0	9.7	1
Tetra-Furans	<0.5	0.5	1
Penta-Furans	<2.4	2.4	1
Hexa-Furans	<2.4	2.4	1
Hepta-Furans	<4.9	4.9	2
Octa-Furan	<4.9	4.9	1
S **PCDD/Fs**	298.1		

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ANALYTICAL RESULTS FOR DIOXINS AND FURANS

Method Code EP300

Laboratory Sample ID: EB1500884005
Client Sample ID: BH21 0.0-0.6m D
Qc Lot Number: 3837963
Sample Matrix: SOIL
Date Sampled: 13-Feb-2015
Date Extracted: 25-Feb-2015
Date Analysed: 25-Feb-2015

Compound	Conc pg/g	LOR pg/g	WHO-TEF	WHO-TEQ$_1$ (zero)	WHO-TEQ$_2$ (0.5 LOR)	WHO-TEQ$_3$ (LOR)	I-TEF	I-TEQ$_1$ (zero)	I-TEQ$_2$ (0.5 LOR)	I-TEQ$_3$ (LOR)	$^{13}C_{12}$ Rec(%)
2378-TCDD	<0.5	0.5	1	0.00	0.24	0.49	1	0.00	0.24	0.49	67.9
12378-PeCDD	<2.4	2.4	1	0.00	1.22	2.45	0.5	0.00	0.61	1.22	56.8
123478-HxCDD	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	50.5
123678-HxCDD	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	46.2
123789-HxCDD	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	-
1234678-HpCDD	19.1	2.4	0.01	0.19	0.19	0.19	0.01	0.19	0.19	0.19	42.1
OCDD	540.0	9.8	0.0003	0.16	0.16	0.16	0.001	0.54	0.54	0.54	17.6
2378-TCDF	<0.5	0.5	0.1	0.00	0.02	0.05	0.1	0.00	0.02	0.05	41.1
12378-PeCDF	<2.4	2.4	0.03	0.00	0.04	0.07	0.05	0.00	0.06	0.12	42.8
23478-PeCDF	<2.4	2.4	0.3	0.00	0.37	0.73	0.5	0.00	0.61	1.22	43.9
123478-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	41.3
123678-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	40.7
234678-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	44.6
123789-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	49.9
1234678-HpCDF	<2.4	2.4	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	27.9
1234789-HpCDF	<2.4	2.4	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	43.5
OCDF	<4.9	4.9	0.0003	0.00	0.00	0.00	0.001	0.00	0.00	0.00	-
Total TEQ	-	-	-	0.35	3.13	5.91	-	0.73	3.17	5.60	-

Group Totals	Conc pg/g	LOR$_4$ pg/g	No. of Peaks
Tetra-Dioxins	5.2	4.9	10
Penta-Dioxins	<22.0	22.0	9
Hexa-Dioxins	57.3	17.1	7
Hepta-Dioxins	77.5	4.9	2
Octa-Dioxin	540.0	9.8	1
Tetra-Furans	<0.5	0.5	1
Penta-Furans	<2.4	2.4	1
Hexa-Furans	<2.4	2.4	1
Hepta-Furans	<4.9	4.9	2
Octa-Furan	<4.9	4.9	1
S **PCDD/Fs**	680.0		

QUALITY CONTROL REPORT

Client	**AURECON AUSTRALASIA PTY LTD**	**Laboratory :**	Environmental Division Brisbane		
Contact	SALLY LEYLAND	**Contact**	CUSTOMER.SERVICES.EB	**Work Order:**	**EB1500884**
Address:	LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	**Address:**	Stafford QLD 4053 Australia		

Project	GPC Geochemical Investigation	**Quote #**	SY/1021/14 V2	**Received:**	16 Feb 2015
Order #	245553			**Issued**	27 Feb 2015
C-O-C #	- Not provided -				
Site	- Not provided -				
E-mail	sally.leyland@aurecongroup.com	**E-mail**	ALSEnviro.Brisbane@alsglobal.c	**Number of Samples**	
Phone	3173 8006	**Phone**	+61-7-3243 7222	**Received:**	5
Fax	3173 8001	**Fax**	+61-7-3243 7218	**Analysed:**	6

Samples analysed 'as received', results reported on 'dry weight' basis.

Work order specific comments

Lower than usual labelled Compound recoveries were observed in this batch due to matrix interferences. Sufficient recovery was achieved for quantitation.

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This document has been digitally signed by those names that appear on this report and are the authorised signatories. Digital signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatory	Position	Department
Peter Blow	HRMS Chemist	GC/HR-MS - NATA 825 (818 - Brisbane)

Quality Control Report
Laboratory Duplicates (DUP)

	Original Result	Duplicate Result
Laboratory Sample Id :	EB1500884001	4624680-007
Client Sample Id :	BH1 0.0 - 0.5 D	BH1 0.0 - 0.5 D
Sample Mass (g) :	10.0	10.0
Qc Lot Number :	3837963	3837963
Moisture Content (%) :		

Compound	Conc pg/g	LOR pg/g	Conc pg/g	LOR pg/g	RPD (%)
2378-TCDD	<0.5	0.5	<0.5	0.5	-
12378-PeCDD	<2.5	2.5	<2.5	2.5	-
123478-HxCDD	<2.5	2.5	<2.5	2.5	-
123678-HxCDD	<2.5	2.5	<2.5	2.5	-
123789-HxCDD	<2.5	2.5	<2.5	2.5	-
1234678-HpCDD	3.7	2.5	3.9	2.5	5.3
OCDD	296.0	9.9	292.0	9.9	1.4
2378-TCDF	<0.5	0.5	<0.5	0.5	-
12378-PeCDF	<2.5	2.5	<2.5	2.5	-
23478-PeCDF	<2.5	2.5	<2.5	2.5	-
123478-HxCDF	<2.5	2.5	<2.5	2.5	-
123678-HxCDF	<2.5	2.5	<2.5	2.5	-
234678-HxCDF	<2.5	2.5	<2.5	2.5	-
123789-HxCDF	<2.5	2.5	<2.5	2.5	-
1234678-HpCDF	<2.5	2.5	<2.5	2.5	-
1234789-HpCDF	<2.5	2.5	<2.5	2.5	-
OCDF	<5.0	5.0	<4.9	4.9	-

Group Totals	Conc pg/g	LOR pg/g	Conc pg/g	LOR pg/g	RPD (%)
Tetra-Dioxins	<0.5	0.5	<0.5	0.5	-
Penta-Dioxins	<2.5	2.5	<2.5	2.5	-
Hexa-Dioxins	<7.4	7.4	<12.4	12.4	-
Hepta-Dioxins	11.5	5.0	11.8	4.9	2.6
Octa-Dioxin	296.0	9.9	292.0	9.9	1.4
Tetra-Furans	<0.5	0.5	<0.5	0.5	-
Penta-Furans	<2.5	2.5	<2.5	2.5	-
Hexa-Furans	<2.5	2.5	<2.5	2.5	-
Hepta-Furans	<2.5	2.5	<2.5	2.5	-
Octa-Furan	<5.0	5.0	<4.9	4.9	-
Σ **PCDD/Fs**	**307.5**		**303.8**		**1.2**

Notes
LOR = Limit of reporting
T = tetra
Pe = penta
Hx = hexa
Hp = hepta
O = octa
CDD, dioxin = chlorinated debenzo-p-dioxin
CDF, furan = chlorinated debenzofuran
RPD = relative per cent difference
Permitted ranges for RPD are depencant upon the magnitude of the result in comparison to the LOR.
Result < 10x LOR, no limit, result between 10x and 20x LOR, 50%; result > 20x LOR, 20%
- = Where results are less than the LOR, no RPD is reported.

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Quality Control Report
Laboratory Duplicates (DUP)

	Original Result	**Duplicate Result**
Laboratory Sample Id :	ES1504013001	4624680-027
Client Sample Id :	Anonymous	Anonymous
Sample Mass (g) :	10.0	10.0
Qc Lot Number :	3837963	3837963
Moisture Content (%) :		

Compound	**Conc pg/g**	**LOR pg/g**	**Conc pg/g**	**LOR pg/g**	**RPD (%)**
2378-TCDD	4.3	0.5	4.9	0.5	13.0
12378-PeCDD	7.8	2.5	8.3	2.5	6.2
123478-HxCDD	8.9	2.5	9.8	2.5	9.6
123678-HxCDD	50.3	2.5	57.3	2.5	13.0
123789-HxCDD	34.8	2.5	38.2	2.5	9.3
1234678-HpCDD	1740.0	2.5	1780.0	2.5	2.3
OCDD	35500.0	9.9	39000.0	9.8	9.4
2378-TCDF	7.2	0.5	8.7	0.5	18.9
12378-PeCDF	3.5	2.5	4.1	2.5	15.8
23478-PeCDF	5.4	2.5	6.1	2.5	12.2
123478-HxCDF	15.8	2.5	17.5	2.5	10.2
123678-HxCDF	7.5	2.5	8.5	2.5	12.5
234678-HxCDF	8.1	2.5	10.4	2.5	24.9
123789-HxCDF	<2.5	2.5	<2.5	2.5	-
1234678-HpCDF	326.0	2.5	363.0	2.5	10.7
1234789-HpCDF	16.5	2.5	18.5	2.5	11.4
OCDF	1270.0	4.9	1380.0	4.9	8.3

Group Totals	**Conc pg/g**	**LOR pg/g**	**Conc pg/g**	**LOR pg/g**	**RPD (%)**
Tetra-Dioxins	149.0	6.9	163.0	5.9	9.0
Penta-Dioxins	299.0	22.2	310.0	24.6	3.6
Hexa-Dioxins	2010.0	19.7	2180.0	17.2	8.1
Hepta-Dioxins	4880.0	4.9	5110.0	4.9	4.6
Octa-Dioxin	35500.0	9.9	39000.0	9.8	9.4
Tetra-Furans	111.0	9.4	136.0	10.8	20.2
Penta-Furans	71.4	29.6	83.6	32.0	15.7
Hexa-Furans	322.0	32.0	363.0	27.0	12.0
Hepta-Furans	1070.0	9.9	1170.0	9.8	8.9
Octa-Furan	1270.0	4.9	1380.0	4.9	8.3
Σ **PCDD/Fs**	**45682.4**		**49895.6**		**8.8**

Notes
LOR = Limit of reporting
T = tetra
Pe = penta
Hx = hexa
Hp = hepta
O = octa
CDD, dioxin = chlorinated debenzo-p-dioxin
CDF, furan = chlorinated debenzofuran
RPD = relative per cent difference
Permitted ranges for RPD are depencant upon the magnitude of the result in comparison to the LOR.
Result < 10x LOR, no limit, result between 10x and 20x LOR, 50%; result > 20x LOR, 20%
- = Where results are less than the LOR, no RPD is reported.

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Quality Control Results
Laboratory Control Samples(LCS)

Laboratory Sample Id : 4624680-010
QC Lot Number : 3837963
Sample Name : BCR 529 Sandy soil

Compound	Conc pg/g	Lower 1 pg/g	Upper 1 pg/g	$^{13}C_{12}$ Rec(%)	Lower 2 (%)	Upper 2 (%)
2378-TCDD	4170.0	3900	5100	65.2	25	164
12378-PeCDD	462.0	390	490	64.7	25	181
123478-HxCDD	1050.0	900	1500	64.0	32	141
123678-HxCDD	4980.0	4500	6300	47.4	28	130
123789-HxCDD	3160.0	2600	3400	-	-	-
2378-TCDF	83.7	65	91	42.0	24	169
12378-PeCDF	122.0	110	170	50.8	24	185
23478-PeCDF	370.0	290	430	49.3	21	178
123478-HxCDF	3070.0	2900	3900	59.7	26	152
123678-HxCDF	1090.0	940	1240	54.1	26	123
234678-HxCDF	385.0	330	410	58.7	28	136
123789-HxCDF	515.0	12	32	61.9	29	147

Notes
1. Acceptable concentration limits are as quoted on the analytical certificate for the cerified reference material
2. Acceptable recovery limits are derived from EPA1613 Revision B
T = tetra
Pe = penta
Hx = hexa
Hp = hepta
O = octa

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Quality Control Report
Method Blank (MB)

Laboratory Sample ID: 4624680-008
Qc Lot Number : 3837963

Sample Matrix: SOIL
Date Extracted: 25-Feb-2015
Date Analysed: 25-Feb-2015

Compound	Conc pg/g	LOR pg/g	WHO-TEF	WHO-TE Q_1	WHO-TE Q_2	WHO-TE Q_3	I-TEF	I-TEQ$_1$ (zero)	I-TEQ$_2$ (0.5 LOR)	I-TEQ$_3$ (LOR)	$^{13}C_{12}$ Rec(%)
2378-TCDD	<0.5	0.5	1	0.00	0.25	0.50	1	0.00	0.25	0.50	58.9
12378-PeCDD	<2.5	2.5	1	0.00	1.25	2.50	0.5	0.00	0.63	1.25	58.9
123478-HxCDD	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	55.8
123678-HxCDD	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	51.1
123789-HxCDD	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	-
1234678-HpCD	<2.5	2.5	0.01	0.00	0.01	0.03	0.01	0.00	0.01	0.03	63.3
OCDD	<10.0	10.0	0.0003	0.00	0.00	0.00	0.001	0.00	0.01	0.01	36.8
2378-TCDF	<0.5	0.5	0.1	0.00	0.03	0.05	0.1	0.00	0.03	0.05	33.2
12378-PeCDF	<2.5	2.5	0.03	0.00	0.04	0.08	0.05	0.00	0.06	0.13	41.2
23478-PeCDF	<2.5	2.5	0.3	0.00	0.38	0.75	0.5	0.00	0.63	1.25	41.0
123478-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	43.9
123678-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	43.0
234678-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	48.4
123789-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	51.6
1234678-HpCD	<2.5	2.5	0.01	0.00	0.01	0.03	0.01	0.00	0.01	0.03	43.3
1234789-HpCD	<2.5	2.5	0.01	0.00	0.01	0.03	0.01	0.00	0.01	0.03	54.4
OCDF	<5.0	5.0	0.0003	0.00	0.00	0.00	0.001	0.00	0.00	0.01	-
			S **TEQ$_{(WHO)}$**	0.00	2.89	5.72	S **TEQ$_{(I)}$**	0.00	2.55	5.04	

Group Totals	Conc pg/g	LOR$_4$ pg/g	No. of Peaks
Tetra-Dioxins	<0.5	0.5	1
Penta-Dioxins	<2.5	2.5	1
Hexa-Dioxins	<2.5	2.5	1
Hepta-Dioxins	<2.5	2.5	1
Octa-Dioxin	<10.0	10.0	1
Tetra-Furans	<0.5	0.5	1
Penta-Furans	<2.5	2.5	1
Hexa-Furans	<2.5	2.5	1
Hepta-Furans	<2.5	2.5	1
Octa-Furan	<5.0	5.0	1
S **PCDD/Fs**	0.00		

Notes
LOR = Limit of reporting
I-TEF = International toxic equivalency factor
I-TEQ = International toxic equivalence (pg/g)
WHO-TEF = World Health Organistaion toxic equivalency factor
WHO-TEQ = World Health Organisation toxic equivalence (pg/g)
T = tetra
Pe = penta
Hx = hexa
Hp =hepta
O = octa
CDD, dioxin = chlorinated dibenzo-p-dioxin
CDF, furan = chlorinated dibenzofuran
1 I -TEQ$_{(zero)}$ and WHO-TEQ$_{(zero)}$ calculated treating <LOR as zero concentration (pg/g)
2 I-TEQ$_{(0.5\ LOR)}$ and WHO-TEQ$_{(0.5\ LOR)}$ calculated treating <LOR as 50% LoR concentration (pg/g)
3 I-TEQ$_{(LOR)}$ and WHO-TEQ$_{(LOR)}$ calculated treating <LOR as LoR concentration (pg/g)
4 Totals LORs are calculated by mutiplying the number of peaks by the individual LOR per compound

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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seals Intact (if used) Y / N / NA
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Cooling Method: ICE / ICEPACK / NONE
ORDER NUMBER: 245553		COC: (1) 2 3 4 5 6 7	Cooling Initiated
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: (1) 2 3 4 5 6 7	Sample Temperature on Receipt
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		Free ice / Chilled
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	*KSchafer*	
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
23-Feb-15	23-Feb-15 1810	24-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

						ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								**Additional Information**
LAB ID	**SAMPLE ID**	**DATE / TIME**	**MATRIX**	**TYPE & PRESERVATIVE** *(refer to codes below)*	**TOTAL CONTAINERS**	**Aurecon Suite 1**	**Aurecon Suite 2**	**EP080-SD**	**Dioxins & Furans**	**Acid Sulfate Soils: SPOCAS**	**Acid Sulfate Soils: pH**	**TOC, Metals, Pesticides/Herbicides**		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	EB1 0.0 - 0.5D	23/02/2015	S	Glass Jar (150 ml)	1				1					
2	EB6 0.0 - 0.5D	23/02/2015	S	Glass Jar (150 ml)	1				1					
3	EB11 0.0 - 0.5D	23/02/2015	S	Glass Jar (150 ml)	1				1					
				TOTAL	3				3					

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

SCANNED
Alison
25-2-15

Environmental Division
Brisbane
Work Order
EB1501124

Telephone : +61-7-3243 7222

CERTIFICATE OF ANALYSIS

Client	**AURECON AUSTRALASIA PTY LTD**	**Laboratory :**	Environmental Division Brisbane		
Contact	SALLY LEYLAND	**Contact**	CUSTOMER.SERVICES.EB	**Work Order:**	**EB1501124**
Address:	LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	**Address:**	2 Byth Street Stafford QLD 4053 Australia		
Project	GPC Geochemical Investigation	**Quote #**	SY/1021/14 V2	**Received:**	24 Feb 2015
Order #	245553			**Issued**	11 Mar 2015
C-O-C #	- Not provided -				
Site	- Not provided -				
E-mail	sally.leyland@aurecongroup.com	**E-mail**	ALSEnviro.Brisbane@alsglobal.com	**Number of Samples**	
Phone	3173 8006	**Phone**	+61-7-3243 7222	**Received:**	3
Fax	3173 8001	**Fax**	+61-7-3243 7218	**Analysed:**	3

Notes
LOR = Limit of reporting
I-TEF = International toxic equivalency factor
I-TEQ = International toxic equivalence
WHO-TEF = World Health Organistaion toxic equivalency factor
WHO-TEQ = World Health Organisation toxic equivalence

1 I -TEQ(zero) and WHO-TEQ(zero) calculated treating <LOR as zero concentration
2 I -TEQ(0.5 LOR) and WHO-TEQ(0.5 zero) calculated treating <LOR as 0.5 LoR concentration
3 I-TEQ(LOR) and WHO-TEQ(LOR) calculated treating <LOR as LoR concentration
4 Totals LORs are calculated by multiplying the number of peaks by the individual LOR per compound
5 13C12 Rec(%) = The absolute recovery of Isotopically labelled compound added by the Laboratory to both quantitate and measure extraction efficiency.

T = tetra
Pe = penta
Hx = hexa
Hp =hepta
O = octa
CDD, dioxin = chlorinated dibenzo-p-dioxin
CDF, furan = chlorinated dibenzofuran

Work order specific comments

Samples analysed 'as received', results reported on 'dry weight' basis.

Samples: EB1 0.0 - 0.5D; EB6 0.0 - 0.5D and EB11 0.0 - 0.5D. Lower than usual Labelled Compound recoveries were observed for these samples due to matrix interferences. Sufficient recovery was achieved for quantitation.

ALSE - Excellence in Analytical Testing

NATA Accredited Laboratory - 825

This document is issued in accordance with NATA's accreditation requirements.

Accredited for compliance with ISO/IED 17025

This document has been digitally signed by those names that appear on this report and are the authorised signatories. Digital signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatory	Position	Department
Peter Blow	HRMS Chemist	GC/HR-MS - NATA 825 (818 - Brisbane)

Client	: AURECON AUSTRALASIA PTY LTD	**Work Order**	: EB1501124
Project	: GPC Geochemical Investigation	**ALS Quote Reference**	: SY/1021/14 V2

ANALYTICAL RESULTS FOR DIOXINS AND FURANS

Method Code EP300

Laboratory Sample ID: EB1501124001
Client Sample ID: EB1 0.0 - 0.5D

Qc Lot Number: 3837962
Sample Matrix: SOIL

Date Sampled: 23-Feb-2015
Date Extracted: 25-Feb-2015
Date Analysed: 25-Feb-2015

Compound	Conc pg/g	LOR pg/g	WHO-TEF	WHO-TEQ$_1$ (zero)	WHO-TEQ$_2$ (0.5 LOR)	WHO-TEQ$_3$ (LOR)	I-TEF	I-TEQ$_1$ (zero)	I-TEQ$_2$ (0.5 LOR)	I-TEQ$_3$ (LOR)	$^{13}C_{12}$ Rec(%)
2378-TCDD	<0.5	0.5	1	0.00	0.25	0.49	1	0.00	0.25	0.49	38.8
12378-PeCDD	<2.5	2.5	1	0.00	1.23	2.45	0.5	0.00	0.61	1.23	59.6
123478-HxCDD	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	36.4
123678-HxCDD	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	45.3
123789-HxCDD	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	-
1234678-HpCDD	31.4	2.5	0.01	0.31	0.31	0.31	0.01	0.31	0.31	0.31	37.2
OCDD	882.0	9.8	0.0003	0.26	0.26	0.26	0.001	0.88	0.88	0.88	16.0
2378-TCDF	<0.5	0.5	0.1	0.00	0.02	0.05	0.1	0.00	0.02	0.05	34.1
12378-PeCDF	<2.5	2.5	0.03	0.00	0.04	0.07	0.05	0.00	0.06	0.12	39.4
23478-PeCDF	<2.5	2.5	0.3	0.00	0.37	0.74	0.5	0.00	0.61	1.23	39.4
123478-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	34.2
123678-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	41.2
234678-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	40.2
123789-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	38.0
1234678-HpCDF	<2.5	2.5	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	28.5
1234789-HpCDF	<2.5	2.5	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	31.8
OCDF	<4.9	4.9	0.0003	0.00	0.00	0.00	0.001	0.00	0.00	0.00	-
Total TEQ	-	-	-	0.58	3.36	6.14	-	1.20	3.64	6.08	-

Group Totals	Conc pg/g	LOR$_4$ pg/g	No. of Peaks
Tetra-Dioxins	3.0	0.5	1
Penta-Dioxins	<14.7	14.7	6
Hexa-Dioxins	49.2	12.3	5
Hepta-Dioxins	95.6	4.9	2
Octa-Dioxin	882.0	9.8	1
Tetra-Furans	<0.5	0.5	1
Penta-Furans	<2.5	2.5	1
Hexa-Furans	<2.5	2.5	1
Hepta-Furans	<2.5	2.5	1
Octa-Furan	<4.9	4.9	1
S **PCDD/Fs**	1029.8		

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Client	: AURECON AUSTRALASIA PTY LTD	**Work Order**	: EB1501124
Project	: GPC Geochemical Investigation	**ALS Quote Reference**	: SY/1021/14 V2

ANALYTICAL RESULTS FOR DIOXINS AND FURANS

Method Code EP300

Laboratory Sample ID: EB1501124002
Client Sample ID: EB6 0.0 - 0.5D

Qc Lot Number: 3837962
Sample Matrix: SOIL

Date Sampled: 23-Feb-2015
Date Extracted: 25-Feb-2015
Date Analysed: 25-Feb-2015

Compound	Conc pg/g	LOR pg/g	WHO-TEF	WHO-TEQ$_1$ (zero)	WHO-TEQ$_2$ (0.5 LOR)	WHO-TEQ$_3$ (LOR)	I-TEF	I-TEQ$_1$ (zero)	I-TEQ$_2$ (0.5 LOR)	I-TEQ$_3$ (LOR)	$^{13}C_{12}$ Rec(%)
2378-TCDD	2.6	0.5	1	2.56	2.56	2.56	1	2.56	2.56	2.56	45.6
12378-PeCDD	<2.4	2.4	1	0.00	1.22	2.44	0.5	0.00	0.61	1.22	72.6
123478-HxCDD	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	39.4
123678-HxCDD	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	42.7
123789-HxCDD	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	-
1234678-HpCDD	16.1	2.4	0.01	0.16	0.16	0.16	0.01	0.16	0.16	0.16	29.8
OCDD	562.0	9.8	0.0003	0.17	0.17	0.17	0.001	0.56	0.56	0.56	10.1
2378-TCDF	<0.5	0.5	0.1	0.00	0.02	0.05	0.1	0.00	0.02	0.05	46.0
12378-PeCDF	<2.4	2.4	0.03	0.00	0.04	0.07	0.05	0.00	0.06	0.12	50.3
23478-PeCDF	<2.4	2.4	0.3	0.00	0.37	0.73	0.5	0.00	0.61	1.22	52.5
123478-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	35.6
123678-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	39.7
234678-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	40.6
123789-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	46.6
1234678-HpCDF	<2.4	2.4	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	21.2
1234789-HpCDF	<2.4	2.4	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	36.0
OCDF	<4.9	4.9	0.0003	0.00	0.00	0.00	0.001	0.00	0.00	0.00	-
Total TEQ	-	-	-	2.89	5.42	7.95	-	3.28	5.47	7.66	-

Group Totals	Conc pg/g	LOR$_4$ pg/g	No. of Peaks
Tetra-Dioxins	3.8	1.5	3
Penta-Dioxins	<19.6	19.6	8
Hexa-Dioxins	28.6	14.7	6
Hepta-Dioxins	58.9	4.9	2
Octa-Dioxin	562.0	9.8	1
Tetra-Furans	2.3	2.0	4
Penta-Furans	<2.4	2.4	1
Hexa-Furans	<2.4	2.4	1
Hepta-Furans	<4.9	4.9	2
Octa-Furan	<4.9	4.9	1
S **PCDD/Fs**	655.6		

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ANALYTICAL RESULTS FOR DIOXINS AND FURANS

Method Code EP300

Laboratory Sample ID: EB1501124003
Client Sample ID: EB11 0.0 - 0.5D
Qc Lot Number: 3837962
Sample Matrix: SOIL
Date Sampled: 23-Feb-2015
Date Extracted: 25-Feb-2015
Date Analysed: 25-Feb-2015

Compound	Conc pg/g	LOR pg/g	WHO-TEF	WHO-TEQ$_1$ (zero)	WHO-TEQ$_2$ (0.5 LOR)	WHO-TEQ$_3$ (LOR)	I-TEF	I-TEQ$_1$ (zero)	I-TEQ$_2$ (0.5 LOR)	I-TEQ$_3$ (LOR)	$^{13}C_{12}$ Rec(%)
2378-TCDD	<0.5	0.5	1	0.00	0.25	0.49	1	0.00	0.25	0.49	59.4
12378-PeCDD	<2.5	2.5	1	0.00	1.23	2.47	0.5	0.00	0.62	1.23	97.0
123478-HxCDD	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	66.4
123678-HxCDD	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	72.0
123789-HxCDD	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	-
1234678-HpCDD	5.5	2.5	0.01	0.06	0.06	0.06	0.01	0.06	0.06	0.06	48.7
OCDD	351.0	9.9	0.0003	0.11	0.11	0.11	0.001	0.35	0.35	0.35	11.7
2378-TCDF	<0.5	0.5	0.1	0.00	0.02	0.05	0.1	0.00	0.02	0.05	64.4
12378-PeCDF	<2.5	2.5	0.03	0.00	0.04	0.07	0.05	0.00	0.06	0.12	77.7
23478-PeCDF	<2.5	2.5	0.3	0.00	0.37	0.74	0.5	0.00	0.62	1.23	82.7
123478-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	58.3
123678-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	71.9
234678-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	70.1
123789-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	68.9
1234678-HpCDF	<2.5	2.5	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	34.4
1234789-HpCDF	<2.5	2.5	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	51.5
OCDF	<4.9	4.9	0.0003	0.00	0.00	0.00	0.001	0.00	0.00	0.00	-
Total TEQ	-	-	-	0.16	2.96	5.76	-	0.41	2.86	5.32	-

Group Totals	Conc pg/g	LOR$_4$ pg/g	No. of Peaks
Tetra-Dioxins	<0.5	0.5	1
Penta-Dioxins	<7.4	7.4	3
Hexa-Dioxins	15.5	9.9	4
Hepta-Dioxins	28.6	4.9	2
Octa-Dioxin	351.0	9.9	1
Tetra-Furans	<0.5	0.5	1
Penta-Furans	<2.5	2.5	1
Hexa-Furans	<2.5	2.5	1
Hepta-Furans	<2.5	2.5	1
Octa-Furan	<4.9	4.9	1
S **PCDD/Fs**	395.1		

QUALITY CONTROL REPORT

Client	**AURECON AUSTRALASIA PTY LTD**	**Laboratory :**	Environmental Division Brisbane		
Contact	SALLY LEYLAND	**Contact**	CUSTOMER.SERVICES.EB	**Work Order:**	**EB1501124**
Address:	LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	**Address:**	Stafford QLD 4053 Australia		

Project	GPC Geochemical Investigation	**Quote #**	SY/1021/14 V2	**Received:**	24 Feb 2015
Order #	245553			**Issued**	11 Mar 2015
C-O-C #	- Not provided -				
Site	- Not provided -				
E-mail	sally.leyland@aurecongroup.com	**E-mail**	ALSEnviro.Brisbane@alsglobal.c	**Number of Samples**	
Phone	3173 8006	**Phone**	+61-7-3243 7222	**Received:**	3
Fax	3173 8001	**Fax**	+61-7-3243 7218	**Analysed:**	5

Samples analysed 'as received', results reported on 'dry weight' basis.

Work order specific comments

Samples: EB1 0.0 - 0.5D; EB6 0.0 - 0.5D and EB11 0.0 - 0.5D. Lower than usual Labelled Compound recoveries were observed for these samples due to matrix interferences. Sufficient recovery was achieved for quantitation.

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Accredited for compliance with ISO/IED 17025

This document has been digitally signed by those names that appear on this report and are the authorised signatories. Digital signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatory	Position	Department
Peter Blow	HRMS Chemist	GC/HR-MS - NATA 825 (818 - Brisbane)

Environmetal www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Quality Control Report
Laboratory Duplicates (DUP)

	Original Result	Duplicate Result
Laboratory Sample Id :	EB1500884001	4624680-007
Client Sample Id :	Anonymous	Anonymous
Sample Mass (g) :	10.0	10.0
Qc Lot Number :	3837963	3837963
Moisture Content (%) :		

Compound	Conc pg/g	LOR pg/g	Conc pg/g	LOR pg/g	RPD (%)
2378-TCDD	<0.5	0.5	<0.5	0.5	-
12378-PeCDD	<2.5	2.5	<2.5	2.5	-
123478-HxCDD	<2.5	2.5	<2.5	2.5	-
123678-HxCDD	<2.5	2.5	<2.5	2.5	-
123789-HxCDD	<2.5	2.5	<2.5	2.5	-
1234678-HpCDD	3.7	2.5	3.9	2.5	5.3
OCDD	296.0	9.9	292.0	9.9	1.4
2378-TCDF	<0.5	0.5	<0.5	0.5	-
12378-PeCDF	<2.5	2.5	<2.5	2.5	-
23478-PeCDF	<2.5	2.5	<2.5	2.5	-
123478-HxCDF	<2.5	2.5	<2.5	2.5	-
123678-HxCDF	<2.5	2.5	<2.5	2.5	-
234678-HxCDF	<2.5	2.5	<2.5	2.5	-
123789-HxCDF	<2.5	2.5	<2.5	2.5	-
1234678-HpCDF	<2.5	2.5	<2.5	2.5	-
1234789-HpCDF	<2.5	2.5	<2.5	2.5	-
OCDF	<5.0	5.0	<4.9	4.9	-

Group Totals	Conc pg/g	LOR pg/g	Conc pg/g	LOR pg/g	RPD (%)
Tetra-Dioxins	<0.5	0.5	<0.5	0.5	-
Penta-Dioxins	<2.5	2.5	<2.5	2.5	-
Hexa-Dioxins	<7.4	7.4	<12.4	12.4	-
Hepta-Dioxins	11.5	5.0	11.8	4.9	2.6
Octa-Dioxin	296.0	9.9	292.0	9.9	1.4
Tetra-Furans	<0.5	0.5	<0.5	0.5	-
Penta-Furans	<2.5	2.5	<2.5	2.5	-
Hexa-Furans	<2.5	2.5	<2.5	2.5	-
Hepta-Furans	<2.5	2.5	<2.5	2.5	-
Octa-Furan	<5.0	5.0	<4.9	4.9	-
S **PCDD/Fs**	**307.5**		**303.8**		**1.2**

Notes
LOR = Limit of reporting
T = tetra
Pe = penta
Hx = hexa
Hp = hepta
O = octa
CDD, dioxin = chlorinated debenzo-p-dioxin
CDF, furan = chlorinated debenzofuran
RPD = relative per cent difference
Permitted ranges for RPD are depencant upon the magnitude of the result in comparison to the LOR.
Result < 10x LOR, no limit, result between 10x and 20x LOR, 50%; result > 20x LOR, 20%
- = Where results are less than the LOR, no RPD is reported.

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Quality Control Report
Laboratory Duplicates (DUP)

	Original Result	**Duplicate Result**
Laboratory Sample Id :	ES1504013001	4624680-027
Client Sample Id :	Anonymous	Anonymous
Sample Mass (g) :	10.0	10.0
Qc Lot Number :	3837963	3837963
Moisture Content (%) :		

Compound	**Conc pg/g**	**LOR pg/g**	**Conc pg/g**	**LOR pg/g**	**RPD (%)**
2378-TCDD	4.3	0.5	4.9	0.5	13.0
12378-PeCDD	7.8	2.5	8.3	2.5	6.2
123478-HxCDD	8.9	2.5	9.8	2.5	9.6
123678-HxCDD	50.3	2.5	57.3	2.5	13.0
123789-HxCDD	34.8	2.5	38.2	2.5	9.3
1234678-HpCDD	1740.0	2.5	1780.0	2.5	2.3
OCDD	35500.0	9.9	39000.0	9.8	9.4
2378-TCDF	7.2	0.5	8.7	0.5	18.9
12378-PeCDF	3.5	2.5	4.1	2.5	15.8
23478-PeCDF	5.4	2.5	6.1	2.5	12.2
123478-HxCDF	15.8	2.5	17.5	2.5	10.2
123678-HxCDF	7.5	2.5	8.5	2.5	12.5
234678-HxCDF	8.1	2.5	10.4	2.5	24.9
123789-HxCDF	<2.5	2.5	<2.5	2.5	-
1234678-HpCDF	326.0	2.5	363.0	2.5	10.7
1234789-HpCDF	16.5	2.5	18.5	2.5	11.4
OCDF	1270.0	4.9	1380.0	4.9	8.3

Group Totals	**Conc pg/g**	**LOR pg/g**	**Conc pg/g**	**LOR pg/g**	**RPD (%)**
Tetra-Dioxins	149.0	6.9	163.0	5.9	9.0
Penta-Dioxins	299.0	22.2	310.0	24.6	3.6
Hexa-Dioxins	2010.0	19.7	2180.0	17.2	8.1
Hepta-Dioxins	4880.0	4.9	5110.0	4.9	4.6
Octa-Dioxin	35500.0	9.9	39000.0	9.8	9.4
Tetra-Furans	111.0	9.4	136.0	10.8	20.2
Penta-Furans	71.4	29.6	83.6	32.0	15.7
Hexa-Furans	322.0	32.0	363.0	27.0	12.0
Hepta-Furans	1070.0	9.9	1170.0	9.8	8.9
Octa-Furan	1270.0	4.9	1380.0	4.9	8.3
Σ **PCDD/Fs**	**45682.4**		**49895.6**		**8.8**

Notes
LOR = Limit of reporting
T = tetra
Pe = penta
Hx = hexa
Hp = hepta
O = octa
CDD, dioxin = chlorinated debenzo-p-dioxin
CDF, furan = chlorinated debenzofuran
RPD = relative per cent difference
Permitted ranges for RPD are depencant upon the magnitude of the result in comparison to the LOR.
Result < 10x LOR, no limit, result between 10x and 20x LOR, 50%; result > 20x LOR, 20%
- = Where results are less than the LOR, no RPD is reported.

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Quality Control Results
Laboratory Control Samples(LCS)

Laboratory Sample Id : 4624680-010
QC Lot Number : 3837963
Sample Name : BCR 529 Sandy soil

Compound	Conc pg/g	Lower 1 pg/g	Upper 1 pg/g	$^{13}C_{12}$ Rec(%)	Lower 2 (%)	Upper 2 (%)
2378-TCDD	4170.0	3900	5100	65.2	25	164
12378-PeCDD	462.0	390	490	64.7	25	181
123478-HxCDD	1050.0	900	1500	64.0	32	141
123678-HxCDD	4980.0	4500	6300	47.4	28	130
123789-HxCDD	3160.0	2600	3400	-	-	-
2378-TCDF	83.7	65	91	42.0	24	169
12378-PeCDF	122.0	110	170	50.8	24	185
23478-PeCDF	370.0	290	430	49.3	21	178
123478-HxCDF	3070.0	2900	3900	59.7	26	152
123678-HxCDF	1090.0	940	1240	54.1	26	123
234678-HxCDF	385.0	330	410	58.7	28	136
123789-HxCDF	515.0	12	32	61.9	29	147

Notes
1. Acceptable concentration limits are as quoted on the analytical certificate for the cerified reference material
2. Acceptable recovery limits are derived from EPA1613 Revision B
T = tetra
Pe = penta
Hx = hexa
Hp = hepta
O = octa

An ALS Limited Company

Quality Control Report
Method Blank (MB)

Laboratory Sample ID: 4624680-008
Qc Lot Number : 3837963

Sample Matrix: SOIL
Date Extracted: 25-Feb-2015
Date Analysed: 25-Feb-2015

Compound	Conc pg/g	LOR pg/g	WHO-TEF	WHO-TE Q_1	WHO-TE Q_2	WHO-TE Q_3	I-TEF	I-TEQ$_1$ (zero)	I-TEQ$_2$ (0.5 LOR)	I-TEQ$_3$ (LOR)	$^{13}C_{12}$ Rec(%)
2378-TCDD	<0.5	0.5	1	0.00	0.25	0.50	1	0.00	0.25	0.50	58.9
12378-PeCDD	<2.5	2.5	1	0.00	1.25	2.50	0.5	0.00	0.63	1.25	58.9
123478-HxCDD	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	55.8
123678-HxCDD	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	51.1
123789-HxCDD	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	-
1234678-HpCD	<2.5	2.5	0.01	0.00	0.01	0.03	0.01	0.00	0.01	0.03	63.3
OCDD	<10.0	10.0	0.0003	0.00	0.00	0.00	0.001	0.00	0.01	0.01	36.8
2378-TCDF	<0.5	0.5	0.1	0.00	0.03	0.05	0.1	0.00	0.03	0.05	33.2
12378-PeCDF	<2.5	2.5	0.03	0.00	0.04	0.08	0.05	0.00	0.06	0.13	41.2
23478-PeCDF	<2.5	2.5	0.3	0.00	0.38	0.75	0.5	0.00	0.63	1.25	41.0
123478-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	43.9
123678-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	43.0
234678-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	48.4
123789-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	51.6
1234678-HpCD	<2.5	2.5	0.01	0.00	0.01	0.03	0.01	0.00	0.01	0.03	43.3
1234789-HpCD	<2.5	2.5	0.01	0.00	0.01	0.03	0.01	0.00	0.01	0.03	54.4
OCDF	<5.0	5.0	0.0003	0.00	0.00	0.00	0.001	0.00	0.00	0.01	-
			S **TEQ$_{(WHO)}$**	0.00	2.89	5.72	S **TEQ$_{(I)}$**	0.00	2.55	5.04	

Group Totals	Conc pg/g	LOR$_4$ pg/g	No. of Peaks
Tetra-Dioxins	<0.5	0.5	1
Penta-Dioxins	<2.5	2.5	1
Hexa-Dioxins	<2.5	2.5	1
Hepta-Dioxins	<2.5	2.5	1
Octa-Dioxin	<10.0	10.0	1
Tetra-Furans	<0.5	0.5	1
Penta-Furans	<2.5	2.5	1
Hexa-Furans	<2.5	2.5	1
Hepta-Furans	<2.5	2.5	1
Octa-Furan	<5.0	5.0	1
S **PCDD/Fs**	0.00		

Notes
LOR = Limit of reporting
I-TEF = International toxic equivalency factor
I-TEQ = International toxic equivalence (pg/g)
WHO-TEF = World Health Organistaion toxic equivalency factor
WHO-TEQ = World Health Organisation toxic equivalence (pg/g)
T = tetra
Pe = penta
Hx = hexa
Hp =hepta
O = octa
CDD, dioxin = chlorinated dibenzo-p-dioxin
CDF, furan = chlorinated dibenzofuran
1 I -TEQ$_{(zero)}$ and WHO-TEQ$_{(zero)}$ calculated treating <LOR as zero concentration (pg/g)
2 I-TEQ$_{(0.5\ LOR)}$ and WHO-TEQ$_{(0.5\ LOR)}$ calculated treating <LOR as 50% LoR concentration (pg/g)
3 I-TEQ$_{(LOR)}$ and WHO-TEQ$_{(LOR)}$ calculated treating <LOR as LoR concentration (pg/g)
4 Totals LORs are calculated by mutiplying the number of peaks by the individual LOR per compound

ALS Environmental

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		**Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present on receipt? Yes / No
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt:
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comments:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 16-Feb-15	DATE/TIME: 16-Feb-15 1730
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		**RELINQUISHED BY:** K Schafer	**RECEIVED BY:**
		DATE/TIME: 26.2.15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins & Furans	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	BH7 0.0 - 0.4D	25/02/2015	S	Glass Jar (150 ml)	1				1					
2	BH63 0.0 - 0.4D	25/02/2015	S	Glass Jar (150 ml)	1				1					
3	BH58 0.0 - 0.5D	25/02/2015	S	Glass Jar (150 ml)	1				1					
				TOTAL	3				3					

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Environmental Division
Brisbane
Work Order
EB1501227

Telephone : +61-7-3243 7222

CERTIFICATE OF ANALYSIS

Client	**AURECON AUSTRALASIA PTY LTD**	**Laboratory :**	Environmental Division Brisbane		
Contact	MS GEORGINA KERR	**Contact**	CUSTOMER.SERVICES.EB	**Work Order:**	**EB1501227**
Address:	LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	**Address:**	2 Byth Street Stafford QLD 4053 Australia		
Project	GPC Geochemical Investigation	**Quote #**	SY/1021/14 V2	**Received:**	26 Feb 2015
Order #	245553			**Issued**	13 Mar 2015
C-O-C #	- Not provided -				
Site	- Not provided -				
E-mail	georgina.kerr@aurecongroup.com	**E-mail**	ALSEnviro.Brisbane@alsglobal.com	**Number of Samples**	
Phone	3173 8396	**Phone**	+61-7-3243 7222	**Received:**	3
Fax	3173 8001	**Fax**	+61-7-3243 7218	**Analysed:**	3

Notes

LOR = Limit of reporting
I-TEF = International toxic equivalency factor
I-TEQ = International toxic equivalence
WHO-TEF = World Health Organistaion toxic equivalency factor
WHO-TEQ = World Health Organisation toxic equivalence

1 I -TEQ(zero) and WHO-TEQ(zero) calculated treating <LOR as zero concentration
2 I -TEQ(0.5 LOR) and WHO-TEQ(0.5 zero) calculated treating <LOR as 0.5 LoR concentration
3 I-TEQ(LOR) and WHO-TEQ(LOR) calculated treating <LOR as LoR concentration
4 Totals LORs are calculated by multiplying the number of peaks by the individual LOR per compound
5 13C12 Rec(%) = The absolute recovery of Isotopically labelled compound added by the Laboratory to both quantitate and measure extraction efficiency.

T = tetra
Pe = penta
Hx = hexa
Hp =hepta
O = octa
CDD, dioxin = chlorinated dibenzo-p-dioxin
CDF, furan = chlorinated dibenzofuran

Work order specific comments

Samples analysed 'as received', results reported on 'dry weight' basis.

Sample BH63 0.0 - 0.4D showed lower than usual Labelled Compound recoveries due to matrix interferences. Sufficient recovery was achieved for quantitation.

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NATA Accredited Laboratory - 825

This document is issued in accordance with NATA's accreditation requirements.

Accredited for compliance with ISO/IED 17025

This document has been digitally signed by those names that appear on this report and are the authorised signatories. Digital signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatory	Position	Department
Peter Blow	HRMS Chemist	GC/HR-MS - NATA 825 (818 - Brisbane)

Client	: AURECON AUSTRALASIA PTY LTD	**Work Order**	: EB1501227
Project	: GPC Geochemical Investigation	**ALS Quote Reference**	: SY/1021/14 V2

ANALYTICAL RESULTS FOR DIOXINS AND FURANS

Method Code EP300

Laboratory Sample ID: EB1501227001
Client Sample ID: BH7 0.0 - 0.4D

Qc Lot Number: 3857751
Sample Matrix: SOIL

Date Sampled: 25-Feb-2015
Date Extracted: 12-Mar-2015
Date Analysed: 12-Mar-2015

Compound	Conc pg/g	LOR pg/g	WHO-TEF	WHO-TEQ$_1$ (zero)	WHO-TEQ$_2$ (0.5 LOR)	WHO-TEQ$_3$ (LOR)	I-TEF	I-TEQ$_1$ (zero)	I-TEQ$_2$ (0.5 LOR)	I-TEQ$_3$ (LOR)	$^{13}C_{12}$ Rec(%)
2378-TCDD	0.7	0.5	1	0.69	0.69	0.69	1	0.69	0.69	0.69	45.4
12378-PeCDD	<2.5	2.5	1	0.00	1.23	2.45	0.5	0.00	0.61	1.23	72.8
123478-HxCDD	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	44.5
123678-HxCDD	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	48.6
123789-HxCDD	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	-
1234678-HpCDD	21.7	2.5	0.01	0.22	0.22	0.22	0.01	0.22	0.22	0.22	38.0
OCDD	462.0	9.8	0.0003	0.14	0.14	0.14	0.001	0.46	0.46	0.46	19.7
2378-TCDF	<0.5	0.5	0.1	0.00	0.02	0.05	0.1	0.00	0.02	0.05	45.1
12378-PeCDF	<2.5	2.5	0.03	0.00	0.04	0.07	0.05	0.00	0.06	0.12	50.4
23478-PeCDF	<2.5	2.5	0.3	0.00	0.37	0.74	0.5	0.00	0.61	1.23	49.5
123478-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	39.9
123678-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	46.2
234678-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	46.9
123789-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	48.7
1234678-HpCDF	<2.5	2.5	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	31.9
1234789-HpCDF	<2.5	2.5	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	40.4
OCDF	<4.9	4.9	0.0003	0.00	0.00	0.00	0.001	0.00	0.00	0.00	-
Total TEQ	-	-	-	1.04	3.58	6.12	-	1.37	3.56	5.76	-

Group Totals	Conc pg/g	LOR$_4$ pg/g	No. of Peaks
Tetra-Dioxins	4.3	2.0	4
Penta-Dioxins	<17.2	17.2	7
Hexa-Dioxins	51.2	14.7	6
Hepta-Dioxins	76.5	7.4	3
Octa-Dioxin	462.0	9.8	1
Tetra-Furans	<0.5	0.5	1
Penta-Furans	<2.5	2.5	1
Hexa-Furans	<2.5	2.5	1
Hepta-Furans	<4.9	4.9	2
Octa-Furan	<4.9	4.9	1
S **PCDD/Fs**	594.0		

An ALS Limited Company

Client	: AURECON AUSTRALASIA PTY LTD	**Work Order**	: EB1501227
Project	: GPC Geochemical Investigation	**ALS Quote Reference**	: SY/1021/14 V2

ANALYTICAL RESULTS FOR DIOXINS AND FURANS

Method Code EP300

Laboratory Sample ID: EB1501227002
Client Sample ID: BH63 0.0 - 0.4D

Qc Lot Number: 3857751
Sample Matrix: SOIL

Date Sampled: 25-Feb-2015
Date Extracted: 12-Mar-2015
Date Analysed: 12-Mar-2015

Compound	Conc pg/g	LOR pg/g	WHO-TEF	WHO-TEQ$_1$ (zero)	WHO-TEQ$_2$ (0.5 LOR)	WHO-TEQ$_3$ (LOR)	I-TEF	I-TEQ$_1$ (zero)	I-TEQ$_2$ (0.5 LOR)	I-TEQ$_3$ (LOR)	$^{13}C_{12}$ Rec(%)
2378-TCDD	0.7	0.5	1	0.73	0.73	0.73	1	0.73	0.73	0.73	88.9
12378-PeCDD	<2.4	2.4	1	0.00	1.21	2.41	0.5	0.00	0.60	1.21	120.1
123478-HxCDD	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	54.7
123678-HxCDD	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	60.6
123789-HxCDD	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	-
1234678-HpCDD	37.9	2.4	0.01	0.38	0.38	0.38	0.01	0.38	0.38	0.38	35.0
OCDD	1510.0	9.7	0.0003	0.45	0.45	0.45	0.001	1.51	1.51	1.51	7.1
2378-TCDF	<0.5	0.5	0.1	0.00	0.02	0.05	0.1	0.00	0.02	0.05	78.9
12378-PeCDF	<2.4	2.4	0.03	0.00	0.04	0.07	0.05	0.00	0.06	0.12	83.8
23478-PeCDF	<2.4	2.4	0.3	0.00	0.36	0.72	0.5	0.00	0.60	1.21	91.0
123478-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	41.5
123678-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	52.6
234678-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	52.0
123789-HxCDF	<2.4	2.4	0.1	0.00	0.12	0.24	0.1	0.00	0.12	0.24	64.4
1234678-HpCDF	8.1	2.4	0.01	0.08	0.08	0.08	0.01	0.08	0.08	0.08	18.4
1234789-HpCDF	<2.4	2.4	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	45.5
OCDF	90.1	4.8	0.0003	0.03	0.03	0.03	0.001	0.09	0.09	0.09	-
Total TEQ	-	-	-	1.67	4.16	6.65	-	2.79	4.94	7.09	-

Group Totals	Conc pg/g	LOR$_4$ pg/g	No. of Peaks
Tetra-Dioxins	1.7	1.0	2
Penta-Dioxins	<16.9	16.9	7
Hexa-Dioxins	18.9	14.5	6
Hepta-Dioxins	81.5	4.8	2
Octa-Dioxin	1510.0	9.7	1
Tetra-Furans	<2.4	2.4	5
Penta-Furans	<2.4	2.4	1
Hexa-Furans	<16.9	16.9	7
Hepta-Furans	13.7	9.7	4
Octa-Furan	90.1	4.8	1
S **PCDD/Fs**	1715.9		

An ALS Limited Company

Client	: AURECON AUSTRALASIA PTY LTD	**Work Order**	: EB1501227
Project	: GPC Geochemical Investigation	**ALS Quote Reference**	: SY/1021/14 V2

ANALYTICAL RESULTS FOR DIOXINS AND FURANS

Method Code EP300

Laboratory Sample ID: EB1501227003
Client Sample ID: BH58 0.0 - 0.5D

Qc Lot Number: 3857751
Sample Matrix: SOIL

Date Sampled: 25-Feb-2015
Date Extracted: 12-Mar-2015
Date Analysed: 12-Mar-2015

Compound	Conc pg/g	LOR pg/g	WHO-TEF	WHO-TEQ$_1$ (zero)	WHO-TEQ$_2$ (0.5 LOR)	WHO-TEQ$_3$ (LOR)	I-TEF	I-TEQ$_1$ (zero)	I-TEQ$_2$ (0.5 LOR)	I-TEQ$_3$ (LOR)	$^{13}C_{12}$ Rec(%)
2378-TCDD	<0.5	0.5	1	0.00	0.25	0.50	1	0.00	0.25	0.50	40.1
12378-PeCDD	<2.5	2.5	1	0.00	1.24	2.48	0.5	0.00	0.62	1.24	55.7
123478-HxCDD	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	32.4
123678-HxCDD	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	35.7
123789-HxCDD	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	-
1234678-HpCDD	10.9	2.5	0.01	0.11	0.11	0.11	0.01	0.11	0.11	0.11	38.5
OCDD	157.0	9.9	0.0003	0.05	0.05	0.05	0.001	0.16	0.16	0.16	21.2
2378-TCDF	<0.5	0.5	0.1	0.00	0.02	0.05	0.1	0.00	0.02	0.05	29.2
12378-PeCDF	<2.5	2.5	0.03	0.00	0.04	0.07	0.05	0.00	0.06	0.12	36.4
23478-PeCDF	<2.5	2.5	0.3	0.00	0.37	0.74	0.5	0.00	0.62	1.24	37.4
123478-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	25.8
123678-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	30.9
234678-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	31.8
123789-HxCDF	<2.5	2.5	0.1	0.00	0.12	0.25	0.1	0.00	0.12	0.25	33.1
1234678-HpCDF	<2.5	2.5	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	24.5
1234789-HpCDF	<2.5	2.5	0.01	0.00	0.01	0.02	0.01	0.00	0.01	0.02	35.5
OCDF	<5.0	5.0	0.0003	0.00	0.00	0.00	0.001	0.00	0.00	0.00	-
Total TEQ	-	-	-	0.16	2.97	5.78	-	0.27	2.73	5.20	-

Group Totals	Conc pg/g	LOR$_4$ pg/g	No. of Peaks
Tetra-Dioxins	6.1	3.0	6
Penta-Dioxins	<19.8	19.8	8
Hexa-Dioxins	51.7	19.8	8
Hepta-Dioxins	54.9	5.0	2
Octa-Dioxin	157.0	9.9	1
Tetra-Furans	<0.5	0.5	1
Penta-Furans	<2.5	2.5	1
Hexa-Furans	<2.5	2.5	1
Hepta-Furans	<2.5	2.5	1
Octa-Furan	<5.0	5.0	1
S **PCDD/Fs**	269.7		

QUALITY CONTROL REPORT

Client	**AURECON AUSTRALASIA PTY LTD**	**Laboratory :**	Environmental Division Brisbane		
Contact	SALLY LEYLAND	**Contact**	CUSTOMER.SERVICES.EB	**Work Order:**	**EB1501227**
Address:	LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	**Address:**	Stafford QLD 4053 Australia		

Project	GPC Geochemical Investigation	**Quote #**	SY/1021/14 V2	**Received:**	26 Feb 2015
Order #	245553			**Issued**	13 Mar 2015
C-O-C #	- Not provided -				
Site	- Not provided -				
E-mail	sally.leyland@aurecongroup.com	**E-mail**	ALSEnviro.Brisbane@alsglobal.c	**Number of Samples**	
Phone	3173 8006	**Phone**	+61-7-3243 7222	**Received:**	3
Fax	3173 8001	**Fax**	+61-7-3243 7218	**Analysed:**	4

Samples analysed 'as received', results reported on 'dry weight' basis.

Work order specific comments

Sample BH63 0.0 - 0.4D showed lower than usual Labelled Compound recoveries due to matrix interferences. Sufficient recovery was achieved for quantitation.

NATA Accredited Laboratory - 825

This document is issued in accordance with NATA's accreditation requirements.

Accredited for compliance with ISO/IED 17025

This document has been digitally signed by those names that appear on this report and are the authorised signatories. Digital signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatory	Position	Department
Peter Blow	HRMS Chemist	GC/HR-MS - NATA 825 (818 - Brisbane)

Quality Control Report
Laboratory Duplicates (DUP)

	Original Result	Duplicate Result
Laboratory Sample Id :	EB1501227001	4651131-007
Client Sample Id :	BH7 0.0 - 0.4D	BH7 0.0 - 0.4D
Sample Mass (g) :	10.0	10.0
Qc Lot Number :	3857752	3857752
Moisture Content (%) :		

Compound	Conc pg/g	LOR pg/g	Conc pg/g	LOR pg/g	RPD (%)
2378-TCDD	0.7	0.5	0.6	0.5	15.4
12378-PeCDD	<2.5	2.5	<2.4	2.4	-
123478-HxCDD	<2.5	2.5	<2.4	2.4	-
123678-HxCDD	<2.5	2.5	<2.4	2.4	-
123789-HxCDD	<2.5	2.5	<2.4	2.4	-
1234678-HpCDD	21.7	2.5	19.8	2.4	9.2
OCDD	462.0	9.8	473.0	9.8	2.4
2378-TCDF	<0.5	0.5	<0.5	0.5	-
12378-PeCDF	<2.5	2.5	<2.4	2.4	-
23478-PeCDF	<2.5	2.5	<2.4	2.4	-
123478-HxCDF	<2.5	2.5	<2.4	2.4	-
123678-HxCDF	<2.5	2.5	<2.4	2.4	-
234678-HxCDF	<2.5	2.5	<2.4	2.4	-
123789-HxCDF	<2.5	2.5	<2.4	2.4	-
1234678-HpCDF	<2.5	2.5	<2.4	2.4	-
1234789-HpCDF	<2.5	2.5	<2.4	2.4	-
OCDF	<4.9	4.9	<4.9	4.9	-

Group Totals	Conc pg/g	LOR pg/g	Conc pg/g	LOR pg/g	RPD (%)
Tetra-Dioxins	4.3	2.0	5.2	1.5	18.9
Penta-Dioxins	<17.2	17.2	<14.7	14.7	-
Hexa-Dioxins	51.2	14.7	52.4	9.8	2.3
Hepta-Dioxins	76.5	7.4	83.8	4.9	9.1
Octa-Dioxin	462.0	9.8	473.0	9.8	2.4
Tetra-Furans	<0.5	0.5	<0.5	0.5	-
Penta-Furans	<2.5	2.5	<2.4	2.4	-
Hexa-Furans	<2.5	2.5	<2.4	2.4	-
Hepta-Furans	<4.9	4.9	<2.4	2.4	-
Octa-Furan	<4.9	4.9	<4.9	4.9	-
S **PCDD/Fs**	**594.0**		**614.4**		**3.4**

Notes
LOR = Limit of reporting
T = tetra
Pe = penta
Hx = hexa
Hp = hepta
O = octa
CDD, dioxin = chlorinated debenzo-p-dioxin
CDF, furan = chlorinated debenzofuran
RPD = relative per cent difference
Permitted ranges for RPD are depencant upon the magnitude of the result in comparison to the LOR.
Result < 10x LOR, no limit, result between 10x and 20x LOR, 50%; result > 20x LOR, 20%
- = Where results are less than the LOR, no RPD is reported.

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Quality Control Report
Laboratory Duplicates (DUP)

	Original Result	Duplicate Result
Laboratory Sample Id :	EB1501257001	4651131-026
Client Sample Id :	Anonymous	Anonymous
Sample Mass (g) :	10.0	10.0
Qc Lot Number :	3857752	3857752
Moisture Content (%) :		

Compound	Conc pg/g	LOR pg/g	Conc pg/g	LOR pg/g	RPD (%)
2378-TCDD	0.9	0.5	<0.5	0.5	-
12378-PeCDD	<2.5	2.5	<2.4	2.4	-
123478-HxCDD	<2.5	2.5	<2.4	2.4	-
123678-HxCDD	<2.5	2.5	<2.4	2.4	-
123789-HxCDD	<2.5	2.5	<2.4	2.4	-
1234678-HpCDD	9.9	2.5	7.9	2.4	22.5
OCDD	466.0	9.9	459.0	9.8	1.5
2378-TCDF	<0.5	0.5	<0.5	0.5	-
12378-PeCDF	<2.5	2.5	<2.4	2.4	-
23478-PeCDF	<2.5	2.5	<2.4	2.4	-
123478-HxCDF	<2.5	2.5	<2.4	2.4	-
123678-HxCDF	<2.5	2.5	<2.4	2.4	-
234678-HxCDF	<2.5	2.5	<2.4	2.4	-
123789-HxCDF	<2.5	2.5	<2.4	2.4	-
1234678-HpCDF	<2.5	2.5	<2.4	2.4	-
1234789-HpCDF	<2.5	2.5	<2.4	2.4	-
OCDF	<4.9	4.9	<4.9	4.9	-

Group Totals	Conc pg/g	LOR pg/g	Conc pg/g	LOR pg/g	RPD (%)
Tetra-Dioxins	0.9	0.5	<0.5	0.5	-
Penta-Dioxins	<2.5	2.5	<2.4	2.4	-
Hexa-Dioxins	<14.8	14.8	<19.6	19.6	-
Hepta-Dioxins	24.1	4.9	20.6	4.9	15.7
Octa-Dioxin	466.0	9.9	459.0	9.8	1.5
Tetra-Furans	6.9	3.5	1.5	1.0	128.6
Penta-Furans	<2.5	2.5	<2.4	2.4	-
Hexa-Furans	<2.5	2.5	<2.4	2.4	-
Hepta-Furans	<7.4	7.4	<7.3	7.3	-
Octa-Furan	<4.9	4.9	<4.9	4.9	-
Σ **PCDD/Fs**	**497.9**		**481.1**		**3.4**

Notes
LOR = Limit of reporting
T = tetra
Pe = penta
Hx = hexa
Hp = hepta
O = octa
CDD, dioxin = chlorinated debenzo-p-dioxin
CDF, furan = chlorinated debenzofuran
RPD = relative per cent difference
Permitted ranges for RPD are depencant upon the magnitude of the result in comparison to the LOR.
Result < 10x LOR, no limit, result between 10x and 20x LOR, 50%; result > 20x LOR, 20%
- = Where results are less than the LOR, no RPD is reported.

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Quality Control Results
Laboratory Control Samples(LCS)

Laboratory Sample Id : 4651131-010
QC Lot Number : 3857752
Sample Name : BCR 529 Sandy soil

Compound	Conc pg/g	Lower 1 pg/g	Upper 1 pg/g	$^{13}C_{12}$ Rec(%)	Lower 2 (%)	Upper 2 (%)
2378-TCDD	4150.0	3900	5100	53.1	25	164
12378-PeCDD	484.0	390	490	54.0	25	181
123478-HxCDD	944.0	900	1500	47.5	32	141
123678-HxCDD	4510.0	4500	6300	44.2	28	130
123789-HxCDD	3310.0	2600	3400	-	-	-
2378-TCDF	86.9	65	91	36.7	24	169
12378-PeCDF	138.0	110	170	46.0	24	185
23478-PeCDF	390.0	290	430	46.1	21	178
123478-HxCDF	3810.0	2900	3900	37.9	26	152
123678-HxCDF	1050.0	940	1240	49.1	26	123
234678-HxCDF	380.0	330	410	46.7	28	136
123789-HxCDF	570.0	12	32	45.2	29	147

Notes
1. Acceptable concentration limits are as quoted on the analytical certificate for the cerified reference material
2. Acceptable recovery limits are derived from EPA1613 Revision B
T = tetra
Pe = penta
Hx = hexa
Hp = hepta
O = octa

An ALS Limited Company

Quality Control Report
Method Blank (MB)

Laboratory Sample ID: 4651131-001
Qc Lot Number : 3857752

Sample Matrix: SOIL
Date Extracted: 12-Mar-2015
Date Analysed: 12-Mar-2015

Compound	Conc pg/g	LOR pg/g	WHO-TEF	WHO-TE Q_1	WHO-TE Q_2	WHO-TE Q_3	I-TEF	I-TEQ$_1$ (zero)	I-TEQ$_2$ (0.5 LOR)	I-TEQ$_3$ (LOR)	$^{13}C_{12}$ Rec(%)
2378-TCDD	<0.5	0.5	1	0.00	0.25	0.50	1	0.00	0.25	0.50	73.2
12378-PeCDD	<2.5	2.5	1	0.00	1.25	2.50	0.5	0.00	0.63	1.25	88.1
123478-HxCDD	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	61.7
123678-HxCDD	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	65.0
123789-HxCDD	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	-
1234678-HpCD	<2.5	2.5	0.01	0.00	0.01	0.03	0.01	0.00	0.01	0.03	65.4
OCDD	<10.0	10.0	0.0003	0.00	0.00	0.00	0.001	0.00	0.01	0.01	42.2
2378-TCDF	<0.5	0.5	0.1	0.00	0.03	0.05	0.1	0.00	0.03	0.05	56.9
12378-PeCDF	<2.5	2.5	0.03	0.00	0.04	0.08	0.05	0.00	0.06	0.13	64.4
23478-PeCDF	<2.5	2.5	0.3	0.00	0.38	0.75	0.5	0.00	0.63	1.25	70.3
123478-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	51.5
123678-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	57.8
234678-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	60.9
123789-HxCDF	<2.5	2.5	0.1	0.00	0.13	0.25	0.1	0.00	0.13	0.25	60.0
1234678-HpCD	<2.5	2.5	0.01	0.00	0.01	0.03	0.01	0.00	0.01	0.03	52.6
1234789-HpCD	<2.5	2.5	0.01	0.00	0.01	0.03	0.01	0.00	0.01	0.03	59.5
OCDF	<5.0	5.0	0.0003	0.00	0.00	0.00	0.001	0.00	0.00	0.01	-
			S **TEQ(WHO)**	0.00	2.89	5.72	S **TEQ(I)**	0.00	2.55	5.04	

Group Totals	Conc pg/g	LOR$_4$ pg/g	No. of Peaks
Tetra-Dioxins	<0.5	0.5	1
Penta-Dioxins	<2.5	2.5	1
Hexa-Dioxins	<2.5	2.5	1
Hepta-Dioxins	<2.5	2.5	1
Octa-Dioxin	<10.0	10.0	1
Tetra-Furans	<0.5	0.5	1
Penta-Furans	<2.5	2.5	1
Hexa-Furans	<2.5	2.5	1
Hepta-Furans	<2.5	2.5	1
Octa-Furan	<5.0	5.0	1
S **PCDD/Fs**	0.00		

Notes
LOR = Limit of reporting
I-TEF = International toxic equivalency factor
I-TEQ = International toxic equivalence (pg/g)
WHO-TEF = World Health Organistaion toxic equivalency factor
WHO-TEQ = World Health Organisation toxic equivalence (pg/g)
T = tetra
Pe = penta
Hx = hexa
Hp =hepta
O = octa
CDD, dioxin = chlorinated dibenzo-p-dioxin
CDF, furan = chlorinated dibenzofuran
1 I -TEQ(zero) and WHO-TEQ(zero) calculated treating <LOR as zero concentration (pg/g)
2 I-TEQ(0.5 LOR) and WHO-TEQ(0.5 LOR) calculated treating <LOR as 50% LoR concentration (pg/g)
3 I-TEQ(LOR) and WHO-TEQ(LOR) calculated treating <LOR as LoR concentration (pg/g)
4 Totals LORs are calculated by mutiplying the number of peaks by the individual LOR per compound

BRISBANG COPY

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Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle): Custody Seal Intact? Yes No N/A; Free ice / frozen ice bricks present upon receipt? Yes No N/A; Random Sample Temperature on Receipt: °C; Other comment:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 (7)	
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr DATE/TIME: 23-Feb-15	RECEIVED BY: Kelly Schafer DATE/TIME: 23-Feb-15 1810
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:
KSchafer	
DATE/TIME: 24-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	EB1 0.0-0.5 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
2	EB1 0.5-1.0 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
3	EB1 0.0-0.5 B	23/02/2015	S	Bag (White label)	1		1								
4	EB1 0.5-1.0 B	23/02/2015	S	Bag (White label)	1		1								
5	EB1 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1							
6	EB1 0.7V	23/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	7	2	2	1							

150ml A Jars and 500ml Amber sent direct to Brisbane for TOC/TBT

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Environmental Division
Sydney
Work Order
ES1504426

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 (2) 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (13)	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 23-Feb-15	DATE/TIME: 23-Feb-15 1810
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: KS	RECEIVED BY:
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:		DATE/TIME: 24-2-15 1600	DATE/TIME:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
7	EB2 0.0-0.5 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
8	EB2 0.5-0.85 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
9	EB2 0.0-0.5 B	23/02/2015	S	Bag (White label)	1		1							
10	EB2 0.5-0.85 B	23/02/2015	S	Bag (White label)	1		1							
11	EB2 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1						
12	EB2 0.7V	23/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) **Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround		Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free Ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 2 (3) 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comment:

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*	KS
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810	24-2-15 1600

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
13	EB3 0.0-0.7A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
14	EB3 0.0-0.7B	23/02/2015	S	Bag (White label)	1		1							
15	EB3 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	2		1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 13	Other comment:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*	AS	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810	24-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
16	EB4 0.0-0.4 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
17	EB4 0.0-0.4 B	23/02/2015	S	Bag (White label)	1		1							
18	EB4 0.3 V	23/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)** COC: 1 2 3 4 (5) 6 7	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 (7)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006		Other comment:

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810	24-2-15 1600

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
19	EB5 0.0-0.5 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
20	EB5 0.0-0.5 B	23/02/2015	S	Bag (White label)	1		1								
21	EB5 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	4	1	1	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 13	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810

RELINQUISHED BY:	RECEIVED BY:
XS	
DATE/TIME:	DATE/TIME:
24-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
22	EB6 0.0-0.5 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
23	EB6 0.5-1.0 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
24	EB6 0.0-0.5 B	23/02/2015	S	Bag (White label)	1		1							
25	EB6 0.5-1.0 B	23/02/2015	S	Bag (White label)	1		1							
26	EB6 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1						
27	EB6 0.7V	23/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 13	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
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RELINQUISHED BY:	RECEIVED BY:
KS	
DATE/TIME:	DATE/TIME:
24-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
28	EB7 0.0-0.5 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
29	EB7 0.5-1.0 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
30	EB7 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1						
31	EB7 0.7V	23/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	6	2		2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
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SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (8)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (13)	Other comment:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*	RECEIVED BY:
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810	24-2-15 1600

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
32	EB9 0.0-0.7 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
33	EB9 0.0-0.7 B	23/02/2015	S	Bag (White label)	1		1							
34	EB9 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g.. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (9)	Random Sample Temperature on Receipt:	C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (3)	Other comment:	

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*	RECEIVED BY:
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810	24-2-15 1600

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
35	EB11 0.0-0.5 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
36	EB11 0.5-0.8 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
37	EB11 0.0-0.5 B	23/02/2015	S	Bag (White label)	1		1								
38	EB11 0.5-0.8 B	23/02/2015	S	Bag (White label)	1		1								
39	EB11 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1							
40	EB11 0.7V	23/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	7	2	2	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle):
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Freeze / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (12)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (13)	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810

RELINQUISHED BY:	RECEIVED BY:
XS	
DATE/TIME: 24-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION	ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
41	EB14 0.0-0.5 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
42	EB14 0.5-1.0 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
43	EB14 0.0-0.5 B	23/02/2015	S	Bag (White label)	1		1							
44	EB14 0.5-1.0 B	23/02/2015	S	Bag (White label)	1		1							
45	EB14 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1						
46	EB14 0.7V	23/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	7	2	2	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (11)	Random Sample Temperature on Receipt: C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (13)	Other comment:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*	KS	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810	24-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
47	EB15 0.0-0.6 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
48	EB15 0.0-0.6 B	23/02/2015	S	Bag (White label)	1		1							
49	EB15 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Freezer/frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (12)	Random Sample Temperature on Receipt: 6
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (13)	Other comment:

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810	24-2-15 1600

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
50	EB26 0.0-0.5 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
51	EB26 0.5-1.0 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
52	EB26 0.0-0.5 B	23/02/2015	S	Bag (White label)	1		1							
53	EB26 0.5-1.0 B	23/02/2015	S	Bag (White label)	1		1							
54	EB26 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1						
55	EB26 0.7V	23/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	7	2	2	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle):**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) **Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround		Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (13)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (13)	Other comments:

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810	24-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	Rinsate Suite	Trip blank suite	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
~~Triplicate 12A~~		~~23/02/2015~~	~~S~~	~~Glass Jar (250 ml)~~										
56	Triplicate 12B	23/02/2015	S	Glass Jar (250 ml)	2	1								
57	Triplicate 13A	23/02/2015	S	Glass Jar (250 ml)	2	1								
58	Triplicate 13B	23/02/2015	S	Glass Jar (250 ml)	2	1								
59	Duplicate 6A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
	~~Duplicate 6B~~	~~23/02/2015~~	~~S~~	~~Glass Jar (250 ml and 150 ml)~~										~~Send to Eurofins~~
60	Trip Blank 14	23/02/2015	S	Pre-filled glass jar	1								1	
61	Rinsate 14	23/02/2015	W	Bottle	8							1		
				TOTAL	13	1						1	1	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Ice / Frozen Ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: (1) 2 3 4 5 6 7	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comments:	

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer	KSchafer	Dan
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810	24-2-15 1600	25/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	EB1 0.0-0.5 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
2	EB1 0.5-1.0 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
3	EB1 0.0-0.5 B	23/02/2015	S	Bag (White label)	1		1							
4	EB1 0.5-1.0 B	23/02/2015	S	Bag (White label)	1		1							
5	EB1 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1						
6	EB1 0.7V	23/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	7	2	2	1						

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

150ml A Jars and 500ml Amber sent direct to Brisbane for TOC/TBT

Subcon / Forward Lab / Split WO
Lab / Analysis: Newcastle / PSD
Organised By / Date:
Relinquished By / Date:
Connote / Courier:
WO No:
Attach By PO / Internal Sheet:

Environmental Division
Sydney
Work Order
ES1504426

Telephone : +61-2-8784 8555

ALS Environmental

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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Free ice / frozen ice bricks present upon receipt? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 (13)	Other comments:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer	KS
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810	24-2-15 1600

RECEIVED BY:	
Dan	
DATE/TIME:	
25/2 0900	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH				Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
7	EB2 0.0-0.5 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
8	EB2 0.5-0.85 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
9	EB2 0.0-0.5 B	23/02/2015	S	Bag (White label)	1		1								
10	EB2 0.5-0.85 B	23/02/2015	S	Bag (White label)	1		1								
11	EB2 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1							
12	EB2 0.7V	23/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	8	2	2	2							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Environmental

ALS Laboratory: please tick →

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free Ice / Frozen Ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 (3) 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (13)	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	AKS	Dan J
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
23-Feb-15	23-Feb-15 1810	24-2-15 1600	25/2 0930

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
13	EB3 0.0-0.7A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
14	EB3 0.0-0.7B	23/02/2015	S	Bag (White label)	1		1							
15	EB3 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	2		1	1						

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 (4) 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (B)	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810

RELINQUISHED BY:	RECEIVED BY:
AS	Paul
DATE/TIME: 24-2-15 1600	DATE/TIME: 25/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
16	EB4 0.0-0.4 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
17	EB4 0.0-0.4 B	23/02/2015	S	Bag (White label)	1		1							
18	EB4 0.3 V	23/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

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OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 (5) 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (13)	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810

RELINQUISHED BY:	RECEIVED BY:
KS	Dan
DATE/TIME: 24-2-15 1600	DATE/TIME: 25/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
19	EB5 0.0-0.5 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
20	EB5 0.0-0.5 B	23/02/2015	S	Bag (White label)	1		1								
21	EB5 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	4	1	1	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 07 7471 5600 E: gladstone@alsglobal.com
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NOWRA 4/19 Geary Place North Nowra NSW 2541
Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: perthenvlab@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 (6) 7	Random Sample Temperature on Receipt	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (13)	Other comment:	

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY: / RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer	KS / Daud
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 23-Feb-15	DATE/TIME: 23-Feb-15 1810	DATE/TIME: 24-2-15 1600 / 25/2 0900
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com				

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH				Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
22	EB6 0.0-0.5 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
23	EB6 0.5-1.0 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
24	EB6 0.0-0.5 B	23/02/2015	S	Bag (White label)	1		1								
25	EB6 0.5-1.0 B	23/02/2015	S	Bag (White label)	1		1								
26	EB6 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1							
27	EB6 0.7V	23/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL:	8	2	2	2							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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NOWRA 4/13 Geary Place North Nowra NSW 2541
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Ph: 08 9209 7655 E: samples.perth@alsglobal.com
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Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810

RELINQUISHED BY:	RECEIVED BY:
KS	
DATE/TIME: 24-2-15 1600	DATE/TIME: 25/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
28	EB7 0.0-0.5 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
29	EB7 0.5-1.0 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
30	EB7 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1						
31	EB7 0.7V	23/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	6	2		2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (B)	Random Sample Temperature on Receipt	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (13)	Other comments:	

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810	20-2-15 1600	25/2 0902

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
32	EB9 0.0-0.7 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
33	EB9 0.0-0.7 B	23/02/2015	S	Bag (White label)	1		1								
34	EB9 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	4	1	1	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g.. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice blocks present upon receipt?	Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (19)	Random Sample Temperature on Receipt	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (37)	Other comments:	

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer	KS
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810	24-2-15 1600

RECEIVED BY:
Dan-1
DATE/TIME:
25/2 am

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
35	EB11 0.0-0.5 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
36	EB11 0.5-0.8 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
37	EB11 0.0-0.5 B	23/02/2015	S	Bag (White label)	1		1								
38	EB11 0.5-0.8 B	23/02/2015	S	Bag (White label)	1		1								
39	EB11 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1							
40	EB11 0.7V	23/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	7	2	2	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Cooler / Ice on Ice Brick present upon receipt?	Yes / No / N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (12)	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (13)	Other comment:	

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer	AS	Dan
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME: 1810	DATE/TIME: 26-2-15 1600	DATE/TIME: 25/2 0900
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15		

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
A1	EB14 0.0-0.5 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
A2	EB14 0.5-1.0 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
A3	EB14 0.0-0.5 B	23/02/2015	S	Bag (White label)	1		1							
A4	EB14 0.5-1.0 B	23/02/2015	S	Bag (White label)	1		1							
A5	EB14 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1						
A6	EB14 0.7V	23/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	7	2	2	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 8372 8735 E: mudgee.mail@alsglobal.com

NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
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SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A; Freeze/frozen ice bricks present upon receipt? Yes No N/A; Random Sample Temperature on Receipt: °C; Other comment:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (11) OF: 1 2 3 4 5 6 (13)	
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr DATE/TIME: 23-Feb-15	RECEIVED BY: Kelly Schafer DATE/TIME: 23-Feb-15 1810
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		RELINQUISHED BY: DATE/TIME: 24-2-15 1600
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			RECEIVED BY: Dan. DATE/TIME: 25/2 0900
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
47	EB15 0.0-0.6 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
48	EB15 0.0-0.6 B	23/02/2015	S	Bag (White label)	1		1								
49	EB15 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	4	1	1	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
□GLADSTONE 46 Callemondah Drive Clinton QLD 4680
Ph: 07 7471 5600 E: gladstone@alsglobal.com

□MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
□MELBOURNE 24 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
□MUDGEE 27 Sydney Road Mudgee NSW 2850
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□NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
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Ph: 02 4423 2063 E: nowra@alsglobal.com
□PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com

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Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
□WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6	Random Sample Temperature on Receipt °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6	Other comments
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810

RELINQUISHED BY:	RECEIVED BY:
	Dan
DATE/TIME:	DATE/TIME:
24-2-15 1600	25/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
50	EB26 0.0-0.5 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
51	EB26 0.5-1.0 A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
52	EB26 0.0-0.5 B	23/02/2015	S	Bag (White label)	1		1								
53	EB26 0.5-1.0 B	23/02/2015	S	Bag (White label)	1		1								
54	EB26 0.3V	23/02/2015	S	Glass Jar (150 ml)	1			1							
55	EB26 0.7V	23/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	7	2	2	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS: ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (13)	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (13)	Other comment:	

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 23-Feb-15	DATE/TIME: 23-Feb-15 1810
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY:	RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 24-2-15 1600	DATE/TIME: 25/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	Rinsate Suite	Trip blank suite	
	~~Triplicate 12A~~	~~23/02/2015~~	~~S~~	~~Glass Jar (250 ml)~~	~~2~~									
56	Triplicate 12B	23/02/2015	S	Glass Jar (250 ml)	2	1								
57	Triplicate 13A	23/02/2015	S	Glass Jar (250 ml)	2	1								
58	Triplicate 13B	23/02/2015	S	Glass Jar (250 ml)	2	1								
59	Duplicate 6A	23/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
	~~Duplicate 6B~~	~~23/02/2015~~	~~S~~	~~Glass Jar (250 ml and 150 ml)~~	~~2~~									~~Send to Eurofins~~
60	Trip Blank 14	23/02/2015	S	Pre-filled glass jar	1								1	
61	Rinsate 14	23/02/2015	W	Bottle	8							1		
				TOTAL	13	1						1	1	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Certificate of Analysis

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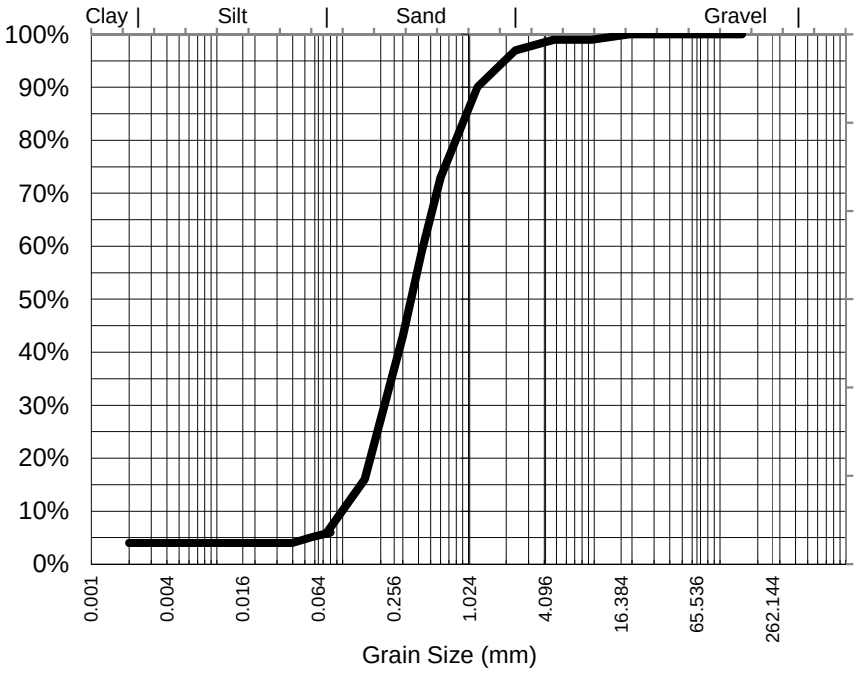
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	17-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	25-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504426-003 / PSD
PROJECT:	GPC GEOCHEMICAL	**SAMPLE ID:**	EB1 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	99%
4.75	99%
2.36	97%
1.18	90%
0.600	73%
0.425	59%
0.300	43%
0.150	16%
0.075	6%
Particle Size (microns)	
80	6%
56	5%
40	4%
20	4%
10	4%
5	4%
2	4%

Samples analysed as received.

Median Particle Size (mm)*	0.355

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	12-Mar-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	FINES, SAND, SHELL, GRAVEL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.64 g/cm3

NATA Accreditation: 825 Site: Newcastle
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Peter Keyte
Manager Newcastle
Authorised Signatory

Certificate of Analysis

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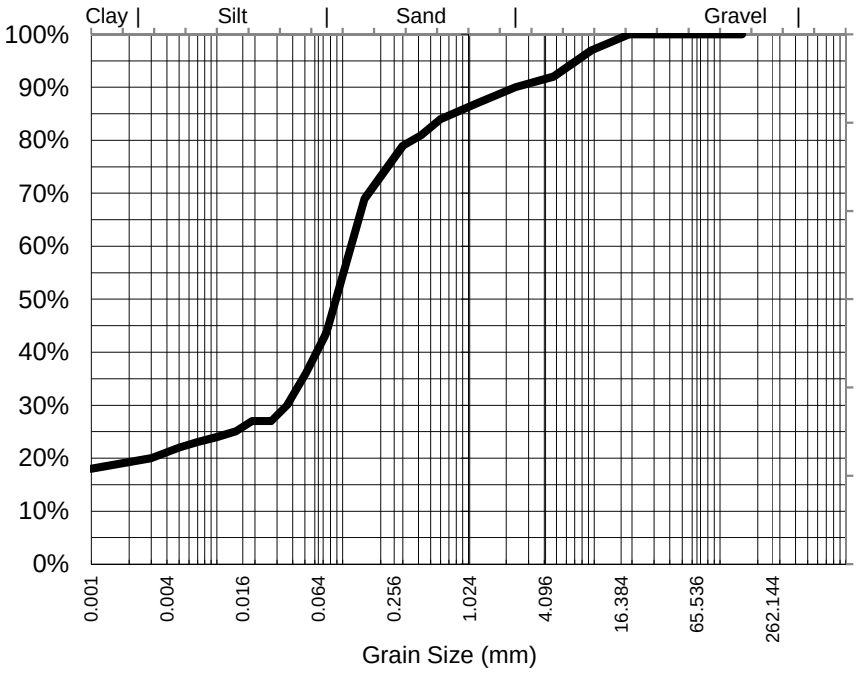
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	17-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	25-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504426-004 / PSD
PROJECT:	GPC GEOCHEMICAL	**SAMPLE ID:**	EB1 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	97%
4.75	92%
2.36	90%
1.18	87%
0.600	84%
0.425	81%
0.300	79%
0.150	69%
0.075	44%
Particle Size (microns)	
72	43%
51	36%
36	30%
19	27%
10	24%
5	22%
1	18%

Samples analysed as received.

Median Particle Size (mm)*	0.093

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:		**Analysed:**	12-Mar-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SILT, GRAVEL, SHELL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.65 g/cm3

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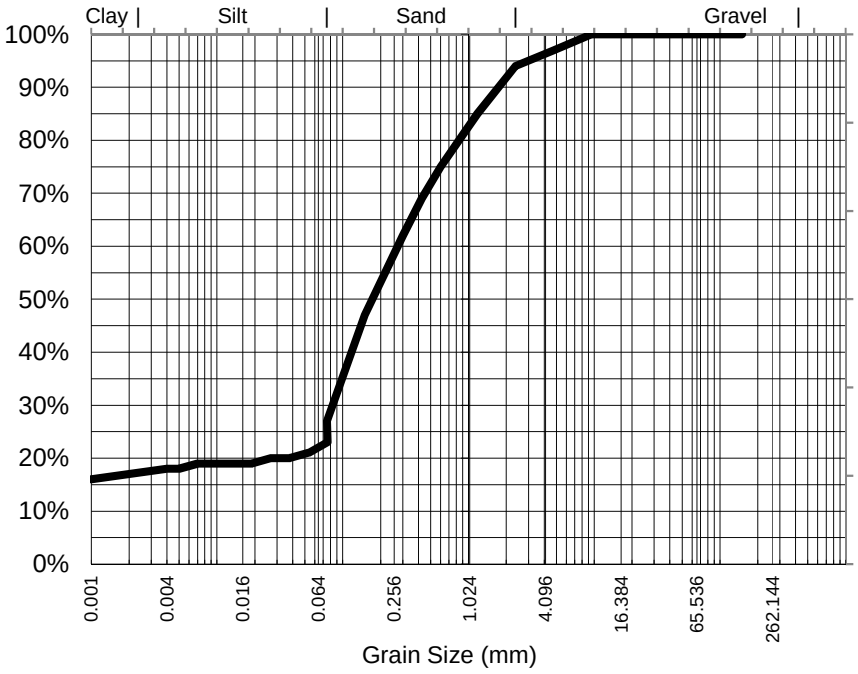
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	17-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	25-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504426-009 / PSD
PROJECT:	GPC GEOCHEMICAL	**SAMPLE ID:**	EB2 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	97%
2.36	94%
1.18	85%
0.600	75%
0.425	69%
0.300	62%
0.150	47%
0.075	27%
Particle Size (microns)	
76	23%
54	21%
38	20%
19	19%
10	19%
5	18%
1	16%

Samples analysed as received.

Median Particle Size (mm)*	0.180

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: FINES, SAND, SHELL, GRAVEL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.6 g/cm3

Analysed: 12-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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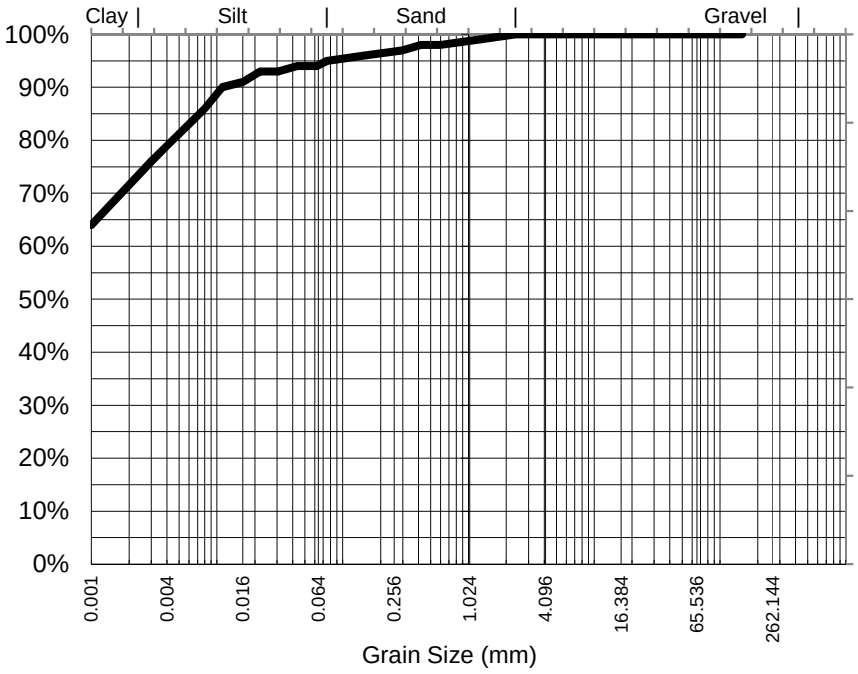
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	17-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	25-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504426-010 / PSD
PROJECT:	GPC GEOCHEMICAL	**SAMPLE ID:**	EB2 0.5-0.85B

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	99%
0.600	98%
0.425	98%
0.300	97%
0.150	96%
0.075	95%
Particle Size (microns)	
62	94%
44	94%
31	93%
16	91%
8	86%
4	79%
1	64%

Samples analysed as received.

Median Particle Size (mm)*	<0.001

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:		**Analysed:**	12-Mar-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	CLAY, SHELL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.68 g/cm3

NATA Accreditation: 825 Site: Newcastle
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Peter Keyte
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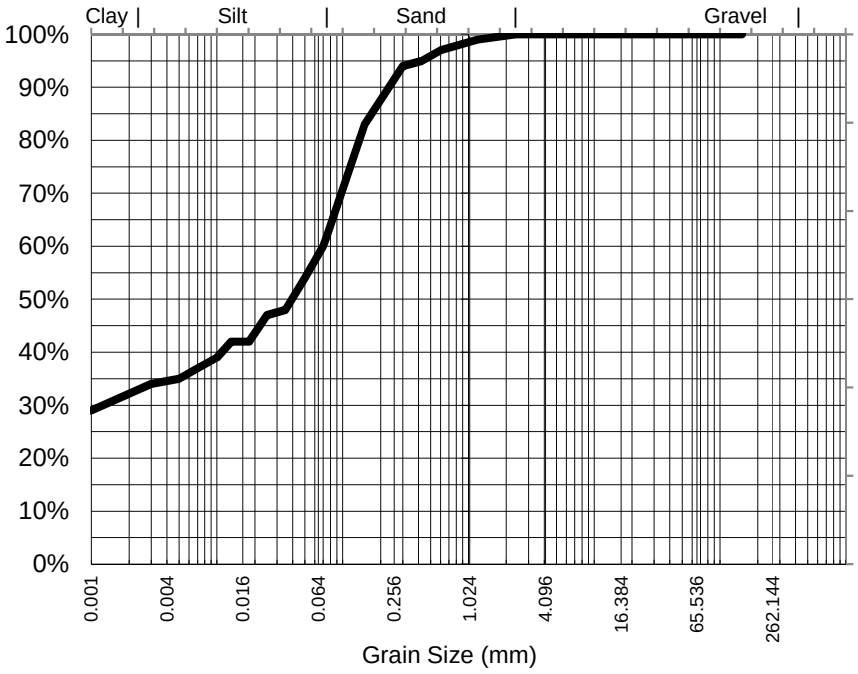
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	17-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	25-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504426-014 / PSD
PROJECT:	GPC GEOCHEMICAL	**SAMPLE ID:**	EB3 0.0-0.7B

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	99%
0.600	97%
0.425	95%
0.300	94%
0.150	83%
0.075	62%
Particle Size (microns)	
70	60%
50	54%
35	48%
18	42%
10	39%
5	35%
1	29%

Samples analysed as received.

Median Particle Size (mm)*	0.040

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY, SAND, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.62 g/cm3

Analysed: 12-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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Peter Keyte
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Certificate of Analysis

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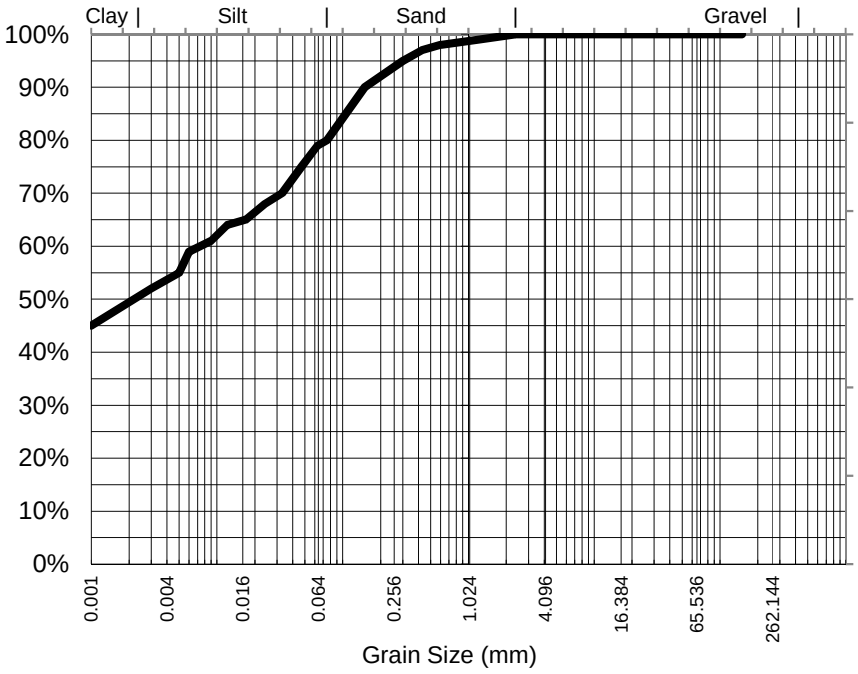
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	17-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	25-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504426-017 / PSD
PROJECT:	GPC GEOCHEMICAL	**SAMPLE ID:**	EB4 0.0-0.4B

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	99%
0.600	98%
0.425	97%
0.300	95%
0.150	90%
0.075	80%
Particle Size (microns)	
63	79%
47	75%
33	70%
17	65%
9	61%
5	55%
1	45%

Samples analysed as received.

Median Particle Size (mm)*	0.002

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY, SAND, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.6 g/cm3

Analysed: 12-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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Peter Keyte
Manager Newcastle
Authorised Signatory

Certificate of Analysis

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5/585 Maitland Road
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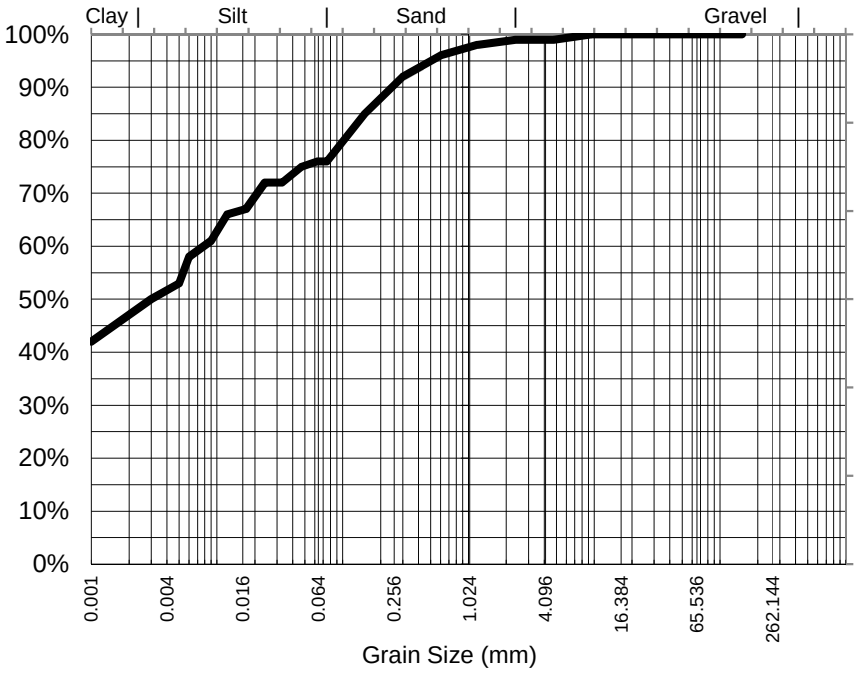
pH 02 4014 2500
fax 02 4968 0349
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	17-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	25-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504426-020 / PSD
PROJECT:	GPC GEOCHEMICAL	**SAMPLE ID:**	EB5 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	99%
2.36	99%
1.18	98%
0.600	96%
0.425	94%
0.300	92%
0.150	85%
0.075	76%
Particle Size (microns)	
63	76%
47	75%
33	72%
17	67%
9	61%
5	53%
1	42%

Median Particle Size (mm)*	0.003

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY, SAND, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.62 g/cm3

Analysed: 12-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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CLIENT: Sally Leyland

COMPANY: Aurecon Australasia Pty Ltd

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PROJECT: GPC GEOCHEMICAL

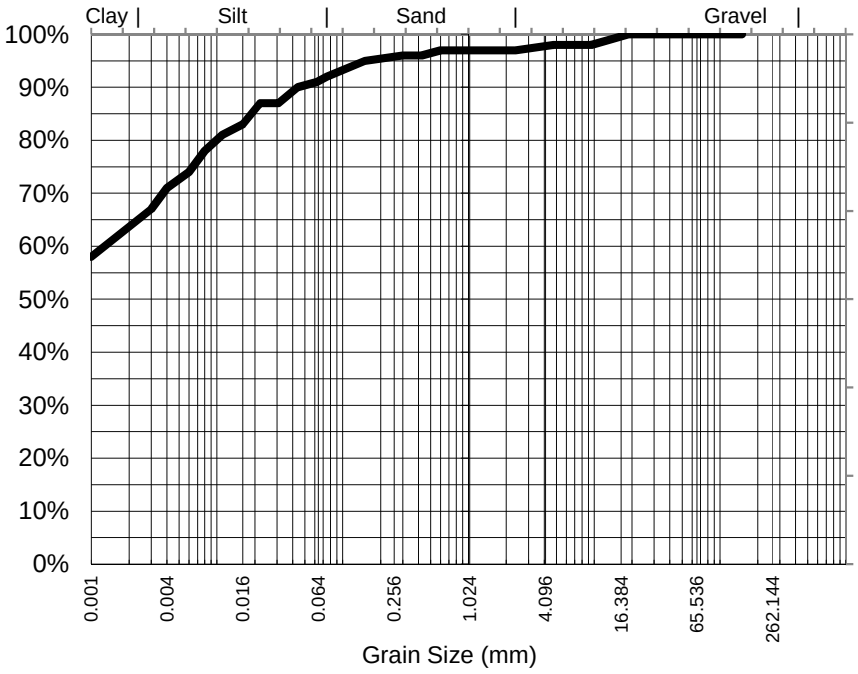
DATE REPORTED: 17-Mar-2015

DATE RECEIVED: 25-Feb-2015

REPORT NO: ES1504426-024 / PSD

SAMPLE ID: EB6 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	98%
4.75	98%
2.36	97%
1.18	97%
0.600	97%
0.425	96%
0.300	96%
0.150	95%
0.075	92%
Particle Size (microns)	
62	91%
44	90%
31	87%
16	83%
8	78%
4	71%
1	58%

Median Particle Size (mm)*	<0.001

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SILT, CLAY, SAND

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.65 g/cm3

Analysed: 12-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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PROJECT: GPC GEOCHEMICAL

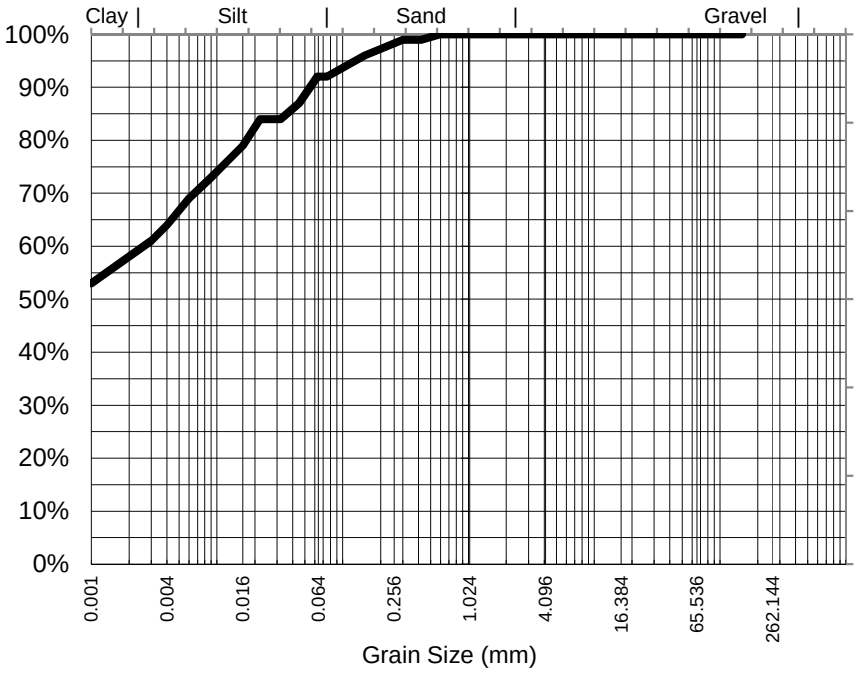
DATE REPORTED: 17-Mar-2015

DATE RECEIVED: 25-Feb-2015

REPORT NO: ES1504426-025 / PSD

SAMPLE ID: EB6 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
0.600	100%
0.425	99%
0.300	99%
0.150	96%
0.075	92%
Particle Size (microns)	
63	92%
45	87%
32	84%
16	79%
9	73%
4	64%
1	53%

Median Particle Size (mm)*	<0.001

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY, SAND, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.62 g/cm3

Analysed: 12-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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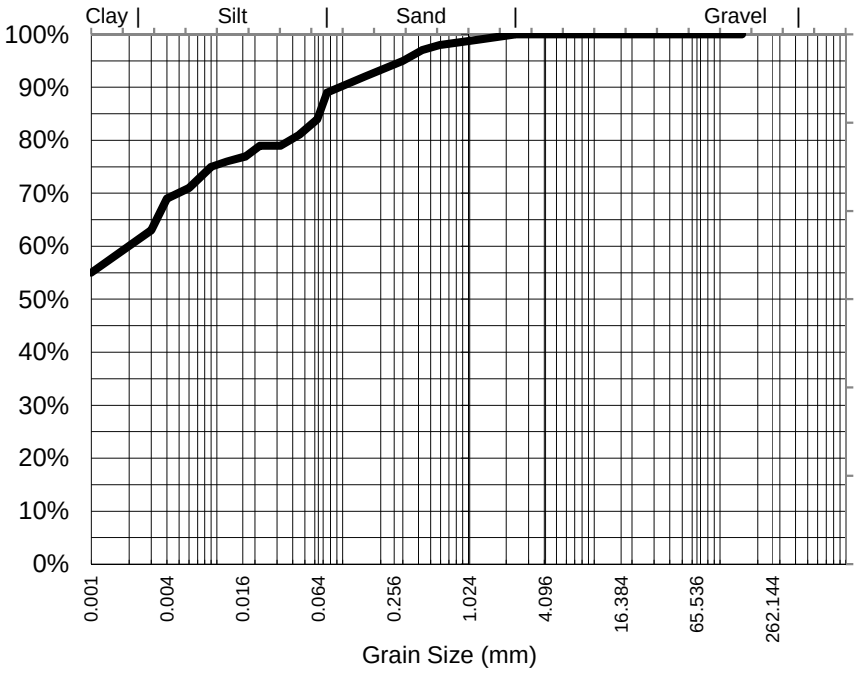
CLIENT:	Sally Leyland	**DATE REPORTED:**	17-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	25-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504426-033 / PSD
PROJECT:	GPC GEOCHEMICAL	**SAMPLE ID:**	EB9 0.0-0.7B

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	99%
0.600	98%
0.425	97%
0.300	95%
0.150	92%
0.075	89%
Particle Size (microns)	
63	84%
45	81%
32	79%
17	77%
9	75%
4	69%
1	55%

Median Particle Size (mm)*	<0.001

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 12-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: CLAY, SAND, SHELL, GRAVEL

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.64 g/cm3

NATA Accreditation: 825 Site: Newcastle
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PROJECT: GPC GEOCHEMICAL

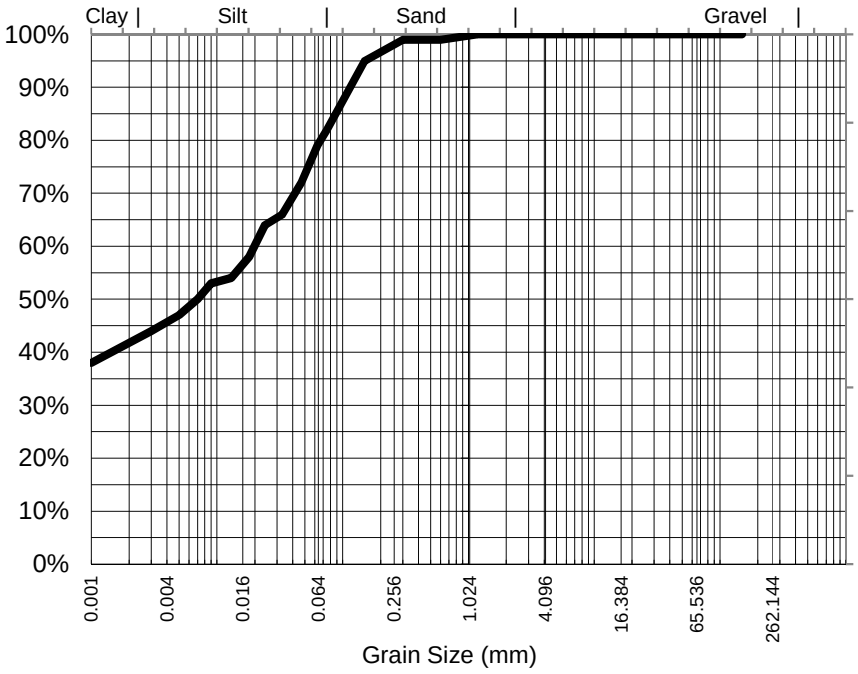
DATE REPORTED: 17-Mar-2015

DATE RECEIVED: 25-Feb-2015

REPORT NO: ES1504426-037 / PSD

SAMPLE ID: EB11 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
1.18	100%
0.600	99%
0.425	99%
0.300	99%
0.150	95%
0.075	82%
Particle Size (microns)	
63	79%
47	72%
33	66%
18	58%
9	53%
5	47%
1	38%

Median Particle Size (mm)*	0.007

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY, SAND

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.6 g/cm3

Analysed: 12-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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PROJECT: GPC GEOCHEMICAL

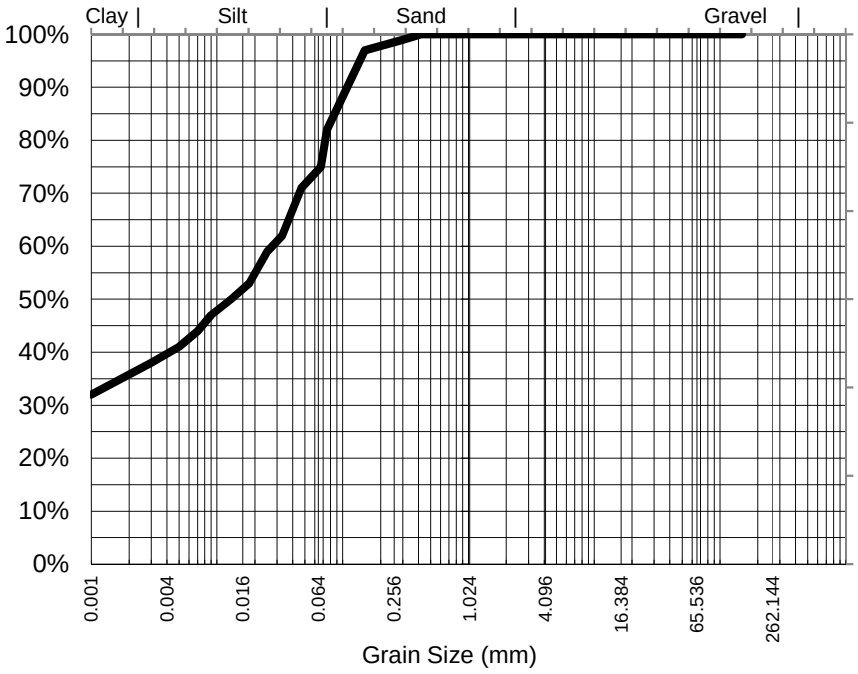
DATE REPORTED: 17-Mar-2015

DATE RECEIVED: 25-Feb-2015

REPORT NO: ES1504426-038 / PSD

SAMPLE ID: EB11 0.5-0.8B

Particle Size Distribution



Particle Size (mm)	Percent Passing
0.425	100%
0.300	99%
0.150	97%
0.075	82%
Particle Size (microns)	
67	75%
47	71%
33	62%
18	53%
9	47%
5	41%
1	32%

Median Particle Size (mm)*	0.013

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY, SAND

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.61 g/cm3

Analysed: 12-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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PROJECT: GPC GEOCHEMICAL

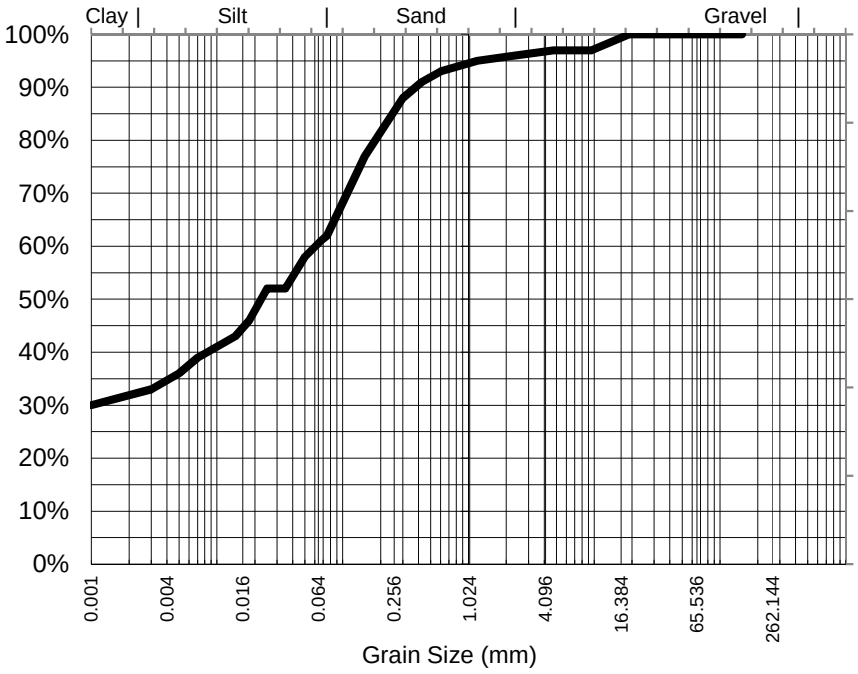
DATE REPORTED: 17-Mar-2015

DATE RECEIVED: 25-Feb-2015

REPORT NO: ES1504426-043 / PSD

SAMPLE ID: EB14 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	97%
4.75	97%
2.36	96%
1.18	95%
0.600	93%
0.425	91%
0.300	88%
0.150	77%
0.075	62%
Particle Size (microns)	
67	61%
50	58%
35	52%
18	46%
10	41%
5	36%
1	30%

Median Particle Size (mm)*	0.023

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY, SAND, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.64 g/cm3

Analysed: 12-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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COMPANY: Aurecon Australasia Pty Ltd

ADDRESS: Locked Bag 331
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Brisbane, Qld, Australia 4001

PROJECT: GPC GEOCHEMICAL

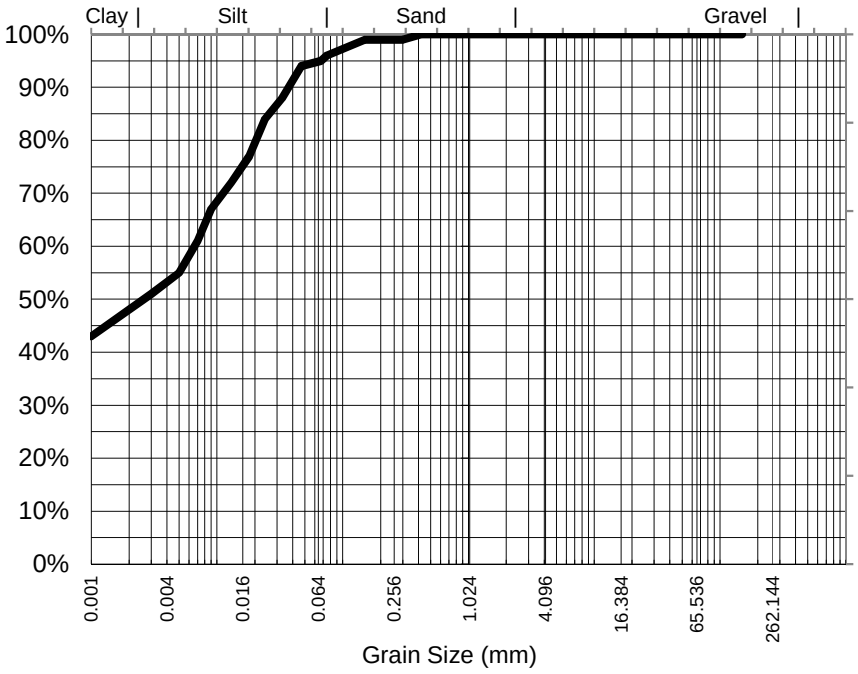
DATE REPORTED: 17-Mar-2015

DATE RECEIVED: 25-Feb-2015

REPORT NO: ES1504426-044 / PSD

SAMPLE ID: EB14 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
0.425	100%
0.300	99%
0.150	99%
0.075	96%
Particle Size (microns)	
67	95%
47	94%
33	88%
18	77%
9	67%
5	55%
1	43%

Median Particle Size (mm)*	0.003

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY, SAND

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.47 g/cm3

Analysed: 12-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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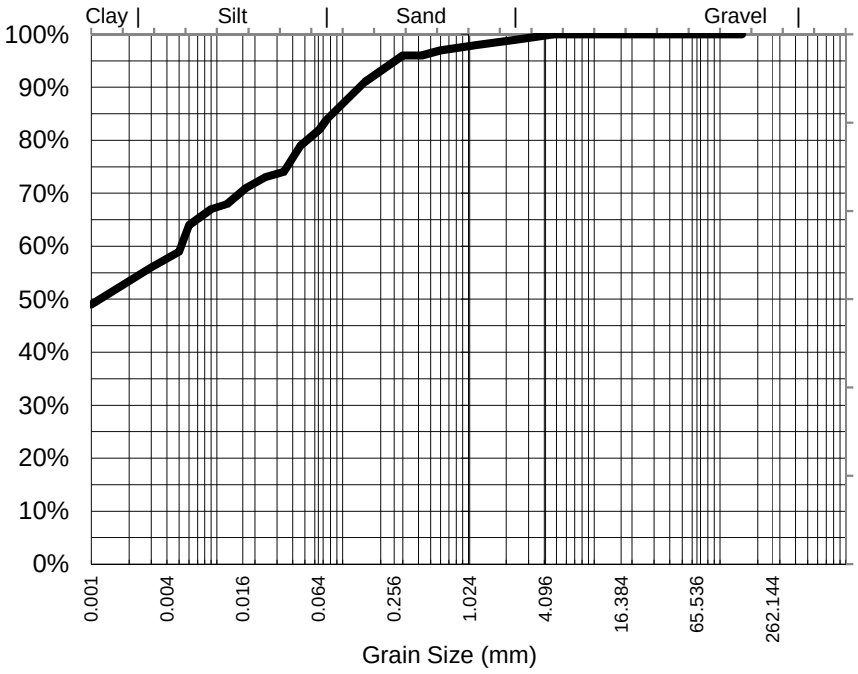
CLIENT:	Sally Leyland	**DATE REPORTED:**	17-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	25-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504426-048 / PSD
PROJECT:	GPC GEOCHEMICAL	**SAMPLE ID:**	EB15 0.0-0.6B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	99%
1.18	98%
0.600	97%
0.425	96%
0.300	96%
0.150	91%
0.075	84%
Particle Size (microns)	
65	82%
46	79%
34	74%
17	71%
9	67%
5	59%
1	49%

Samples analysed as received.

Median Particle Size (mm)*	0.001

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY, SAND

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.59 g/cm3

Analysed: 12-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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ALS Environmental

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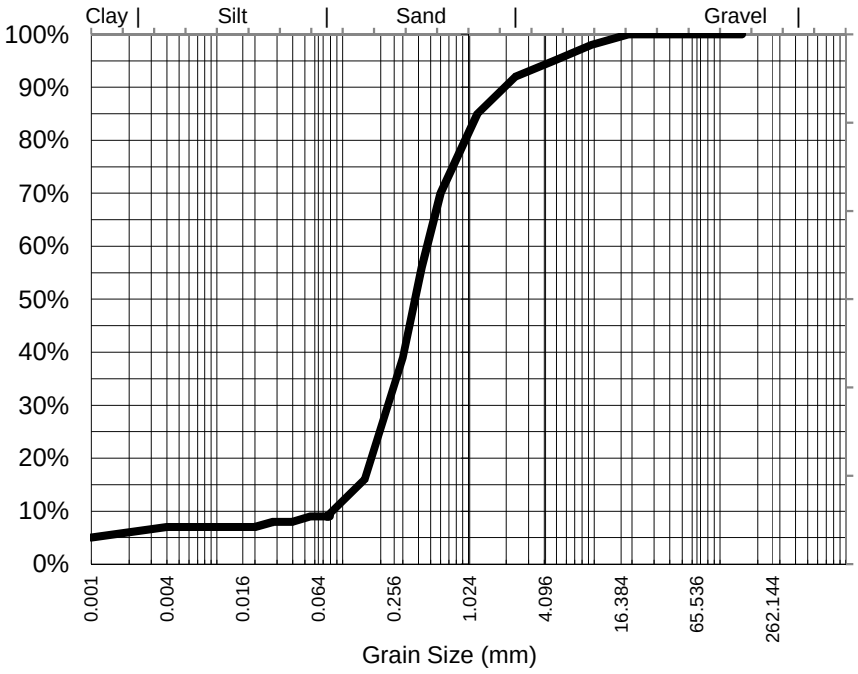
CLIENT:	Sally Leyland	**DATE REPORTED:**	17-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	25-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504426-052 / PSD
PROJECT:	GPC GEOCHEMICAL	**SAMPLE ID:**	EB26 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	98%
4.75	95%
2.36	92%
1.18	85%
0.600	70%
0.425	56%
0.300	39%
0.150	16%
0.075	9%
Particle Size (microns)	
79	9%
56	9%
40	8%
20	7%
10	7%
5	7%
1	5%

Samples analysed as received.

Median Particle Size (mm)*	0.381

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	12-Mar-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	CLAY, SAND, SHELL, GRAVEL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.68 g/cm3

NATA Accreditation: 825 Site: Newcastle
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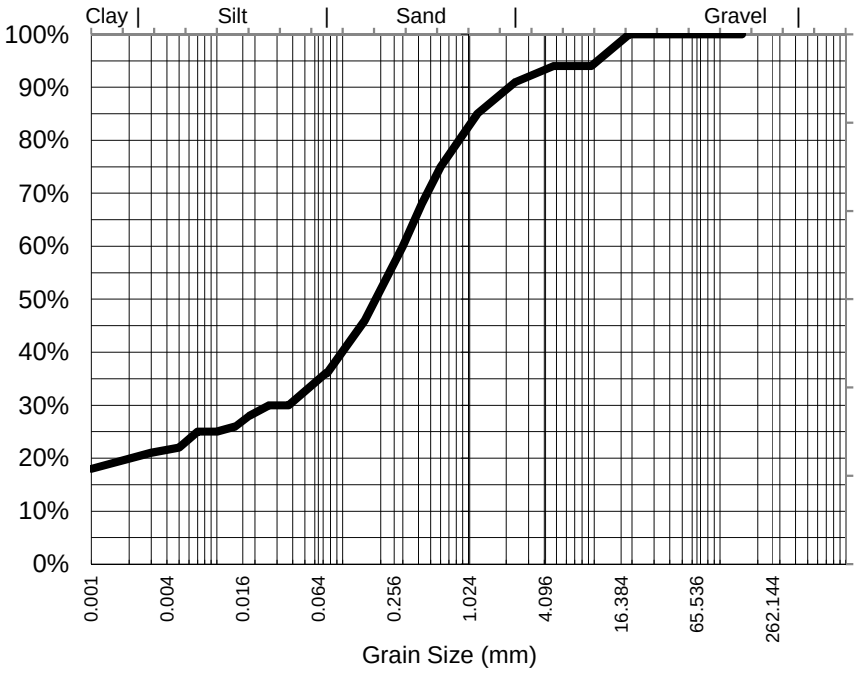
CLIENT:	Sally Leyland	**DATE REPORTED:**	17-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	25-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504426-053 / PSD
PROJECT:	GPC GEOCHEMICAL	**SAMPLE ID:**	EB26 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	94%
4.75	94%
2.36	91%
1.18	85%
0.600	75%
0.425	68%
0.300	60%
0.150	46%
0.075	36%
Particle Size (microns)	
73	36%
52	33%
37	30%
18	28%
10	25%
5	22%
1	18%

Samples analysed as received.

Median Particle Size (mm)*	0.193

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY, SAND, SHELL, GRAVEL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.65 g/cm3

Analysed: 12-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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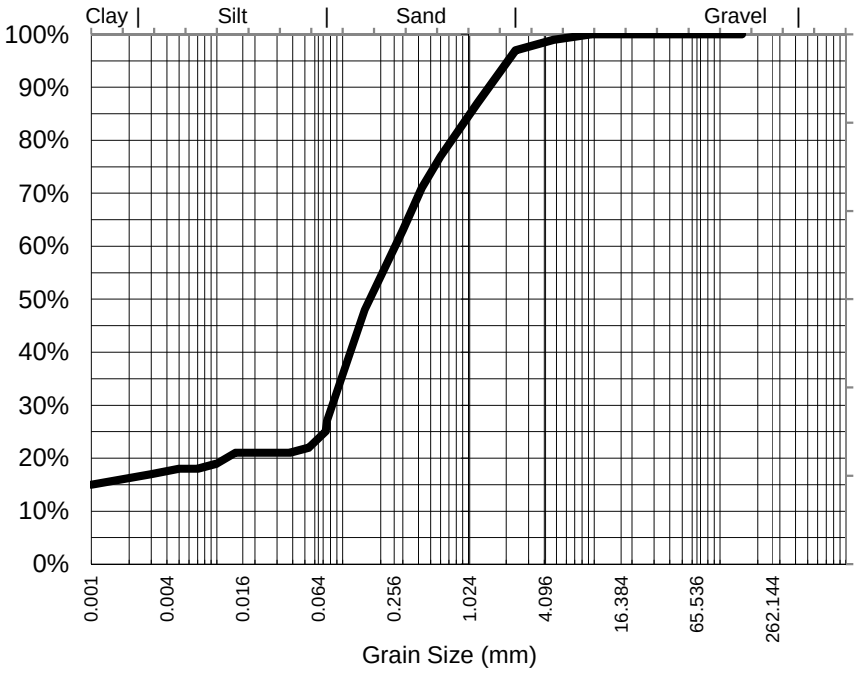
CLIENT:	Sally Leyland	**DATE REPORTED:**	17-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	25-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504426-009DUP / PSD
PROJECT:	GPC GEOCHEMICAL	**SAMPLE ID:**	EB2 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	99%
2.36	97%
1.18	87%
0.600	77%
0.425	71%
0.300	63%
0.150	48%
0.075	27%
Particle Size (microns)	
73	25%
54	22%
38	21%
19	21%
10	19%
5	18%
1	15%

Samples analysed as received.

Median Particle Size (mm)*	0.170

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 12-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: FINES, SAND, SHELL, GRAVEL

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.69 g/cm3

NATA Accreditation: 825 Site: Newcastle
This document is issued in accordance with NATA's accreditation requirements. Accredited for compliance with ISO/IEC 17025. This document shall not be reproduced, except in full.

NATA
MUTUAL RECOGNITION ARRANGEMENT ACCREDITATION

Peter Keyte
Manager Newcastle
Authorised Signatory

Certificate of Analysis

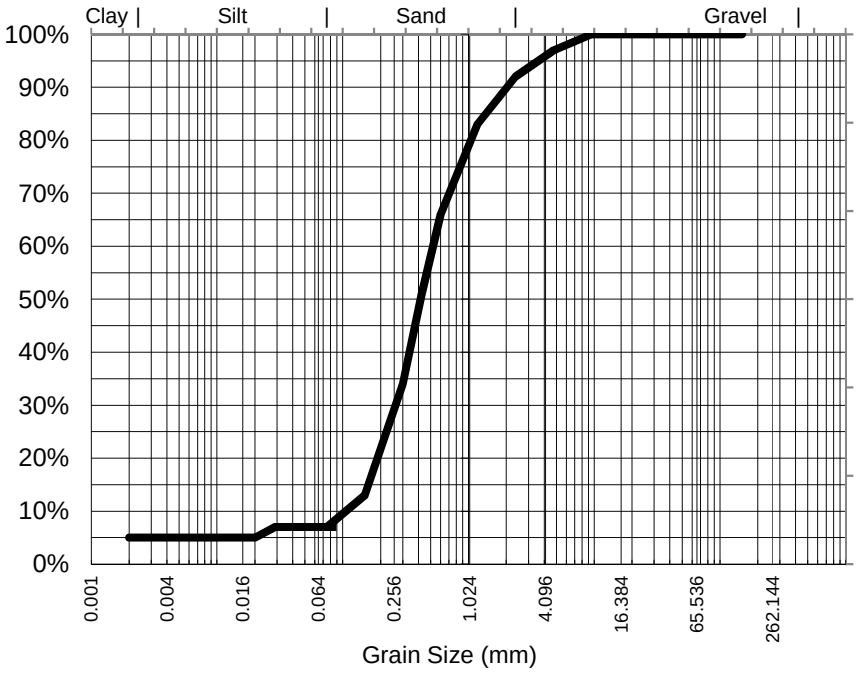
ALS Laboratory Group Pty Ltd
5/585 Maitland Road
Mayfield West, NSW 2304
pH 02 4014 2500
fax 02 4968 0349
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	17-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	25-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504426-052DUP / PSD
PROJECT:	GPC GEOCHEMICAL	**SAMPLE ID:**	EB26 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	97%
2.36	92%
1.18	83%
0.600	66%
0.425	51%
0.300	34%
0.150	13%
0.075	7%
Particle Size (microns)	
81	7%
57	7%
40	7%
20	5%
10	5%
5	5%
2	5%

Samples analysed as received.

Median Particle Size (mm)*	0.418

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	12-Mar-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	CLAY, SAND, SHELL, GRAVEL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.63 g/cm3

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Peter Keyte
Manager Newcastle
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Frozen ice bricks present upon receipt?	Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: (1) 2 3 4 5 6 7	Random Sample Temperature on Receipt	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comment:	
SAMPLER: Georgina Kerr SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr DATE/TIME: 24-Feb-15	RECEIVED BY: Kelly Schafer DATE/TIME: 24-Feb-15 1815	RELINQUISHED BY: KSchafer DATE/TIME: 25.2.15 1600
COC emailed to ALS? (YES / NO) EDD FORMAT (or default):			RECEIVED BY: Dan. 1 DATE/TIME: 26/2 0900
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	BH5 0.0-0.5 A	24/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
2	BH5 0.0-0.5 B	24/02/2015	S	Bag (White label)	1		1							
3	BH5 0.3V	24/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

150ml A Jars and 500ml Amber sent direct to Brisbane for TOC/TBT

Subcon / Forward Lab / Split WO
Lab / Analysis: Newcastle / PSD
Organised By / Date:
Relinquished By / Date:
Connote / Courier:
WO No:
Attach By PO / Internal Sheet:

Environmental Division Sydney

Work Order

ES1504596

Telephone : +61-2-8784 8555

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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice/frozen ice brick present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 (2) 3 4 5 6 7	Random Sample Temperature on Receipt °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		24-Feb-15	24-Feb-15 1815

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 25.2.15 1600	DATE/TIME: 26/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
4	BH8 0.0-0.5 A	24/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
5	BH8 0.5-1.0 A	24/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
6	BH8 0.0-0.5 B	24/02/2015	S	Bag (White label)	1		1							
7	BH8 0.5-1.0 B	24/02/2015	S	Bag (White label)	1		1							
8	BH8 0.3V	24/02/2015	S	Glass Jar (150 ml)	1			1						
9	BH8 0.7V	24/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CHAIN OF CUSTODY

ALS Laboratory: please tick →

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☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice/frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 (3) 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comments:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		24-Feb-15	24-Feb-15 1815	25-2-15 1600	26/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
10	BH60 0.0-0.3A	24/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1		1						PLEASE DO VOLATILES FIRST
11	BH60 0.0-0.3B	24/02/2015	S	Bag (White label)	1		1							
				TOTAL	1		1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com

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OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No NA
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free Ice / Frozen Ice Bricks present upon receipt? Yes No NA
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 14	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		24-Feb-15	24-Feb-15 1815

RELINQUISHED BY:	RECEIVED BY:
XS	
DATE/TIME: 25-2-15 1600	DATE/TIME: 26/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
12	EB12 0.0-0.3A	24/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
13	EB12 0.0-0.3B	24/02/2015	S	Bag (White label)	1		1							
14	EB12 0.3V	24/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt		C	
Other comment:			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	Kelly Schafer	KS	Dal
DATE/TIME: 24-Feb-15	DATE/TIME: 24-Feb-15 1815	DATE/TIME: 25.2.15 1600	DATE/TIME: 26/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB, Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
15	EB16 0.0-0.4 A	24/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
16	EB16 0.0-0.4 B	24/02/2015	S	Bag (White label)	1		1							
17	EB16 0.3V	24/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

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Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 0735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4958 0400 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Frozen Ice Bricks present upon receipt? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6	Other comments:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.feyland@aurecongroup.com		24-Feb-15	24-Feb-15 1815	25.2.15 1600

RECEIVED BY:	
	Paul
DATE/TIME:	26/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
18	EB17 0.0-0.5 A	24/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
19	EB17 0.0-0.5 B	24/02/2015	S	Bag (White label)	1		1							
20	EB17 0.3V	24/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice/frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		24-Feb-15	24-Feb-15 1815

RELINQUISHED BY:	RECEIVED BY:
KS	Daniel
DATE/TIME: 25-2-15 1600	DATE/TIME: 26/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
21	EB22 0.0-0.5 A	24/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
22	EB22 0.0-0.5 B	24/02/2015	S	Bag (White label)	1		1							
23	EB22 0.3V	24/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Frozen/Chilled Bottles present Upon receipt? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Random Sample Temperature on Receipt: °C
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6	Other comments:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6	

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		24-Feb-15	24-Feb-15 1815	25-2-15 1600

RECEIVED BY:
Dan
DATE/TIME: 26/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
24	EB27 0.0-0.7 A	24/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
25	EB27 0.0-0.7 B	24/02/2015	S	Bag (White label)	1		1							
26	EB27 0.3V	24/02/2015	S	Glass Jar (150 ml)	1			1						
27	EB27 0.7V	24/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice/ frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (9)	Random Sample Temperature on Receipt °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (11)	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 24-Feb-15	DATE/TIME: 24-Feb-15 1815
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: KS	RECEIVED BY: Dan
		DATE/TIME: 25.2.15 1600	DATE/TIME: 26/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
28	EB31 0.0-0.5 A	24/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
29	EB31 0.0-0.5 B	24/02/2015	S	Bag (White label)	1		1								
30	EB31 0.3V	24/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	4	1	1	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Frozen Ice/frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (10)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		24-Feb-15	24-Feb-15 1815

RELINQUISHED BY:	RECEIVED BY:
KS	Dan
DATE/TIME: 25-2-15 1600	DATE/TIME: 26/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		
31	EB32 0.0-0.5 A	24/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
32	EB32 0.5-1.0 A	24/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
33	EB32 0.0-0.5 B	24/02/2015	S	Bag (White label)	1		1							
34	EB32 0.5-1.0 B	24/02/2015	S	Bag (White label)	1		1							
35	EB32 0.3V	24/02/2015	S	Glass Jar (150 ml)	1			1						
36	EB32 0.7V	24/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	7	2	2	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A; Free ice / frozen ice bricks present upon receipt? Yes No N/A; Random Sample Temperature on Receipt: °C; Other comments:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (14); OF: 1 2 3 4 5 6	
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr DATE/TIME: 24-Feb-15	RECEIVED BY: Kelly Schafer DATE/TIME: 24-Feb-15 1815
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 25-2-15 1600	DATE/TIME: 26/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
37	EB33 0.0-0.5 A	24/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
38	EB33 0.5-1.0 A	24/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
39	EB33 0.0-0.5 B	24/02/2015	S	Bag (White label)	1		1								
40	EB33 0.5-1.0 B	24/02/2015	S	Bag (White label)	1		1								
41	EB33 0.3V	24/02/2015	S	Glass Jar (150 ml)	1			1							
42	EB33 0.7V	24/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	7	2	2	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: awnsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A Cooling Medium: Ice Free Ice / Frozen Ice bricks present upon arrival? Yes No N/A Random Sample Temperature on Receipt: C Other comments:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (12) OF: 1 2 3 4 5 6 (14)	
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer	RELINQUISHED BY: DS
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 24-Feb-15	DATE/TIME: 1815	DATE/TIME: 25-2-15 1600
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com				
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com				

RECEIVED BY:
Dan
DATE/TIME: 26/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
43	EB34 0.0-0.5 A	24/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
44	EB34 0.5-1.0 A	24/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
45	EB34 0.0-0.5 B	24/02/2015	S	Bag (White label)	1		1								
46	EB34 0.5-1.0 B	24/02/2015	S	Bag (White label)	1		1								
47	EB34 0.3V	24/02/2015	S	Glass Jar (150 ml)	1			1							
48	EB34 0.7V	24/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	7	2	2	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (13)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	DF: 1 2 3 4 5 6 (14)	Other comments:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer	RELINQUISHED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	DATE/TIME: 24-Feb-15	DATE/TIME: 24-Feb-15 1815	DATE/TIME: 25-2-15 1600
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com				
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com				

RECEIVED BY:	Additional Information
DATE/TIME: 26/2 0900	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
49	EB36 0.0-0.5 A	24/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
50	EB36 0.5-1.0 A	24/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
51	EB36 0.0-0.5 B	24/02/2015	S	Bag (White label)	1		1								
52	EB36 0.5-1.0 B	24/02/2015	S	Bag (White label)	1		1								
53	EB36 0.3V	24/02/2015	S	Glass Jar (150 ml)	1			1							
54	EB36 0.7V	24/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	7	2	2	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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☐MACKAY 78 Harbour Road Mackay QLD 4740 Ph 07 4944 0177 E: mackay@alsglobal.com
☐MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph 03 8549 9600 E: samples.melbourne@alsglobal.com
☐MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph 02 6372 6735 E: mudgee mail@alsglobal.com
☐NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph 02 4968 9433 E: samples.newcastle@alsglobal.com
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☐TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph 07 4796 0600 E: townesville.environmental@alsglobal.com
☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6	Other comments:

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		24-Feb-15	24-Feb-15 1815	25-2-15 1600	26/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	Rinsate Suite	Trip blank suite	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
55	Triplicate 14A	24/02/2015	S	Glass Jar (250 ml)	2	1								
56	Triplicate 14B	24/02/2015	S	Glass Jar (250 ml)	2	1								
57	Trip Blank 15	23/02/2015	S	Pre-filled glass jar	1								1	
58	Rinsate 15	24/02/2015	w	Bottle	8							1		
				TOTAL	9							1	1	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Certificate of Analysis

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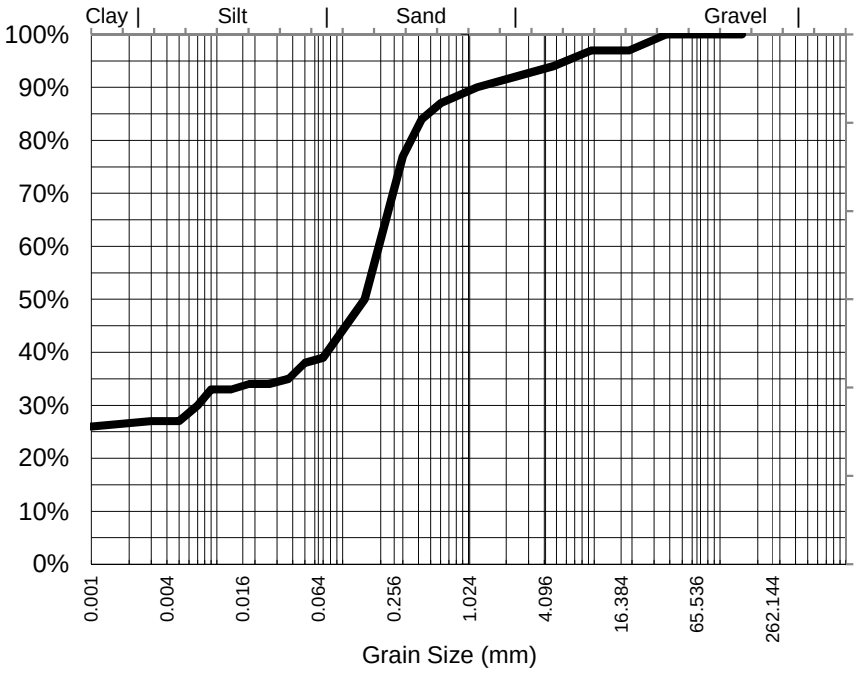
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	19-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	26-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504596-002 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH5 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
37.5	100%
19.0	97%
9.50	97%
4.75	94%
2.36	92%
1.18	90%
0.600	87%
0.425	84%
0.300	77%
0.150	50%
0.075	40%
Particle Size (microns)	
70	39%
50	38%
37	35%
18	34%
9	33%
5	27%
1	26%

Samples analysed as received.

Median Particle Size (mm)*	0.150

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SAND, CLAY, GRAVEL, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.65 g/cm3

Analysed: 13-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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Dianne Blane
Inorganic Coordinator Newcastle
Authorised Signatory

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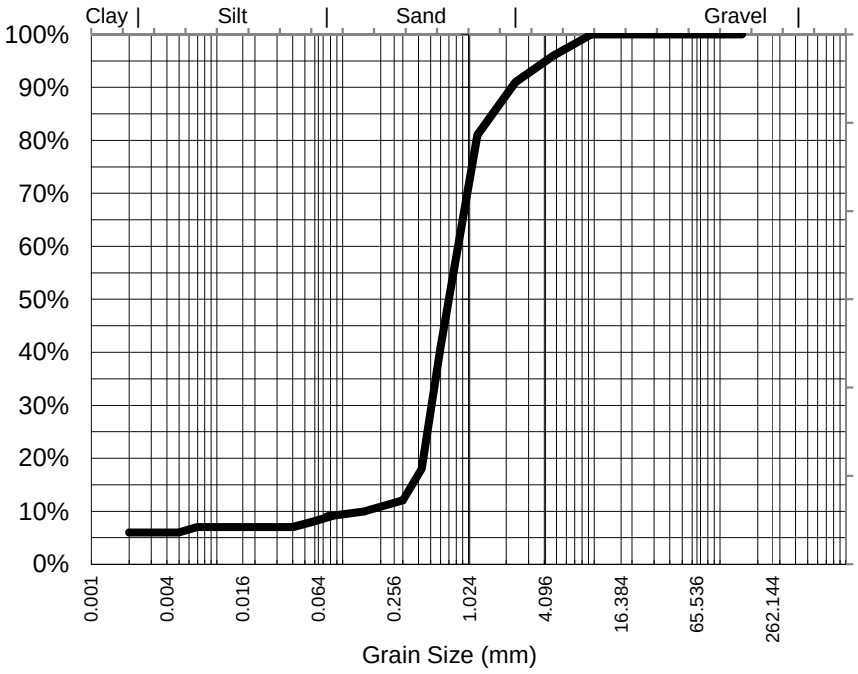
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	19-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	26-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504596-006 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH8 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	96%
2.36	91%
1.18	81%
0.600	41%
0.425	18%
0.300	12%
0.150	10%
0.075	9%
Particle Size (microns)	
81	9%
57	8%
40	7%
20	7%
10	7%
5	6%
2	6%

Samples analysed as received.

Median Particle Size (mm)*	0.731

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	13-Mar-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, CLAY, GRAVEL, SHELL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.64 g/cm3

NATA Accreditation: 825 Site: Newcastle
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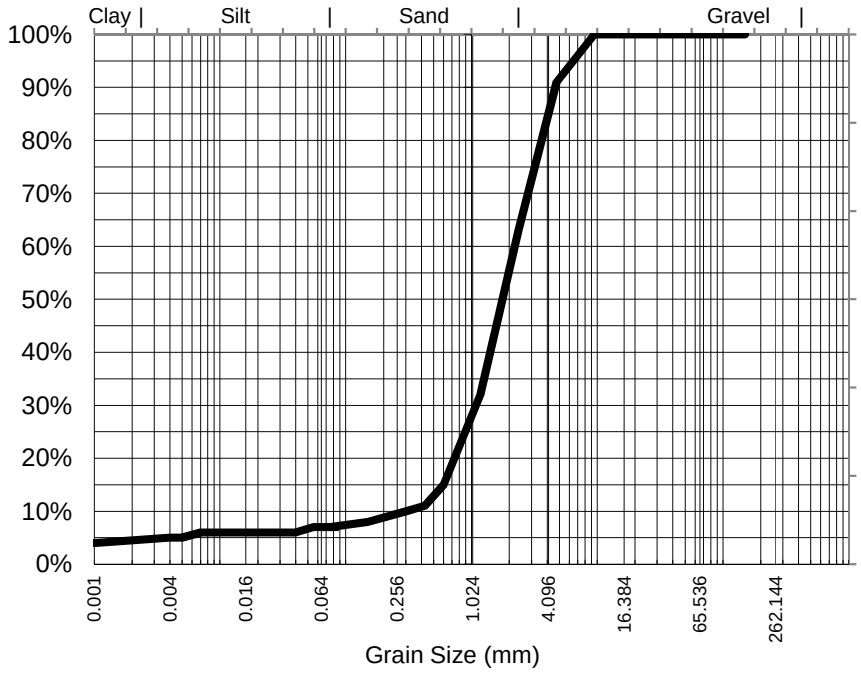
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	19-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	26-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504596-007 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH8 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	91%
2.36	63%
1.18	32%
0.600	15%
0.425	11%
0.300	10%
0.150	8%
0.075	7%
Particle Size (microns)	
80	7%
56	7%
40	6%
20	6%
10	6%
5	5%
1	4%

Samples analysed as received.

Median Particle Size (mm)*	1.865

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	13-Mar-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, CLAY, GRAVEL, SHELL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.68 g/cm3

NATA Accreditation: 825 Site: Newcastle
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Dianne Blane
Inorganic Coordinator Newcastle
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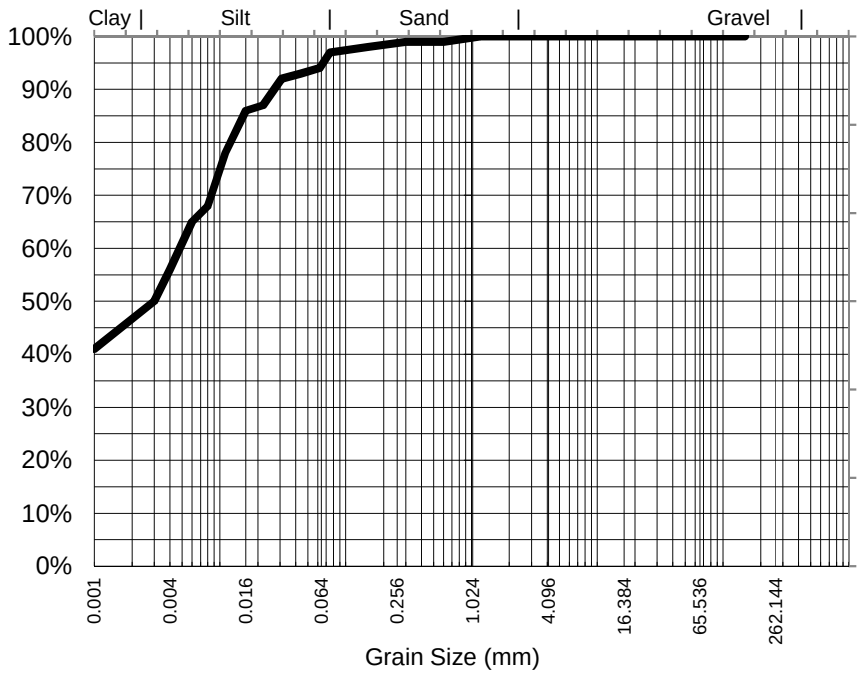
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	19-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	26-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504596-011 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH60 0.0-0.3B

Particle Size Distribution



Particle Size (mm)	Percent Passing
1.18	100%
0.600	99%
0.425	99%
0.300	99%
0.150	98%
0.075	97%
Particle Size (microns)	
62	94%
44	93%
31	92%
16	86%
8	68%
4	56%
1	41%

Median Particle Size (mm)*	0.003

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY, GRAVEL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.7 g/cm3

Analysed: 13-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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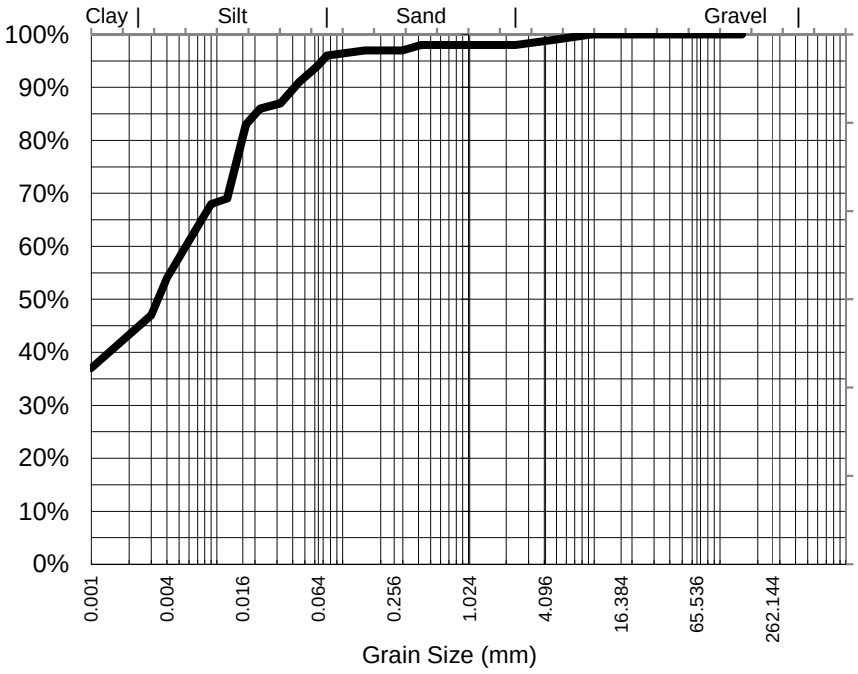
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	19-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	26-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504596-013 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	EB12 0.0-0.3B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	99%
2.36	98%
1.18	98%
0.600	98%
0.425	98%
0.300	97%
0.150	97%
0.075	96%
Particle Size (microns)	
63	94%
45	91%
32	87%
17	83%
9	68%
4	54%
1	37%

Median Particle Size (mm)*	0.003

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 13-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: CLAY, GRAVEL

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.65 g/cm3

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Dianne Blane
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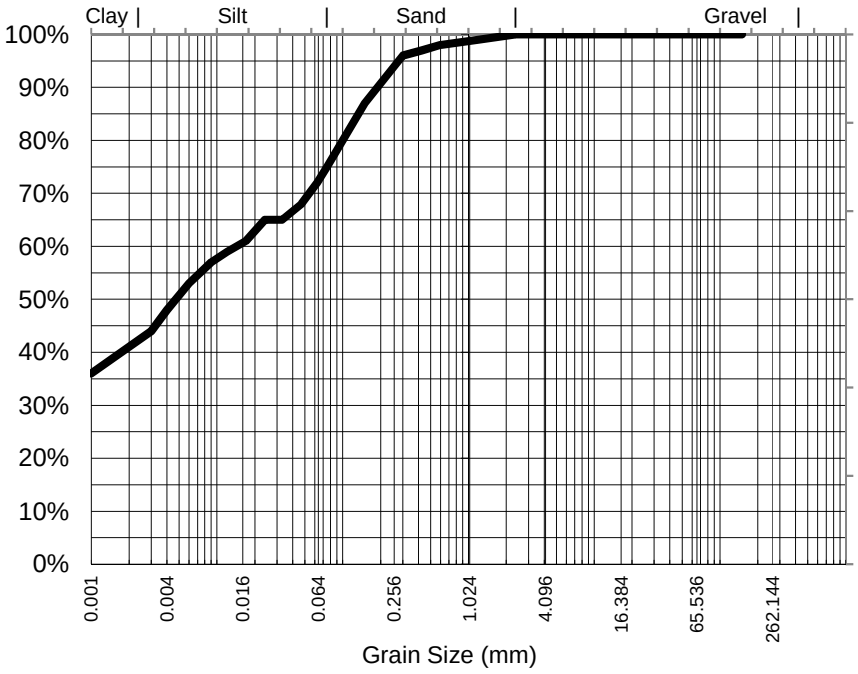
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	19-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	26-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504596-016 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	EB16 0.0-0.4B

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	99%
0.600	98%
0.425	97%
0.300	96%
0.150	87%
0.075	75%
Particle Size (microns)	
63	72%
47	68%
33	65%
17	61%
9	57%
4	48%
1	36%

Samples analysed as received.

Median Particle Size (mm)*	0.005

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:		**Analysed:**	13-Mar-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	CLAY, GRAVEL, SHELL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.66 g/cm3

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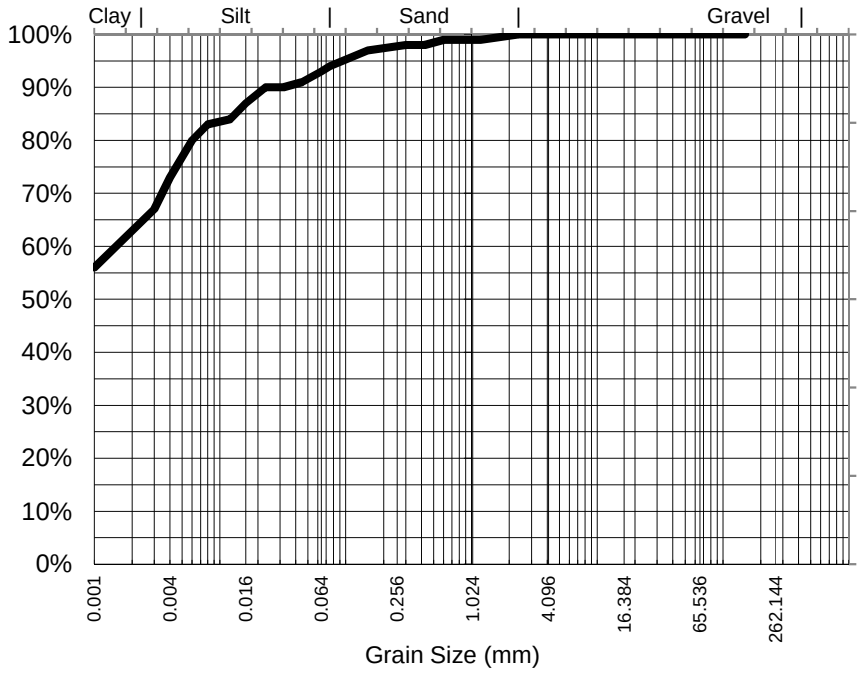
CLIENT:	Sally Leyland	**DATE REPORTED:**	19-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	26-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504596-019 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	EB17 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	99%
0.600	99%
0.425	98%
0.300	98%
0.150	97%
0.075	94%
Particle Size (microns)	
64	93%
45	91%
32	90%
16	87%
8	83%
4	73%
1	56%

Samples analysed as received.

Median Particle Size (mm)*	<0.001

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY, GRAVEL, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.63 g/cm3

Analysed: 13-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

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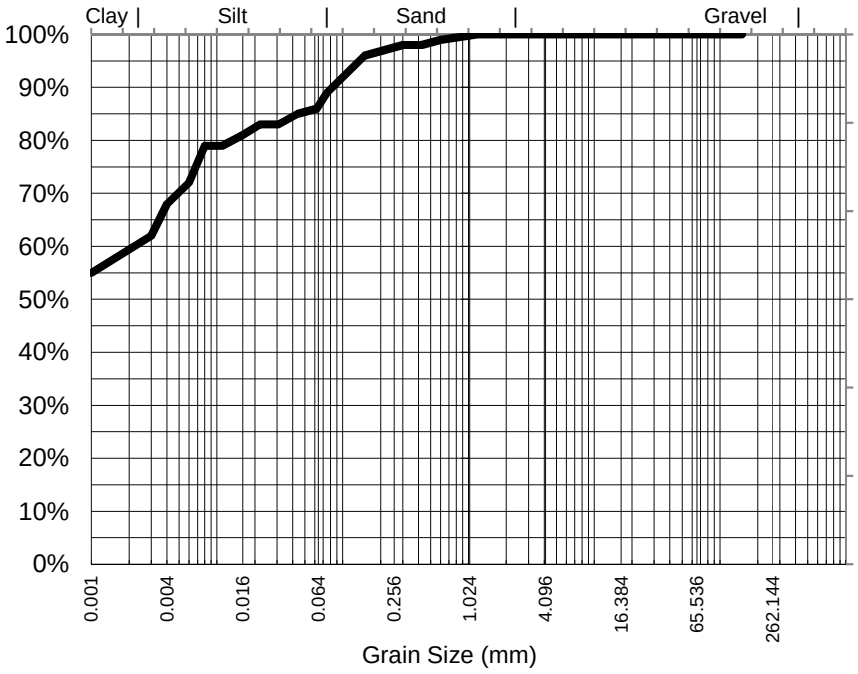
CLIENT:	Sally Leyland	**DATE REPORTED:**	19-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	26-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504596-022 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	EB22 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
1.18	100%
0.600	99%
0.425	98%
0.300	98%
0.150	96%
0.075	89%
Particle Size (microns)	
62	86%
44	85%
31	83%
16	81%
8	79%
4	68%
1	55%

Median Particle Size (mm)*	<0.001

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 13-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: CLAY, GRAVEL, SHELL

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.7 g/cm3

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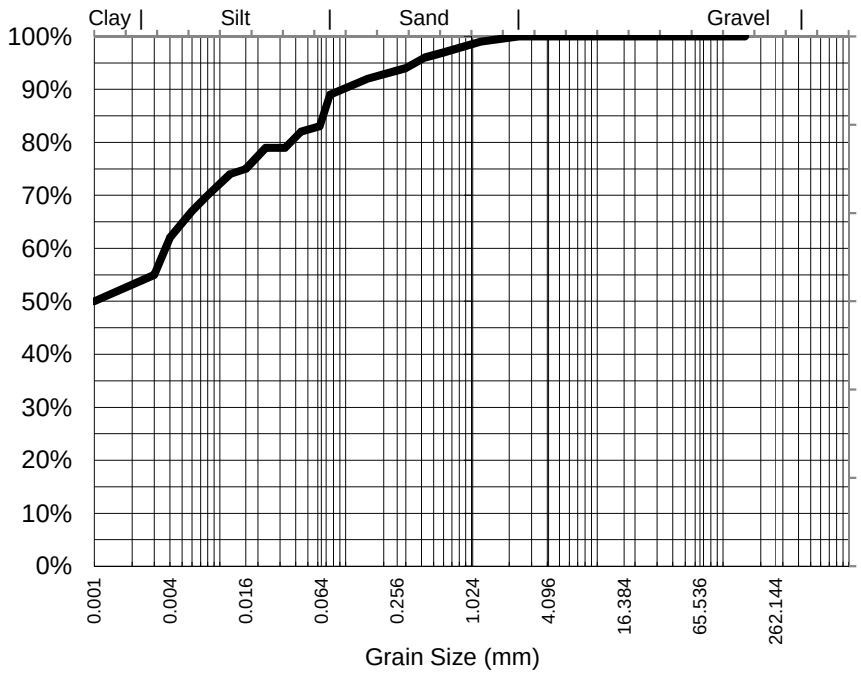
CLIENT:	Sally Leyland	**DATE REPORTED:**	19-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	26-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504596-025 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	EB27 0.0-0.7B

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	99%
0.600	97%
0.425	96%
0.300	94%
0.150	92%
0.075	89%
Particle Size (microns)	
62	83%
44	82%
33	79%
16	75%
8	70%
4	62%
1	50%

Samples analysed as received.

Median Particle Size (mm)*	0.001

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY, GRAVEL, VEG

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.71 g/cm3

Analysed: 13-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

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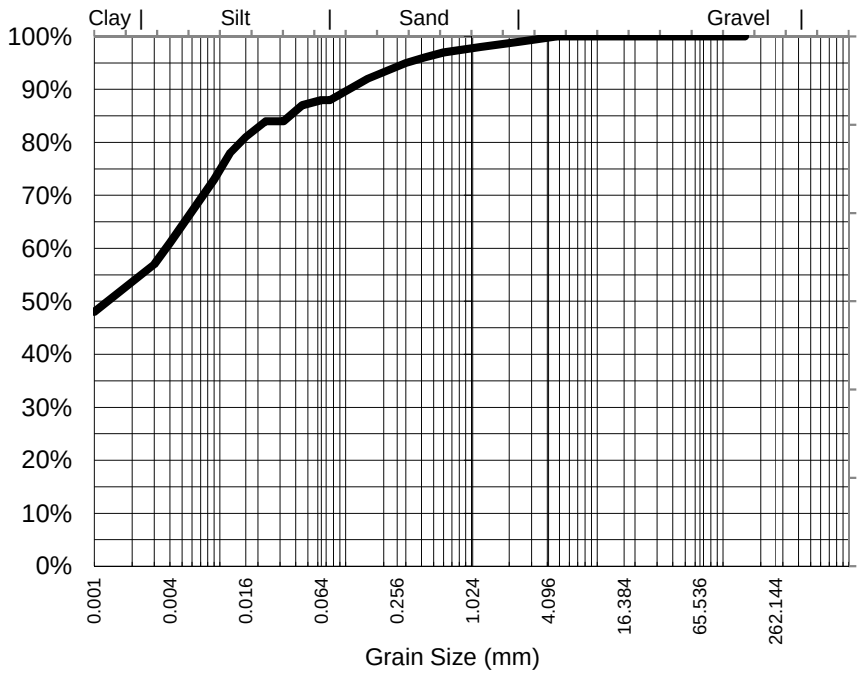
CLIENT:	Sally Leyland	**DATE REPORTED:**	19-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	26-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504596-029 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	EB31 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	99%
1.18	98%
0.600	97%
0.425	96%
0.300	95%
0.150	92%
0.075	88%
Particle Size (microns)	
64	88%
45	87%
32	84%
16	81%
9	73%
4	61%
1	48%

Median Particle Size (mm)*	0.001

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 13-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: CLAY, GRAVEL, VEG

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.61 g/cm3

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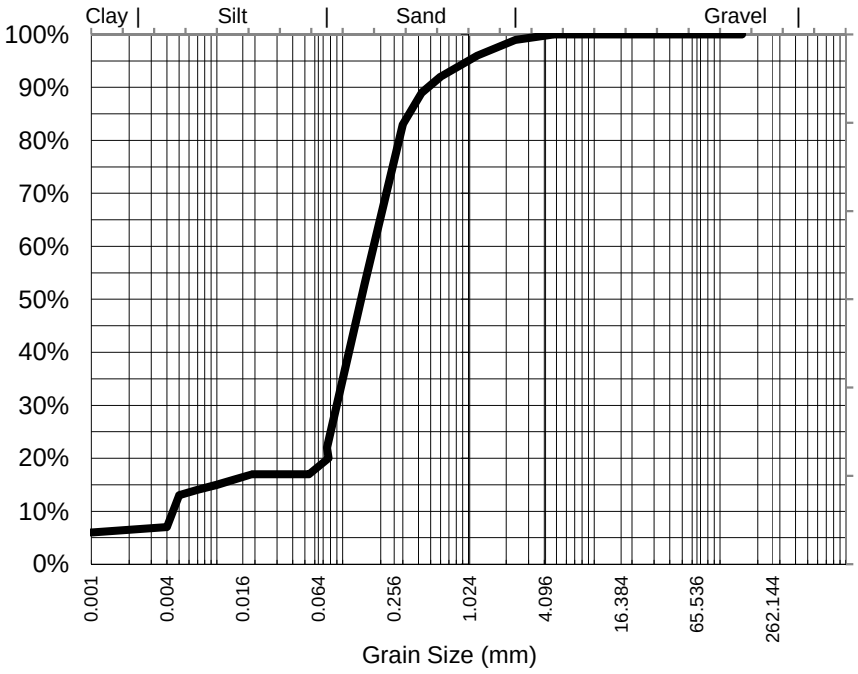
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	26-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504596-033 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	EB32 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	99%
1.18	96%
0.600	92%
0.425	89%
0.300	83%
0.150	53%
0.075	22%
Particle Size (microns)	
77	20%
54	17%
38	17%
19	17%
10	15%
5	13%
1	6%

Samples analysed as received.

Median Particle Size (mm)*	0.143

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SILT, SAND, GRAVEL, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.67 g/cm3

Analysed: 13-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

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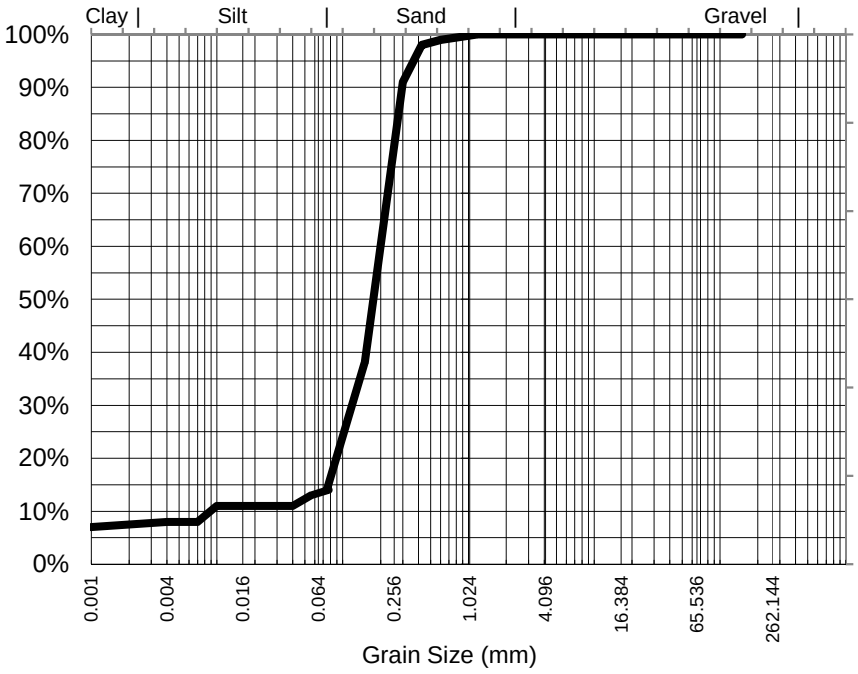
CLIENT:	Sally Leyland	**DATE REPORTED:**	19-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	26-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504596-034 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	EB32 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
1.18	100%
0.600	99%
0.425	98%
0.300	91%
0.150	38%
0.075	14%
Particle Size (microns)	
77	14%
56	13%
40	11%
20	11%
10	11%
5	8%
1	7%

Median Particle Size (mm)*	0.184

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SAND, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.67 g/cm3

Analysed: 13-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

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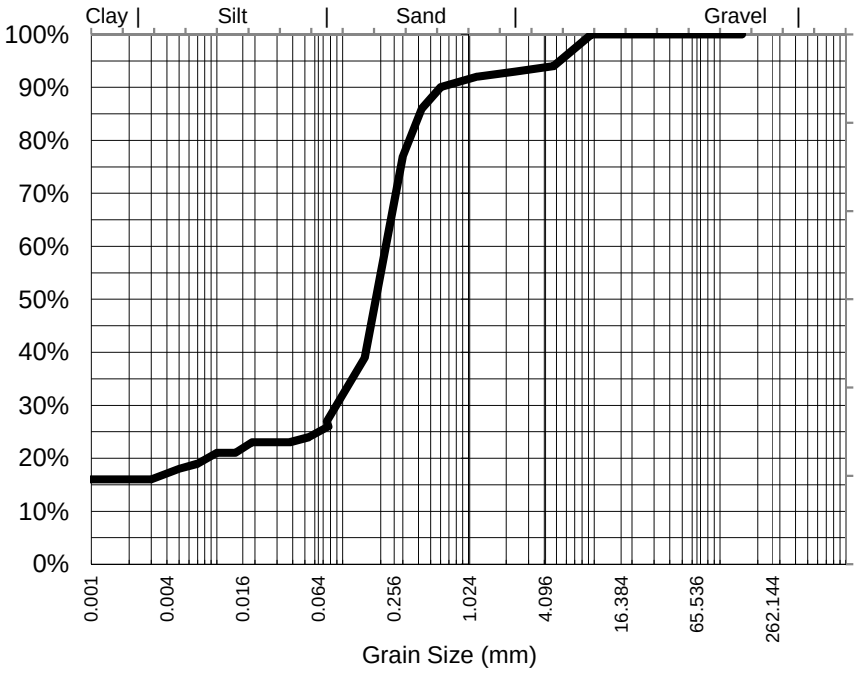
CLIENT:	Sally Leyland	**DATE REPORTED:**	19-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	26-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504596-039 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	EB33 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	94%
2.36	93%
1.18	92%
0.600	90%
0.425	86%
0.300	77%
0.150	39%
0.075	27%
Particle Size (microns)	
77	26%
54	24%
38	23%
19	23%
10	21%
5	18%
1	16%

Median Particle Size (mm)*	0.193

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 13-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: CLAY, SAND, SHELL, GRAVEL

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.68 g/cm3

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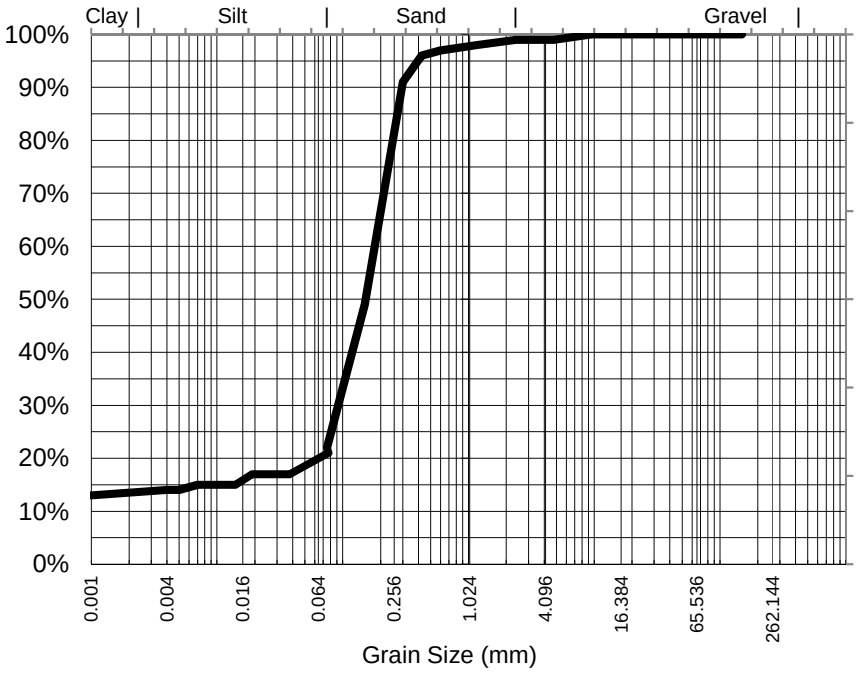
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	26-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504596-040 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	EB33 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	99%
2.36	99%
1.18	98%
0.600	97%
0.425	96%
0.300	91%
0.150	49%
0.075	22%
Particle Size (microns)	
77	21%
54	19%
38	17%
19	17%
10	15%
5	14%
1	13%

Median Particle Size (mm)*	0.154

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 13-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: CLAY, SAND, SHELL, GRAVEL

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.67 g/cm3

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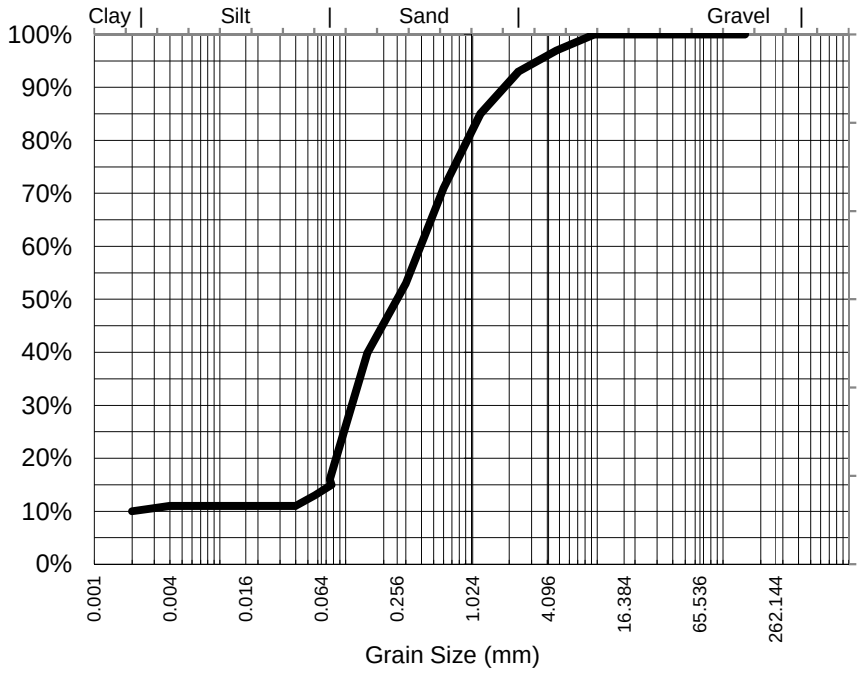
CLIENT:	Sally Leyland	**DATE REPORTED:**	19-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	26-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504596-045 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	EB34 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	97%
2.36	93%
1.18	85%
0.600	71%
0.425	62%
0.300	53%
0.150	40%
0.075	16%
Particle Size (microns)	
77	15%
57	13%
40	11%
20	11%
10	11%
5	11%
2	10%

Median Particle Size (mm)*	0.265

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 13-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: CLAY, SAND, SHELL, GRAVEL

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.62 g/cm3

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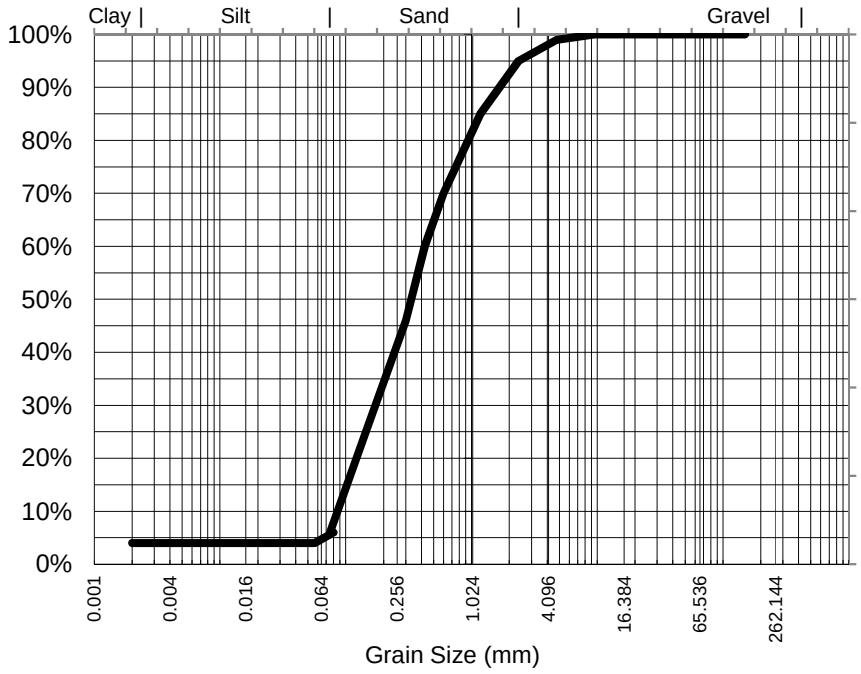
CLIENT:	Sally Leyland	**DATE REPORTED:**	19-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	26-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504596-046 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	EB34 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	99%
2.36	95%
1.18	85%
0.600	70%
0.425	60%
0.300	46%
0.150	26%
0.075	6%
Particle Size (microns)	
80	6%
57	4%
40	4%
20	4%
10	4%
5	4%
2	4%

Samples analysed as received.

Median Particle Size (mm)*	0.336

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	13-Mar-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	CLAY, SAND, SHELL, GRAVEL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.63 g/cm3

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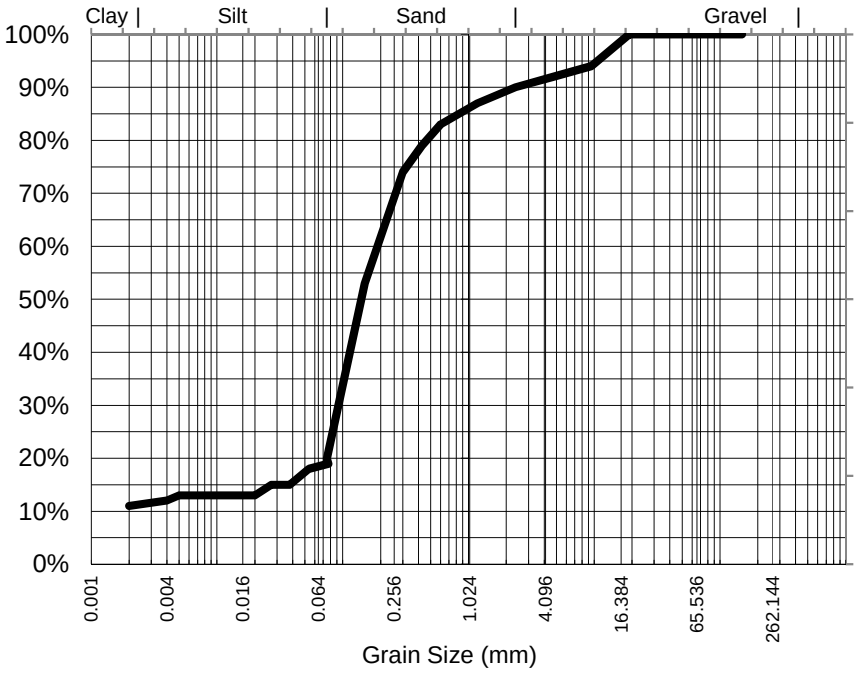
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	26-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504596-051 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	EB36 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	94%
4.75	92%
2.36	90%
1.18	87%
0.600	83%
0.425	79%
0.300	74%
0.150	53%
0.075	20%
Particle Size (microns)	
77	19%
54	18%
38	15%
20	13%
10	13%
5	13%
2	11%

Median Particle Size (mm)*	0.143

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 13-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: CLAY, SAND, SHELL, GRAVEL

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.63 g/cm3

NATA Accreditation: 825 Site: Newcastle
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Dianne Blane
Inorganic Coordinator Newcastle
Authorised Signatory

Certificate of Analysis

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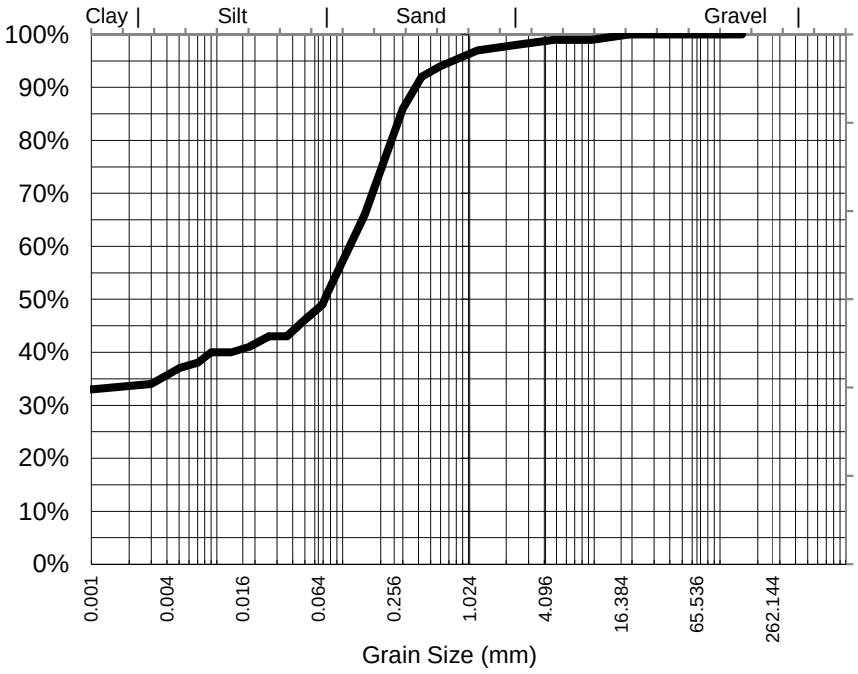
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	19-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	26-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504596-052 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	EB36 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	99%
4.75	99%
2.36	98%
1.18	97%
0.600	94%
0.425	92%
0.300	86%
0.150	66%
0.075	51%
Particle Size (microns)	
69	49%
49	46%
36	43%
18	41%
9	40%
5	37%
1	33%

Samples analysed as received.

Median Particle Size (mm)*	0.072

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 13-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: CLAY, SAND, SHELL, GRAVEL

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.68 g/cm3

NATA Accreditation: 825 Site: Newcastle
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ALS Environmental

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GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5890 E: gladstone@alsglobal.com
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NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
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TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville enviromail@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2
ORDER NUMBER: 245553	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com	
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com	
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:	

COC SEQUENCE NUMBER (Circle)
COC: (1) 2 3 4 5 6 7
OF: 1 2 3 4 5 6 (10)

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	Kelly Schafer	Kschafer	
DATE/TIME: 16-Feb-15	DATE/TIME: 16-Feb-15 1730	DATE/TIME: 26-2-15 1600	DATE/TIME: 27/2/15 9am

FOR LABORATORY USE ONLY (Circle)
Custody Seal Intact? Yes No N/A
Free Ice / frozen Ice Packs present upon receipt? Yes No N/A
Random Sample Temperature on Receipt: °C
Other comment:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		
1	BH2 0.0-0.6 A	25/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
2	BH2 0.0-0.6 B	25/02/2015	S	Bag (White label)	1		1							
3	BH2 0.3V	25/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F =
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

150ml A Jars and 500ml Amber sent direct to Brisbane for TOC/TBT

Environmental Division
Sydney
Work Order
ES1504618

Telephone : +61-2-8784 8555

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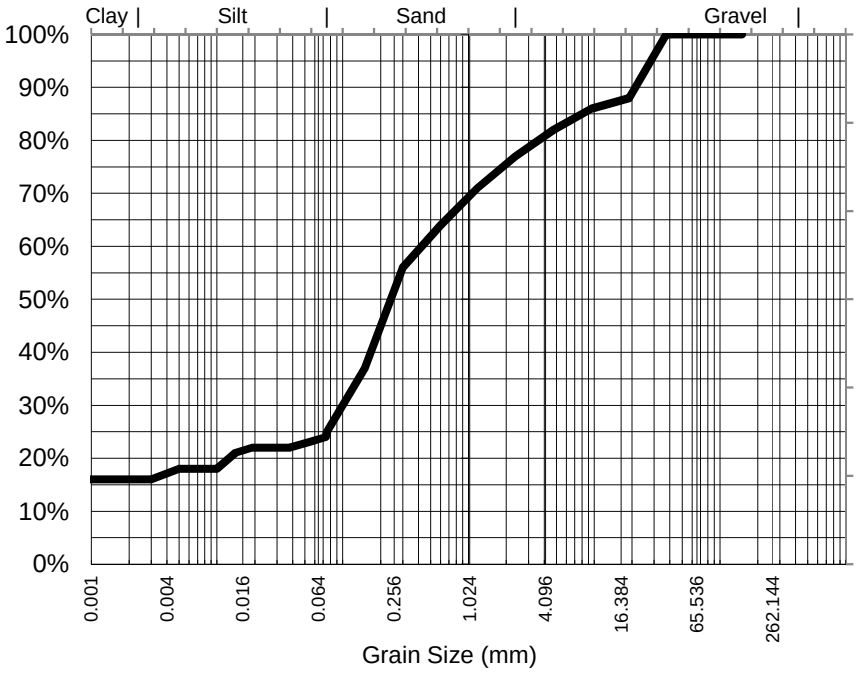
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	20-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	27-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504618-002 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH2 0.0-0.6B

Particle Size Distribution



Particle Size (mm)	Percent Passing
37.5	100%
19.0	88%
9.50	86%
4.75	82%
2.36	77%
1.18	71%
0.600	64%
0.425	60%
0.300	56%
0.150	37%
0.075	25%
Particle Size (microns)	
73	24%
54	23%
38	22%
19	22%
10	18%
5	18%
1	16%

Samples analysed as received.

Median Particle Size (mm)*	0.253

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SILT, SHELL. GRAVEL, SAND

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.65 g/cm3

Analysed: 16-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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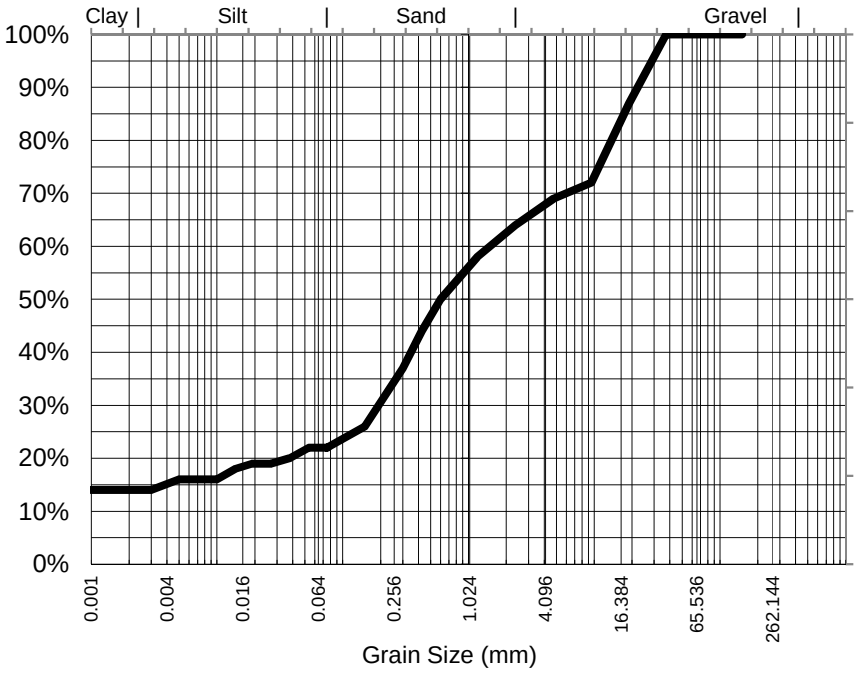
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	20-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	27-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504618-008 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH13 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
37.5	100%
19.0	87%
9.50	72%
4.75	69%
2.36	64%
1.18	58%
0.600	50%
0.425	44%
0.300	37%
0.150	26%
0.075	22%
Particle Size (microns)	
76	22%
54	22%
38	20%
19	19%
10	16%
5	16%
1	14%

Samples analysed as received.

Median Particle Size (mm)*	0.600

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:		**Analysed:**	16-Mar-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SILT, SHELL. GRAVEL, SAND	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.65 g/cm3

NATA Accreditation: 825 Site: Newcastle
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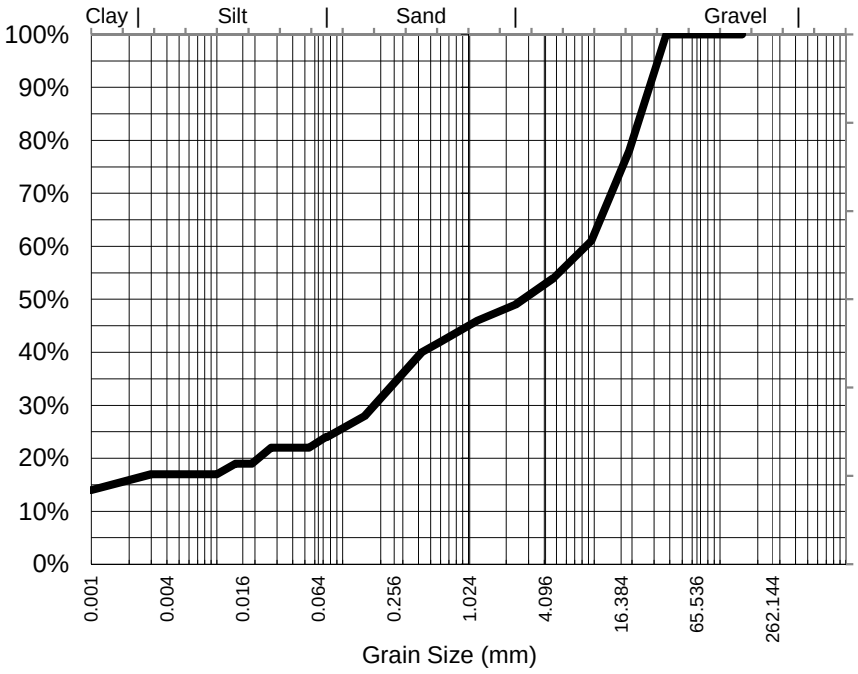
CLIENT:	Sally Leyland	**DATE REPORTED:**	20-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	27-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504618-009 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH13 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
37.5	100%
19.0	78%
9.50	61%
4.75	54%
2.36	49%
1.18	46%
0.600	42%
0.425	40%
0.300	36%
0.150	28%
0.075	24%
Particle Size (microns)	
73	24%
54	22%
38	22%
19	19%
10	17%
5	17%
1	14%

Median Particle Size (mm)*	2.838

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 16-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: SILT, SHELL. GRAVEL, SAND

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.68 g/cm3

NATA Accreditation: 825 Site: Newcastle
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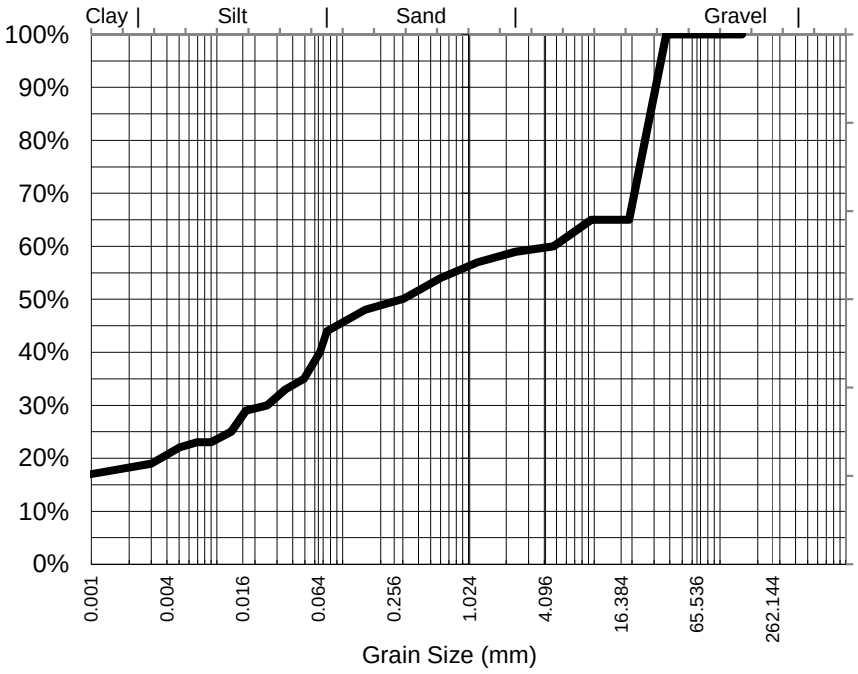
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	20-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	27-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504618-013 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH32 0.0-0.4B

Particle Size Distribution



Particle Size (mm)	Percent Passing
37.5	100%
19.0	65%
9.50	65%
4.75	60%
2.36	59%
1.18	57%
0.600	54%
0.425	52%
0.300	50%
0.150	48%
0.075	44%
Particle Size (microns)	
66	40%
49	35%
35	33%
17	29%
9	23%
5	22%
1	17%

Median Particle Size (mm)*	0.300

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY, GRAVEL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.68 g/cm3

Analysed: 16-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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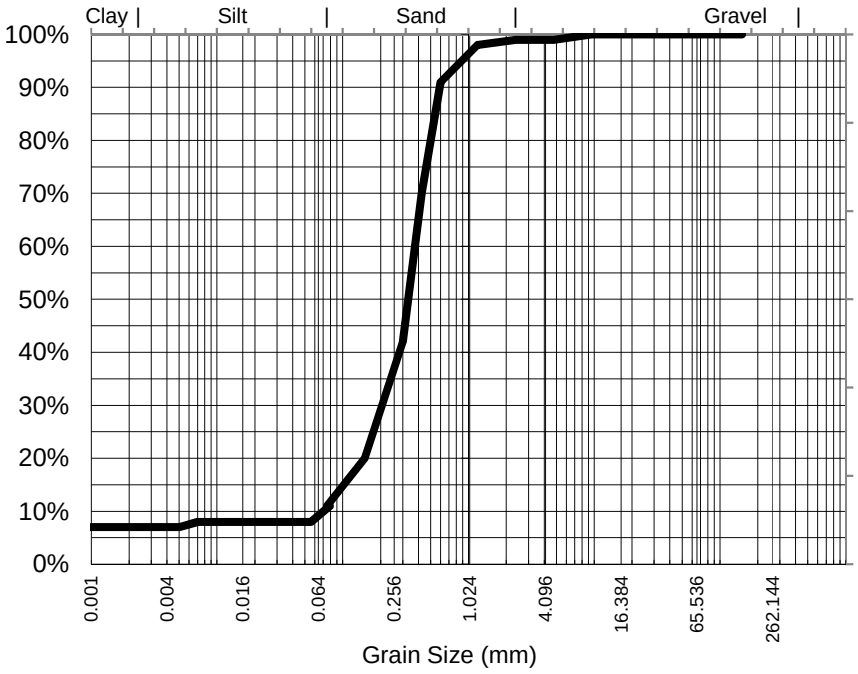
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	20-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	27-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504618-016 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH57 0.0-0.4B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	99%
2.36	99%
1.18	98%
0.600	91%
0.425	70%
0.300	42%
0.150	20%
0.075	11%
Particle Size (microns)	
79	11%
56	8%
40	8%
20	8%
10	8%
5	7%
1	7%

Median Particle Size (mm)*	0.336

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 16-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: SAND, FINES, SHELL

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.65 g/cm3

NATA Accreditation: 825 Site: Newcastle
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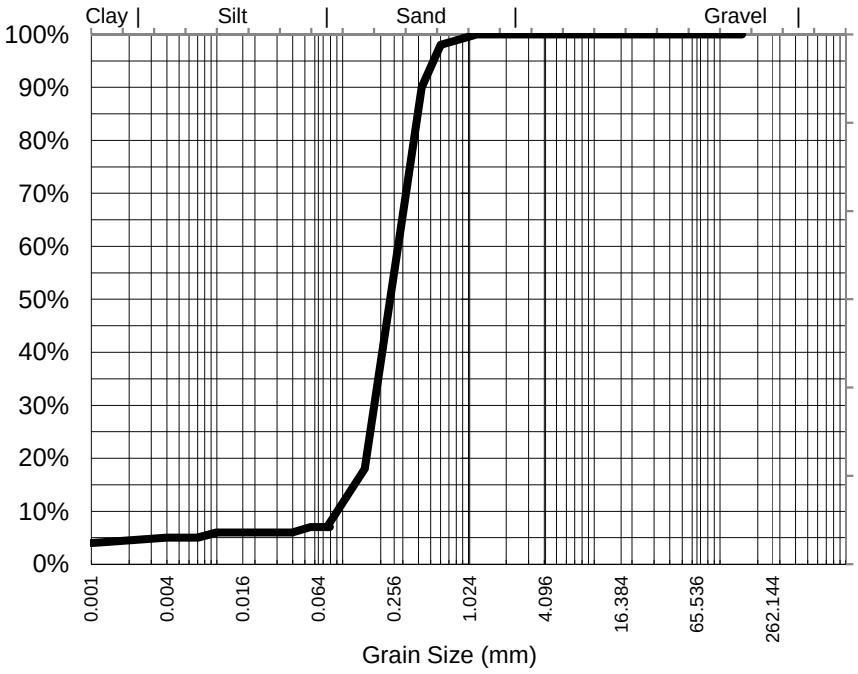
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	20-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	27-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504618-021 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH58 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
1.18	100%
0.600	98%
0.425	90%
0.300	66%
0.150	18%
0.075	7%
Particle Size (microns)	
79	7%
56	7%
40	6%
20	6%
10	6%
5	5%
1	4%

Median Particle Size (mm)*	0.250

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	16-Mar-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, FINES, SHELL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.66 g/cm3

NATA Accreditation: 825 Site: Newcastle
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ALS Environmental

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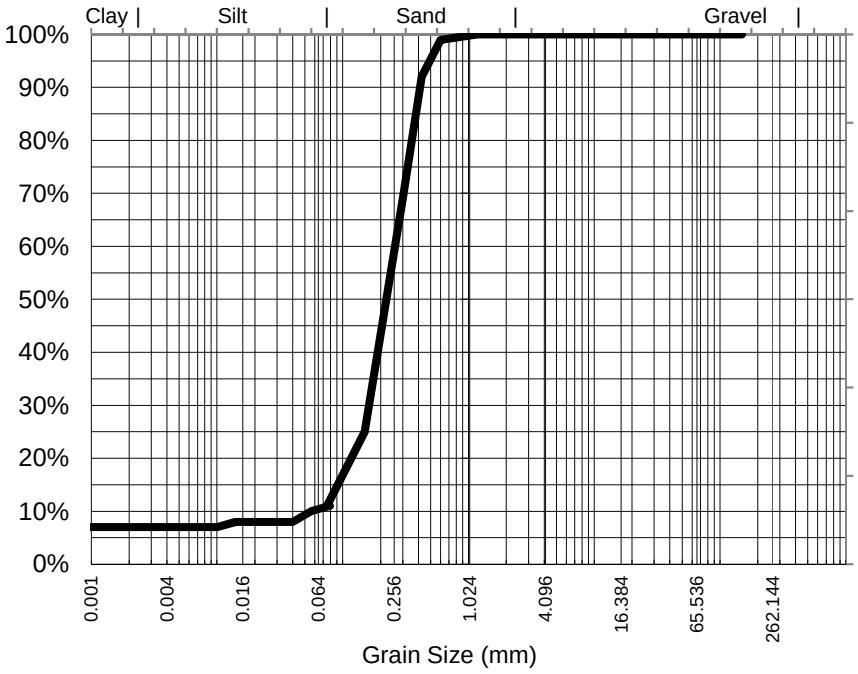
CLIENT:	Sally Leyland	**DATE REPORTED:**	20-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	27-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504618-022 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH58 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
1.18	100%
0.600	99%
0.425	92%
0.300	69%
0.150	25%
0.075	11%
Particle Size (microns)	
79	11%
56	10%
40	8%
20	8%
10	7%
5	7%
1	7%

Samples analysed as received.

Median Particle Size (mm)*	0.235

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SAND, FINES, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.67 g/cm3

Analysed: 16-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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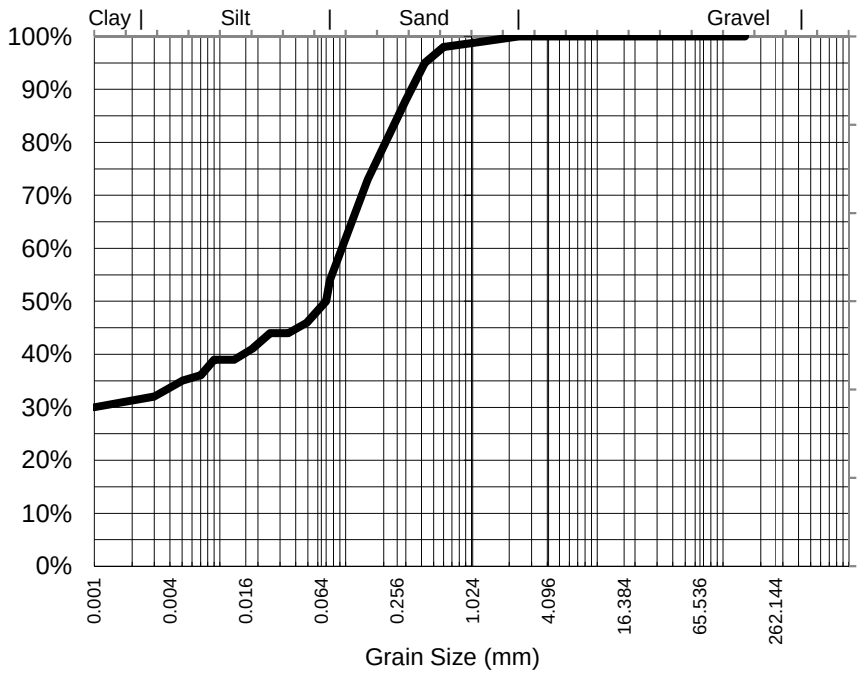
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	20-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	27-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504618-026 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH59 0.0-0.7B

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	99%
0.600	98%
0.425	95%
0.300	88%
0.150	73%
0.075	54%
Particle Size (microns)	
70	50%
49	46%
35	44%
18	41%
9	39%
5	35%
1	30%

Samples analysed as received.

Median Particle Size (mm)*	0.070

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY, SAND, SHELL, GRAVEL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.66 g/cm3

Analysed: 16-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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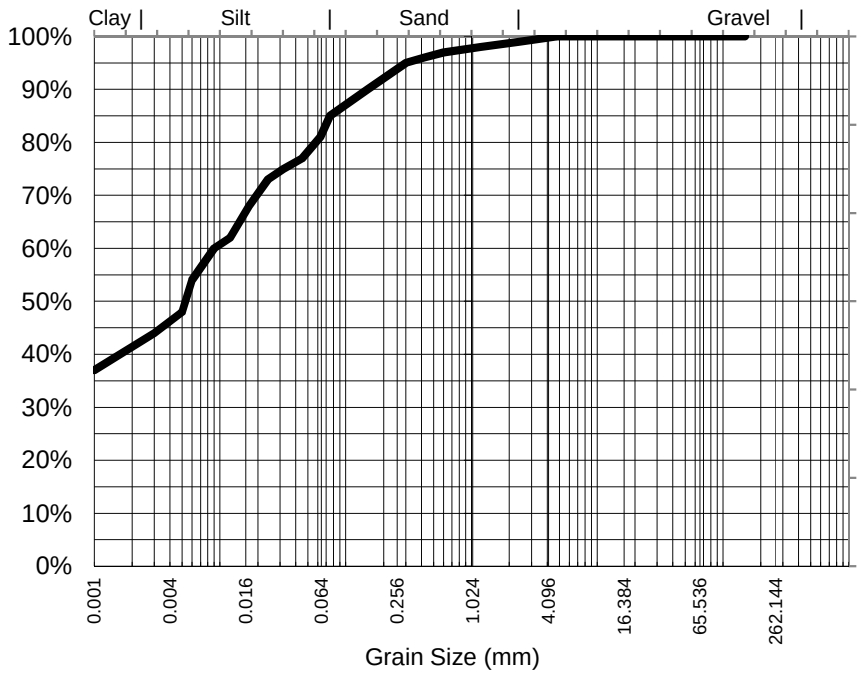
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	20-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	27-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504618-029 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH61 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	99%
1.18	98%
0.600	97%
0.425	96%
0.300	95%
0.150	90%
0.075	85%
Particle Size (microns)	
63	81%
45	77%
32	75%
17	68%
9	60%
5	48%
1	37%

Median Particle Size (mm)*	0.005

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 16-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: CLAY, GRAVEL

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.61 g/cm3

NATA Accreditation: 825 Site: Newcastle
This document is issued in accordance with NATA's accreditation requirements. Accredited for compliance with ISO/IEC 17025. This document shall not be reproduced, except in full.

Dianne Blane
Inorganic Coordinator Newcastle
Authorised Signatory

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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Free ice / Ice Pack present upon Arrival? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	Cooling Method:
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 14	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		Other comments:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*	KSchafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		26-Feb-15	26-Feb-15 1815	2-3-15 1600

RECEIVED BY:	Additional Information
DATE/TIME:	
3-3-15 09:15	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	BH42 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
2	BH42 0.5-1.0 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
3	BH42 1.0-1.6 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
4	BH42 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1								
5	BH42 0.5-1.0 B	26/02/2015	S	Bag (White label)	1		1								
6	BH42 1.0-1.6 B	26/02/2015	S	Bag (White label)	1		1								
7	BH42 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1							
8	BH42 0.7V	26/02/2015	S	Glass Jar (150 ml)	1			1							
9	BH42 1.3V	26/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	12	3	3	3							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Pla
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

150ml A Jars and 500ml Amber sent direct to Brisbane for TOC/TBT

Environmental Division
Sydney
Work Order
ES1504836

Telephone : +61-2-8784 8555

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):			FOR LABORATORY USE ONLY (Circle)		
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround			Custody Seal Intact	Yes	No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2		COC SEQUENCE NUMBER (Circle)		Free ice / frozen gel blocks present upon receipt	Yes	No N/A
ORDER NUMBER: 245553			COC: 1 2 3 4 5 6 7		Random Sample Temperature on Receipt	°C	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		OF: 1 2 3 4 5 6 (7)		Other comments:		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:		
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*	JS			
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:		
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		26-Feb-15	26-Feb-15 1815	2-3-15 1600			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
10	BH44 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
11	BH44 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1							
12	BH44 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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NOWRA 4/19 Geary Place North Nowra NSW 2541 Ph: 02 4225 2028 E: nowra@alsglobal.com
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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	**Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Cooling Method: Ice / Ice Pack / Frozen Ice Pack / None (Circle)
ORDER NUMBER: 245553		COC: 1 2 (3) 4 5 6 7	Random Sample Temperature on Receipt (°C):
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Other comments:

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		26-Feb-15	26-Feb-15 1815	2-3-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
13	BH47 0.0-0.7A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
14	BH47 0.0-0.7B	26/02/2015	S	Bag (White label)	1		1							
15	BH47 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	2		1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 08 9209 7655 E: samples.perth@alsglobal.com
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Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes / No / N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 (4) 5 6 7	Random Sample Temperature on Receipt: °C
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 (7)	Other comments:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	AS	
DATE/TIME: 26-Feb-15	DATE/TIME: 26-Feb-15 1815	DATE/TIME: 2-3-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION	ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
16	BH48 0.0-0.6A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
17	BH48 0.0-0.6B	26/02/2015	S	Bag (White label)	1		1							
18	BH48 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Cooling Method: Ice Ice Pack None Cooling Initiated: Yes No N/A
ORDER NUMBER: 245563		COC: 1 2 3 4 (5) 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Other Comments:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer	KS	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		26-Feb-15	26-Feb-15 1815	2·3·15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
19	BH49 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
20	BH49 0.5-0.8 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
21	BH49 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1								
22	BH49 0.5-0.8 B	26/02/2015	S	Bag (White label)	1		1								
23	BH49 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1							
24	BH49 0.7V	26/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	7	2	2	1							

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	
ORDER NUMBER: 245553		COC: 1 2 3 4 5 (6) 7	
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (7)	
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 26-Feb-15	DATE/TIME: 26-Feb-15 1815
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		**RELINQUISHED BY:** KS	**RECEIVED BY:**
		DATE/TIME: 2-3-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH				Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
25	BH50 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
26	BH50 0.5-0.9 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
27	BH50 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1								
28	BH50 0.5-0.9 B	26/02/2015	S	Bag (White label)	1		1								
29	BH50 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1							
30	BH50 0.7V	26/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	8	2	2	2							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS ENVIRONMENTAL

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GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 0439 E: samples.newcastle@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: samples.townsville@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
WOLLONGONG Unit 1, 16 Steel Street Kembla Grange NSW 2526 Ph: 02 4258 5100 E: wollongong@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY: (Circle) Custody Seal Intact? Yes No N/A; Free ice / frozen ice packs present upon receipt? Yes No N/A; Random Sample Temperature on Receipt: °C; Other comment:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7; OF: 1 2 3 4 5 6 7	
ORDER NUMBER: 246553			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: *Georgina Kerr* DATE/TIME: 26-Feb-15	RECEIVED BY: *Kelly Schafer* DATE/TIME: 26-Feb-15 1815
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	RELINQUISHED BY: DATE/TIME: 2-3-15 1600	RECEIVED BY: DATE/TIME:
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH				Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
31	BH51 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
32	BH51 0.5-0.9 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
33	BH51 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1								
34	BH51 0.5-0.9 B	26/02/2015	S	Bag (White label)	1		1								
35	BH51 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1							
36	BH51 0.7V	26/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	8	2	2	2							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS ENVIRONMENTAL

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BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5800 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 24 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: melbourne@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: petroleum.au@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): **5 day turnaround**	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Frozen ice/ice packs present upon receipt? Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (5)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Other comments:

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		26-Feb-15	26-Feb-15 1815	2-3-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
37	BH52 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
38	BH52 0.5-0.8 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
39	BH52 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1							
40	BH52 0.5-0.8 B	26/02/2015	S	Bag (White label)	1		1							
41	BH52 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1						
42	BH52 0.7V	26/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL:	7	2	2	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/15 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Garbutt QLD 4814 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Received Chilled? Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (9)	Temperature (Min.): 2.8 °C (Max.): 3.8 °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (10)	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		26-Feb-15	26-Feb-15 1815

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME:	DATE/TIME:
2-3-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
43	BH53 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
44	BH53 0.5-1.0 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
45	BH53 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1								
46	BH53 0.5-1.0 B	26/02/2015	S	Bag (White label)	1		1								
47	BH53 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1							
48	BH53 0.7V	26/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	7	2	2	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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MACKAY 78 Harbour Road Mackay QLD 4740
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MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MOOREE 27 Sydney Road Muswellbrook NSW 2333
Ph: 02 6372 6735 E: muswellbrook.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Electronic Coding:
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Preservation Checked: Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (10)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Other Comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	DATE/TIME: 26-Feb-15	DATE/TIME: 26-Feb-15 1815
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: KS	RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 2-3-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION	ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
49	BH54 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
50	BH54 0.5-1.0 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
51	BH54 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1							
52	BH54 0.5-1.0 B	26/02/2015	S	Bag (White label)	1		1							
53	BH54 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1						
54	BH54 0.7V	26/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	7	2	2	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: pontiemble@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Cooling Method: Ice / Ice Pack / None
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6	Cooling Initiated: Yes / No / N/A
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6	Random Sample Temperature on Receipt: °C
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		Cooling Method: Ice / Ice Pack / None
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		Custody Seal Intact? Yes / No / N/A
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	Kelly Schafer	KS	
DATE/TIME: 26-Feb-15	DATE/TIME: 26-Feb-15 1815	DATE/TIME: 2-3-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
55	BH55 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
56	BH55 0.5-0.9 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
57	BH55 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1								
58	BH55 0.5-0.9 B	26/02/2015	S	Bag (White label)	1		1								
59	BH55 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1							
60	BH55 0.7V	26/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	7	2	2	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 24 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
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NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
SNOWY RA 4/13 Cleary Place North Narooma NSW 2541 Ph: 02 4476 2685 E: narooma@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TAMWORTH 25 Chaffey Street Tamworth NSW 2340 Ph: 02 6755 8225 E: tamworth@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Receipt Temperature Upon Receipt: °C
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (12)	Random Sample Temperature Upon Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		26-Feb-15	26-Feb-15 1815

RELINQUISHED BY:	RECEIVED BY:
KS	
DATE/TIME: 2-3-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
61	BH56 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
62	BH56 0.5-1.0 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
63	BH56 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1							
64	BH56 0.5-1.0 B	26/02/2015	S	Bag (White label)	1		1							
65	BH56 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1						
66	BH56 0.7V	26/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	7	2	2	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4-13 Geary Place North Nowra NSW 2541 Ph: 024420 3063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 PH: 08 9209 7666 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Cooling Method: Ice Gel None
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (13)	Environmental Temperature: Ambient / Chilled
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Cooler Temperature:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		26-Feb-15	26-Feb-15 1815

RELINQUISHED BY:	**RECEIVED BY:**
KS	
DATE/TIME: 2-3-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
67	EB28 0.0-0.4 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
68	EB28 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	3	1		1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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NOWRA 4/11 Searry Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / freezer blocks present upon receipt? Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (14)	Cooling Method: Ice Ice Bricks Gel Packs None
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Blue Ice Frozen
SAMPLER: Georgina Kerr SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO) EDD FORMAT (or default):	DATE/TIME: 26-Feb-15	DATE/TIME: 26-Feb-15 1815
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com	RELINQUISHED BY:	RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com	DATE/TIME: 2-3-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	Rinsate Suite	Trip blank suite	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
69	Triplicate 15A	26/02/2015	S	Glass Jar (250 ml)	2	1								
70	Triplicate 15B	26/02/2015	S	Glass Jar (250 ml)	2	1								
71	Triplicate 16A	26/02/2015	S	Glass Jar (250 ml)	2	1								
72	Triplicate 16B	26/02/2015	S	Glass Jar (250 ml)	2	1								
73	Duplicate 8A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
~~74~~	~~Duplicate 8B~~	~~26/02/2015~~	~~S~~	~~Glass Jar (250 ml and 150 ml)~~	~~2~~									~~Send to Eurofins~~
74	Trip Blank 17	26/02/2015											1	
75	Rinsate 17	26/02/2015	W	Bottle	8							1		
				TOTAL	12	1						1	1	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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LIDCOMBE Unit 46 Gladstone Drive Stafford QLD 4053
Ph 07 7471 5600 E: gladstone@alsglobal.com
MACKAY 76 Harbour Road Mackay QLD 4740
Ph +7 4944 0177 E: mackay@alsglobal.com
MELBOURNE 24 Westall Road Springvale VIC 3171
Ph 03 8549 9600 E: samples.melbourne@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph 02 8784 8555 E: samples.sydney@alsglobal.com
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Ph 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph 02 4225 3125 E: portkembla@alsglobal.com
ALBURY 31 Dalton Street Albury NSW 2640
Ph +61 2 6041 0411 E: albury@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph 08 9209 7655 E: samples.perth@alsglobal.com
AUCKLAND 2 Wagener Place Mt Wellington Auckland 1060
Ph +64 9 525 0568 E: auckland@alsglobal.com
TAURANGA 1277 Cameron Road Tauranga 3110
Ph +64 7 571 5135 E: tauranga@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date):	5 day turnaround
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 (14)	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No NA Free ice / frozen ice blocks present upon receipt? Yes No NA Random Sample Temperature on Receipt: °C Other comments:
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr DATE/TIME: 26-Feb-15	RECEIVED BY: Kelly Schafer DATE/TIME: 26-Feb-15 1815
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		RELINQUISHED BY: KSchafer DATE/TIME: 2-3-15 1600
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			RECEIVED BY: Kar DATE/TIME: 3-3-15 11:30
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	BH42 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
2	BH42 0.5-1.0 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
3	BH42 1.0-1.6 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
4	BH42 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1							
5	BH42 0.5-1.0 B	26/02/2015	S	Bag (White label)	1		1							
6	BH42 1.0-1.6 B	26/02/2015	S	Bag (White label)	1		1							
7	BH42 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1						
8	BH42 0.7V	26/02/2015	S	Glass Jar (150 ml)	1			1						
9	BH42 1.3V	26/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	12	3	3	3						

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plas
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

150ml A Jars and 500ml Amber sent direct to Brisbane for TOC/TBT

Environmental Division Sydney

Work Order

ES1504836

Telephone : +61-2-8784 8555

ALS Environmental

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QGLADSTONE 46 Cameron Dr Dinah Qld 4680 Ph: 07 7471 6700 E: gladstone@alsglobal.com
QMACKAY 74 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
QMELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
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QNEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 0432 E: samples.newcastle@alsglobal.com
QNOWRA 4/13 Quarry Place North Nowra NSW 2541 Ph: 02 4422 2063 E: nowra@alsglobal.com
QPERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
QSYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
QTOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
QWOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: ponkemala@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 (2) 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	DF: 1 2 3 4 5 6 (14)	Other comment:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer	KS	Rai
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		26-Feb-15	26-Feb-15 1815	2-3-15 1600	3-3-15 11:30

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
10	BH44 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
11	BH44 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1							
12	BH44 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1						
[redacted]				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 8372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
ORANGE 4-13 Geary Place North Orange NSW 2800 Ph: 02 4423 2063 E: orange@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 8 day turnaround	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	Free Ice / Frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: 245563		Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	Other comments:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		

COC SEQUENCE NUMBER (Circle)

COC: 1 2 (3) 4 5 6 7

OF: 1 2 3 4 5 6 (14)

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*		Ran
DATE/TIME: 26-Feb-15	DATE/TIME: 26-Feb-15 1815	DATE/TIME: 2-3-15 1600	DATE/TIME: 3-3-15 1130

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
13	BH47 0.0-0.7A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
14	BH47 0.0-0.7B	26/02/2015	S	Bag (White label)	1		1							
15	BH47 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	2		1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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DRY WORKSHOP 45 Commander Drive Smithfield QLD 4878
Ph: 07 7421 5000 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
UNIT 2/30 ALICE ST 4 Vincent Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
ORANGE Unit 5 Canary Place North Nyrang NSW 2511
Ph: 02 4360 6063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 5125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245563		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 26-Feb-15	DATE/TIME: 26-Feb-15 1815
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: AS	RECEIVED BY: Kar
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:		DATE/TIME: 2-3-15 1600	DATE/TIME: 3-3-15 1130

ALS USE	SAMPLE DETAILS — MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
16	BH48 0.0-0.6A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
17	BH48 0.0-0.6B	26/02/2015	S	Bag (White label)	1		1							
18	BH48 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulfate Soils; B = Unpreserved Bag.

ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: position.NZ@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / Frozen Ice Bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: 10 °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Cooling Method:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		Other comments:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	Kelly Schafer		
DATE/TIME: 20-Feb-15	DATE/TIME: 25-Feb-15 1815	DATE/TIME: 2-3-15 1600	DATE/TIME: 3-3-15 11:30

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS (MATRIX: SOLID (S) WATER (W))			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP090-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
19	BH49 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
20	BH49 0.5-0.8 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
21	BH49 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1								
22	BH49 0.5-0.8 B	26/02/2015	S	Bag (White label)	1		1								
23	BH49 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1							
24	BH49 0.7V	26/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	7	2	2	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
LOGAN ALSTONE 46 Dacoit Drive Crestmead QLD 4132
Ph: 07 3477 5600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 24 Westall Road Springvale VIC 3171
Ph: 03 8994 9500 E: samplesmelbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 2735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samplesnewcastle@alsglobal.com
NOWRA 4/13 Geary Place PO Box 798 Nowra NSW 2541
Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samplesperth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS: (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date):	5 day turnaround
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	FOR LABORATORY USE ONLY (Circle) Custody seal intact? YES NO N/A Ice bricks present upon receipt? YES NO N/A (see 29) Random Sample Temperature on Receipt: °C
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6	Other comments:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 26-Feb-15	DATE/TIME: 26-Feb-15 1815
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 2-3-15 1600	DATE/TIME: 3-3-15 1130

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH				Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
25	BH50 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
26	BH50 0.5-0.9 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
27	BH50 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1								
28	BH50 0.5-0.9 B	26/02/2015	S	Bag (White label)	1		1								
29	BH50 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1							
30	BH50 0.7V	26/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	8	2	2	2							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ADELAIDE 21 Burma Road Pooraka SA 5095
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COLAC/OTWAY 45 Callaghan Drive Clifton QLD 4680
Ph: 07 7471 5890 E: gladstone@alsglobal.com
MACKAY 78 Tabon Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 24 Woodhill Road Springvale VIC 3171
Ph: 03 9549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 6735 E: samples.mudgee@alsglobal.com
NEWCASTLE 6 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 8448 E: samples.newcastle@alsglobal.com
ORANGE 1/13 Geary Place North Orange NSW 2800
Ph: 02 6360 2063 E: orange@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date):	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact: Yes / No / N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		5 day turnaround	Free ice / frozen ice bricks present upon receipt: Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Random Sample Temperature on Receipt: °C
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Other comments:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	DF: 1 2 3 4 5 6 7	

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		26-Feb-15	26-Feb-15 1815	2-3-15 1600

RECEIVED BY:	DATE/TIME:
	3-3-15 1030

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS — MATRIX: SOLID (S) WATER (W)		CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price). Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
31	BH51 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
32	BH51 0.5-0.9 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
33	BH51 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1							
34	BH51 0.5-0.9 B	26/02/2015	S	Bag (White label)	1		1							
35	BH51 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1						
36	BH51 0.7V	26/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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DARWIN 27 Sydney Road Manunda NT 0870
Ph: 08 8945 2121 E: darwin@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 24 Wedge Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: perth.samples@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 8133 E: samples.newcastle@alsglobal.com
ORANGE 10 Gilbay Place North Orange NSW 2800
Ph: 02 6362 5411 E: orange@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
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TOWNSVILLE 14-15 Desma Court Garbutt QLD 4814
Ph: 07 4796 0600 E: townsville@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: samples.wollongong@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A; Free Ice / frozen ice bricks present upon Yes No N/A; Receipt; Random Sample Temperature on Receipt; Cooling Method; Other comments:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (7); SF: 1 2 3 4 5 6 (14)	
ORDER NUMBER: 246883			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 26-Feb-15	DATE/TIME: 26-Feb-15 1815
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY:	RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 2-3-15 1600	DATE/TIME: 3-3-15 1130

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
37	BH52 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
38	BH52 0.5-0.8 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
39	BH52 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1							
40	BH52 0.5-0.8 B	26/02/2015	S	Bag (White label)	1		1							
41	BH52 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1						
42	BH52 0.7V	26/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	7	2	2	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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ROLLINGSTONE 48 Colombo Drive Cannon Hill QLD 4170
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ORANGE 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com

SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
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TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: samples.wollongong@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes / No / NA
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice/frozen ice bricks present upon receipt? Yes / No / NA
ORDER NUMBER: 246553		COC: 1 2 3 4 5 6	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	CF: 1 2 3 4 5 6	Cooling Method:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 25-Feb-15	DATE/TIME: 25-Feb-15 1815
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY:	RECEIVED BY:
		DATE/TIME: 2-3-15 1600	DATE/TIME: 3-3-15 1130

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
43	BH53 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
44	BH53 0.5-1.0 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
45	BH53 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1							
46	BH53 0.5-1.0 B	26/02/2015	S	Bag (White label)	1		1							
47	BH53 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1						
48	BH53 0.7V	26/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	7	2	2	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 07 32 4 7222 E: samples.brisbane@alsglobal.com
CAIRNS 4 Sydney Road Smithfield QLD 4878
Ph: 07 4796 0600 E: cairns@alsglobal.com
GLADSTONE 46 Callemondah Drive Clinton QLD 4680
Ph: 07 7471 5500 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 6735 E: mudgee.info@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
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ORANGE 4/13 Geary Place Orange NSW 2800
Ph: 02 6393 8788 E: orange@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free Ice / Cooling Blocks on Upon Receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (16)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Cooling Method:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6909	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		26-Feb-15	26-Feb-15 1815

RELINQUISHED BY:	RECEIVED BY:
KS	Ron
DATE/TIME: 2-3-15 1600	DATE/TIME: 3-3-15 11:30

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
49	BH54 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
50	BH54 0.5-1.0 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
51	BH54 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1							
52	BH54 0.5-1.0 B	26/02/2015	S	Bag (White label)	1		1							
53	BH54 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1						
54	BH54 0.7V	26/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	7	2	2	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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GLADSTONE 46 Callemondah Drive Clinton QLD 4680
Ph: 07 4971 9600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4958 5200 E: samples.newcastle@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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Ph: 07 4796 0600 E: samples.townsville@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice blocks present upon arrival? Yes No N/A
ORDER NUMBER: 246553		COC: 1 2 3 4 5 6	Cooling: Ice / Ice Packs / None
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6	Random Sample Temperature at Receipt: °C
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	Other comments:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	RECEIVED BY: Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 26-Feb-15	DATE/TIME: 26-Feb-15 1815
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY:	RECEIVED BY:
		DATE/TIME: 2-3-15 1600	DATE/TIME: 3-3-15 1130

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
55	BH55 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
56	BH55 0.5-0.9 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
57	BH55 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1							
58	BH55 0.5-0.9 B	26/02/2015	S	Bag (White label)	1		1							
59	BH55 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1						
60	BH55 0.7V	26/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	7	2	2	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 6735 E: mudgee@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4958 0433 E: samples.newcastle@alsglobal.com
NOWRA 4/91 Geary Place North Nowra NSW 2541
Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 7784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-16 Dominic Court Garbutt QLD 4814
Ph: 07 4760 0600 E: townsville@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: southern.lab@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	[Standard TAT may be longer for some tests e.g., Ultra Trace Organics]	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Cooling Method: Ice / Ice Pack / Frozen / None
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (12)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Cooling Comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		26-Feb-15	26-Feb-15 1815

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 2-3-15 1600	DATE/TIME: 3-3-15 1130

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
61	BH56 0.0-0.5 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
62	BH56 0.5-1.0 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
63	BH56 0.0-0.5 B	26/02/2015	S	Bag (White label)	1		1								
64	BH56 0.5-1.0 B	26/02/2015	S	Bag (White label)	1		1								
65	BH56 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1							
66	BH56 0.7V	26/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	7	2	2	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VS = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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QGLADSTONE 46 Cullemonah Drive Clinton QLD 4680 Ph: 07 7471 5630 E: gladstone@alsglobal.com
QMACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
QMELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
QMUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
QNEWCASTLE 5 Rose Cum Road Waratbrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
QNOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
QPERTH 15 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
QSYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
QTOWNSVILLE 14-15 Desma Court Stuart QLD 4816 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
QWOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: perthenvlab@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free Ice / Frozen Ice Bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (13)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Other comment:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer	RELINQUISHED BY: KS	RECEIVED BY: Ravi
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):				
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 28-Feb-15	DATE/TIME: 20-Feb-15 1815	DATE/TIME: 2-3-15 1600	DATE/TIME: 3-3-15 11:30
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com					

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB, Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
67	EB28 0.0-0.4 A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
68	EB28 0.3V	26/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	3	1		1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

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ALS Laboratory: please tick →

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☐QUEANBEYAN 4/13 Geary Place Nth Queanbeyan NSW 2620 Ph: 02 6123 2300 E: nsweq@alsglobal.com
☐PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
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☐TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt	Yes / No / N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (13)	Random Sample Temperature on Receipt	°C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006 OF: 1 2 3 4 5 6 (14)	Other comments:	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*		
DATE/TIME: 26-Feb-15	DATE/TIME: 26-Feb-15 1815	DATE/TIME: 2-3-15 1600	DATE/TIME: 2-3-15 1130

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	Rinsate Suite	Trip blank suite	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
69	Triplicate 15A	26/02/2015	S	Glass Jar (250 ml)	2	1								
70	Triplicate 15B	26/02/2015	S	Glass Jar (250 ml)	2	1								
71	Triplicate 16A	26/02/2015	S	Glass Jar (250 ml)	2	1								
72	Triplicate 16B	26/02/2015	S	Glass Jar (250 ml)	2	1								
73	Duplicate 8A	26/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
~~73~~	~~Duplicate 8B~~	~~26/02/2015~~	~~S~~	~~Glass Jar (250 ml and 150 ml)~~	~~2~~									~~Send to Eurofins~~
74	Trip Blank 17	26/02/2015											1	
75	Rinsate 17	26/02/2015	W	Bottle	8							1		
				TOTAL	12	1						1	1	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

SAMPLE RECEIPT INFORMATION & BOTTLE TYPE

WORKORDER No:

To be completed by Sample Receipt					Samples checked, labelled and put in trays by:	Analysis creation by: (Starlims only)
Sorting Times *(Only record for BP, Mobil & URS)*	**Temperature Details** (record INOT on COC)		**Packaging**	**Courier Details** (Mandatory for Quarantine)		
Time Sorting Commenced: 8:50	Sample Temp 4.9 °C		Seal Intact - Y / N / NA	Con Note:	Initial: RM 3b	Initial:
Time Placed in Fridge: 18:50	Chilling Method - Circle If sample temp is less than 6°C it is not necessary to complete this section		Type / No.			
Sorting to Fridge Target Time <1 Hour			Esky ✓	*Cells shaded grey don't need to be completed on this form if they are entered directly into LIMS/ANGEL by Sample Receipt staff.*		
	Ice / Ice Bricks / No Chilling		Other			

Sample Receipt Advice Comments - To be completed by Sorting Staff

VOC analysis may be compromised as sample containers contained **headspace** *(list):*

Details of any samples damaged during transit:

Other Information (eg. Were bottles received that weren't completely filled) (eg. If sample temperature is above 6°C add further detail here - *Internal use only - Not for SRN*):

#74 100g - dated 18/2

Metals Bottles: F = Field filtered. T = Total. N/S = Not Specified.
Cyanide Bottles: Tr = Treated, meaning the client has ticked the pre-treated box on the bottle. Un = Untreated, meaning the box is not ticked.
Ferrous Iron, Hexavalent Chromium & Geosmin and MIB: F = Field filtered. N/S = Not Specified.
Soil Bags: S = Small. M = Medium (~500mL asbestos or PSD bag). L = Large (~6kg FMT bag)

M83B

Lab No.	S- 559-561						SV- 103			Scores by	V- 29A				T-30A			W- 199				P43	OG-	M-			MA-			IN-								Micro			UTW-		Crypto Lab	Other
	Soil Jar	Sediment Jar	SOIL BAG LARGE Plastic / Paper Frozen / Air Frozen			Potential ACM Board	Glass Orange (SVOC)		Grey HDPE - No PTFE (PFOS & PFOA etc)	Red Glass (AOC)	Purple (VOC)	Dark Blue / White (Halo Acetic Acids)	Grey (Acrylamide / Acrolein)	Green (Geosmin & MIB)	Purple		Black on White EDA pres'vd (EDB)	Natural Plastic Grass		White Plastic Green (Chlorate)	Plastic Purple (Nutrien, Total Phenols & OOD)		Purple Glass (O&G)	Red Metal Bottle CIRCLE Standard OR ORC		Maroon on White Plastic (As / Se Special'n)	Red / Green Metal Bottle CIRCLE Standard OR ORC			Blue White Plastic (CN)		Yellow Plastic (Sulfide)	Light Blue Plastic (UHS)	Light Orange Plastic (Sulfite)	Maroon Plastic (Ferrous Iron)		Blue Plastic (Cr VI)		Brown / Green Stripe Glass (Surf'ct or Alkyl Ethoxy)	Sterile Micro Jar		Dark Green White Plastic (Algae)	Light Green & White Plastic (UT Nutrients - Unfiltered)	Turquoise & White Plastic (UT Nutrients - Filtered)	Plastic Carboy (Crypto & Giardia)	
			S	M	L										TOC	DOC								F	T	N/S		F	T	N/S	Tr	Un								Black	Grey					
	150	250				Bag	100	500	60	125	500	40	40	4E	F	N/S	40	40	40mL	1L	500	250	1L	60	125	250mL	F	T	N/S	60	F	T	N/S	Tr	Un	125	250	250	F	N/S	F	N/S	500	125	250	500mL	60	60	10L	
This line allows for an initial indication of bottle types received without specifying the exact number for each sample. When using this function tick the boxes matching the containers received for this work order.																																														
1-3		1					10		13	16		19	20																																	
4-6	0		1				11		14	17		21	22																																	
7-9	1						12		15	18		23	24																																	
25-26	1	1					31		32	35	36	37	38	43	44			49	50				55	56		61	62			67			69	70	71		72		73						
27-28			1				33		34			39	40	45	46			51	52				57	58		63	64																		
29-30	1						35		36			41	42	47	48			53	54				59	60		65	66			68															
74	1																																													
75							1				2				1				1		1								1																		

Certificate of Analysis

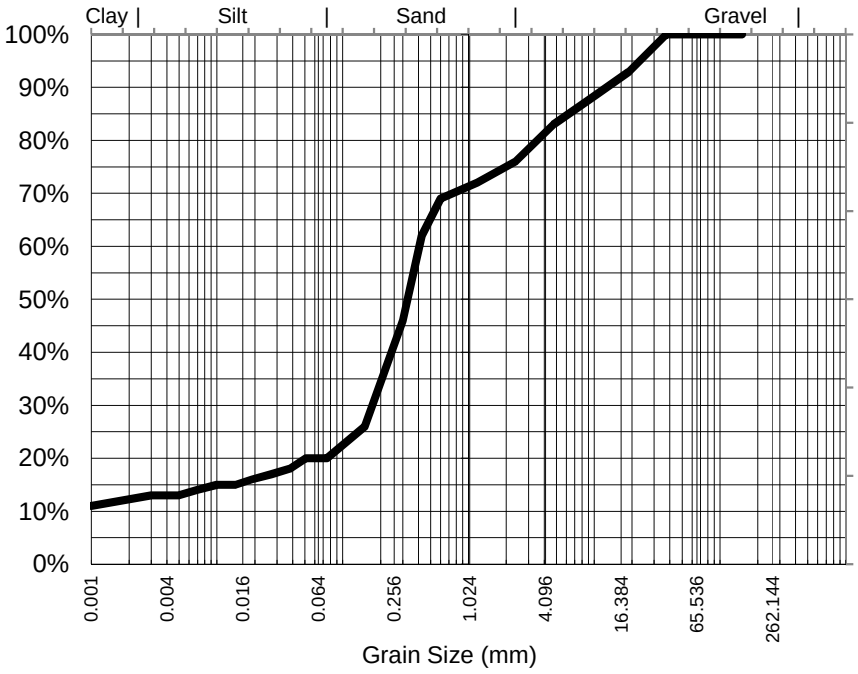
ALS Laboratory Group Pty Ltd
5/585 Maitland Road
Mayfield West, NSW 2304
pH 02 4014 2500
fax 02 4968 0349
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	26-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504836-004 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH42 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
37.5	100%
19.0	93%
9.50	88%
4.75	83%
2.36	76%
1.18	72%
0.600	69%
0.425	62%
0.300	46%
0.150	26%
0.075	20%
Particle Size (microns)	
73	20%
51	20%
38	18%
19	16%
10	15%
5	13%
1	11%

Samples analysed as received.

Median Particle Size (mm)*	0.331

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 21-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: GRAVEL, SAND, FINES

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.67 g/cm3

NATA Accreditation: 825 Site: Newcastle
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Dianne Blane
Inorganic Coordinator Newcastle
Authorised Signatory

Certificate of Analysis

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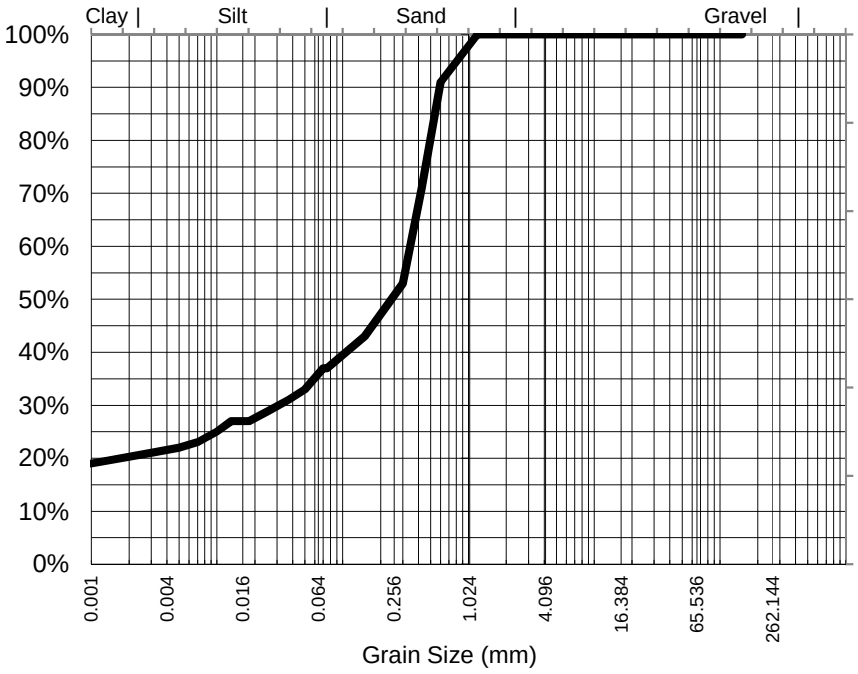
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	26-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504836-005 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH42 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
1.18	100%
0.600	91%
0.425	71%
0.300	53%
0.150	43%
0.075	37%
Particle Size (microns)	
70	37%
50	33%
37	31%
18	27%
10	25%
5	22%
1	19%

Median Particle Size (mm)*	0.255

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 21-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: GRAVEL, SAND, FINES

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.64 g/cm3

NATA Accreditation: 825 Site: Newcastle
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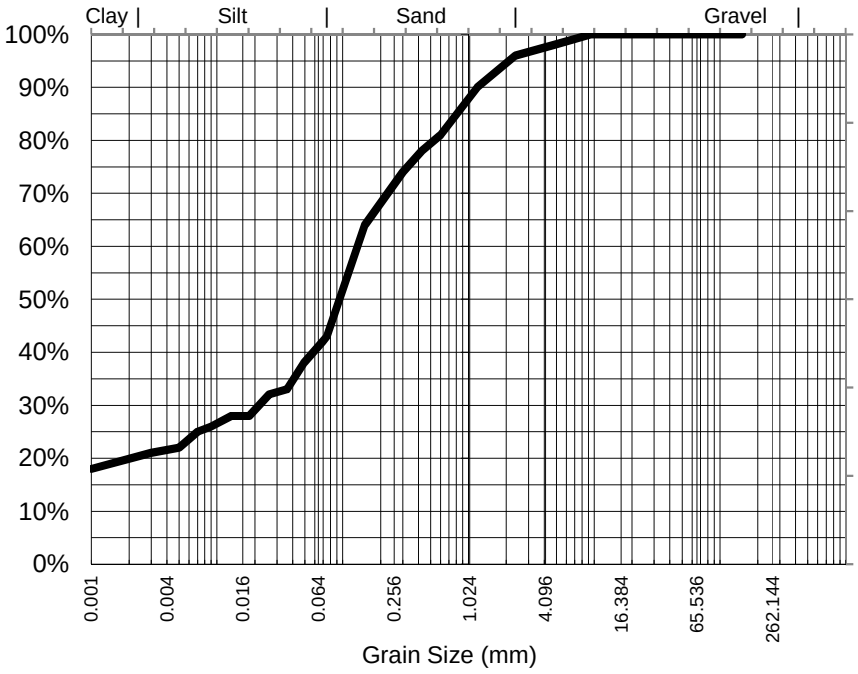
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	26-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504836-006 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH42 1.0-1.6B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	98%
2.36	96%
1.18	90%
0.600	81%
0.425	78%
0.300	74%
0.150	64%
0.075	43%
Particle Size (microns)	
69	42%
49	38%
36	33%
18	28%
9	26%
5	22%
1	18%

Median Particle Size (mm)*	0.100

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 21-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: GRAVEL, SAND, FINES

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.66 g/cm3

NATA Accreditation: 825 Site: Newcastle
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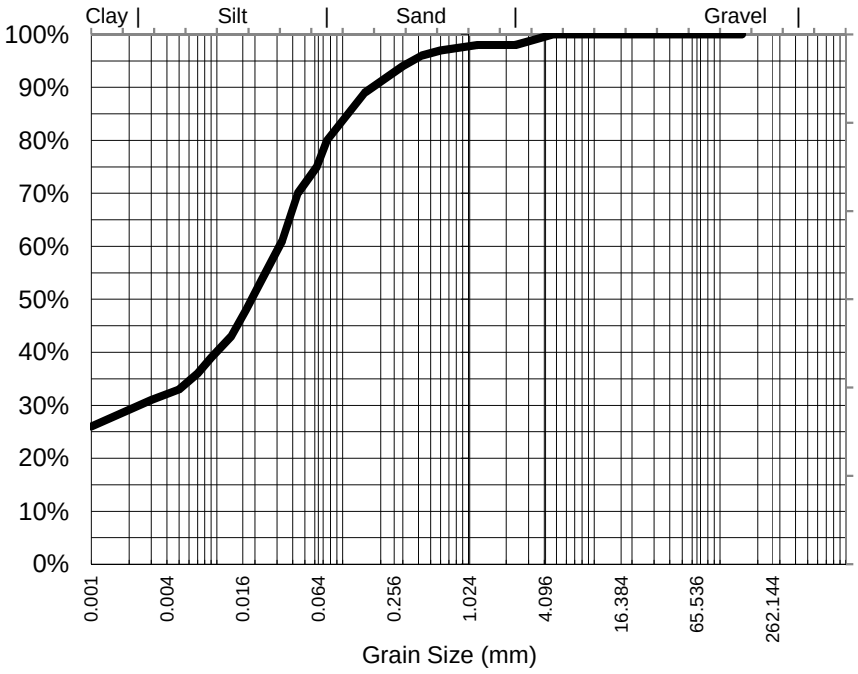
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	26-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504836-011 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH44 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	98%
1.18	98%
0.600	97%
0.425	96%
0.300	94%
0.150	89%
0.075	80%
Particle Size (microns)	
62	75%
44	70%
33	61%
17	48%
9	39%
5	33%
1	26%

Median Particle Size (mm)*	0.019

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 21-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: GRAVEL, SAND, FINES

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.68 g/cm3

NATA Accreditation: 825 Site: Newcastle
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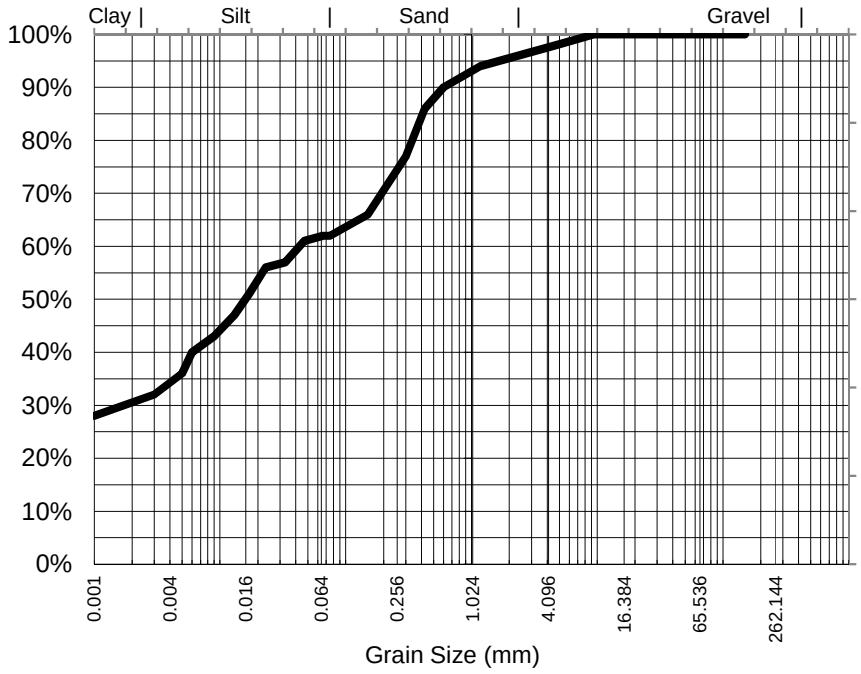
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	26-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504836-014 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH47 0.0-0.7B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	98%
2.36	96%
1.18	94%
0.600	90%
0.425	86%
0.300	77%
0.150	66%
0.075	62%
Particle Size (microns)	
66	62%
47	61%
33	57%
17	51%
9	43%
5	36%
1	28%

Samples analysed as received.

Median Particle Size (mm)*	0.016

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:		**Analysed:**	21-Mar-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	GRAVEL, SAND, FINES	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.65 g/cm3

NATA Accreditation: 825 Site: Newcastle
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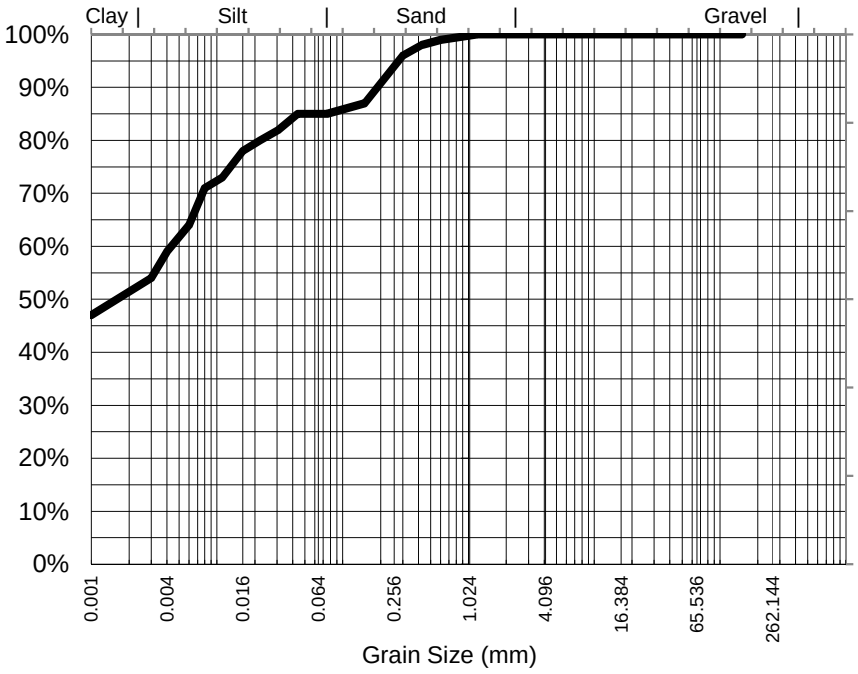
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	26-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504836-017 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH48 0.0-0.6B

Particle Size Distribution



Particle Size (mm)	Percent Passing
1.18	100%
0.600	99%
0.425	98%
0.300	96%
0.150	87%
0.075	85%
Particle Size (microns)	
62	85%
44	85%
31	82%
16	78%
8	71%
4	59%
1	47%

Median Particle Size (mm)*	0.002

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 21-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: GRAVEL, SAND, FINES

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.66 g/cm3

NATA Accreditation: 825 Site: Newcastle
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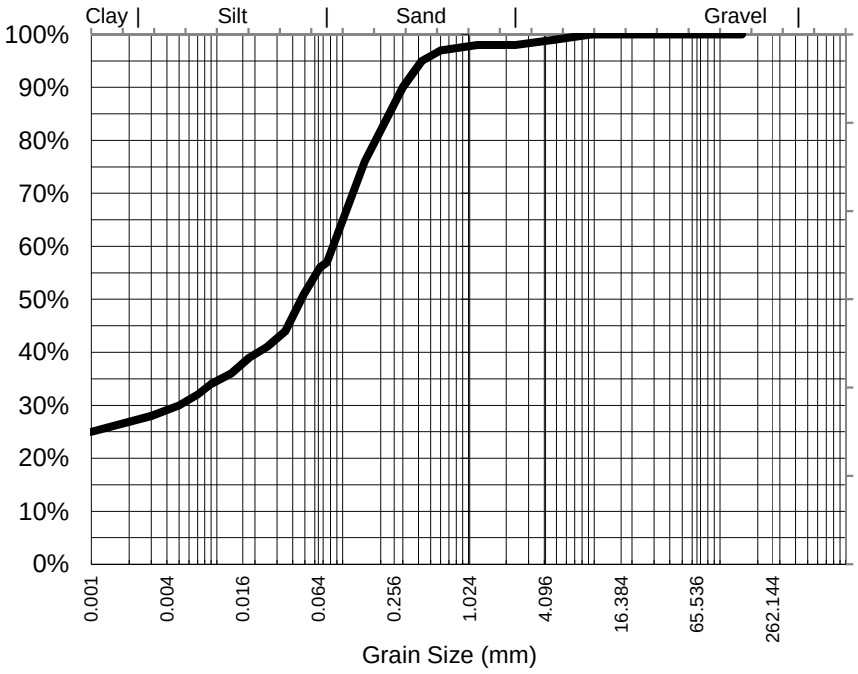
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	26-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504836-021 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH49 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	99%
2.36	98%
1.18	98%
0.600	97%
0.425	95%
0.300	90%
0.150	76%
0.075	57%
Particle Size (microns)	
66	56%
49	51%
35	44%
18	39%
9	34%
5	30%
1	25%

Samples analysed as received.

Median Particle Size (mm)*	0.047

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 21-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: GRAVEL, SAND, FINES

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.68 g/cm3

NATA Accreditation: 825 Site: Newcastle
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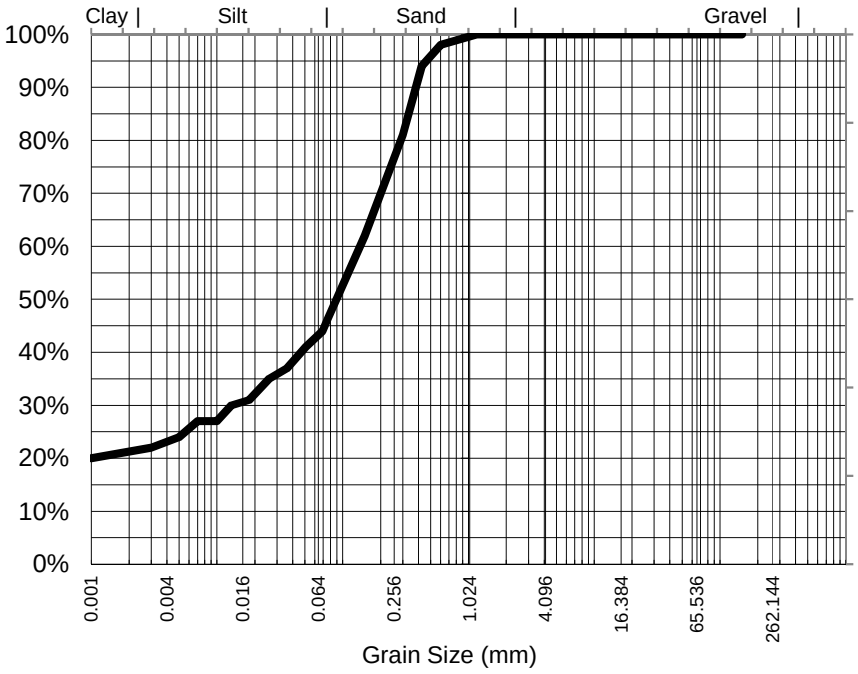
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	26-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504836-022 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH49 0.5-0.8B

Particle Size Distribution



Particle Size (mm)	Percent Passing
1.18	100%
0.600	98%
0.425	94%
0.300	81%
0.150	62%
0.075	46%
Particle Size (microns)	
69	44%
51	41%
36	37%
18	31%
10	27%
5	24%
1	20%

Median Particle Size (mm)*	0.094

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 21-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: GRAVEL, SAND, FINES

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.66 g/cm3

NATA Accreditation: 825 Site: Newcastle
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ALS Environmental

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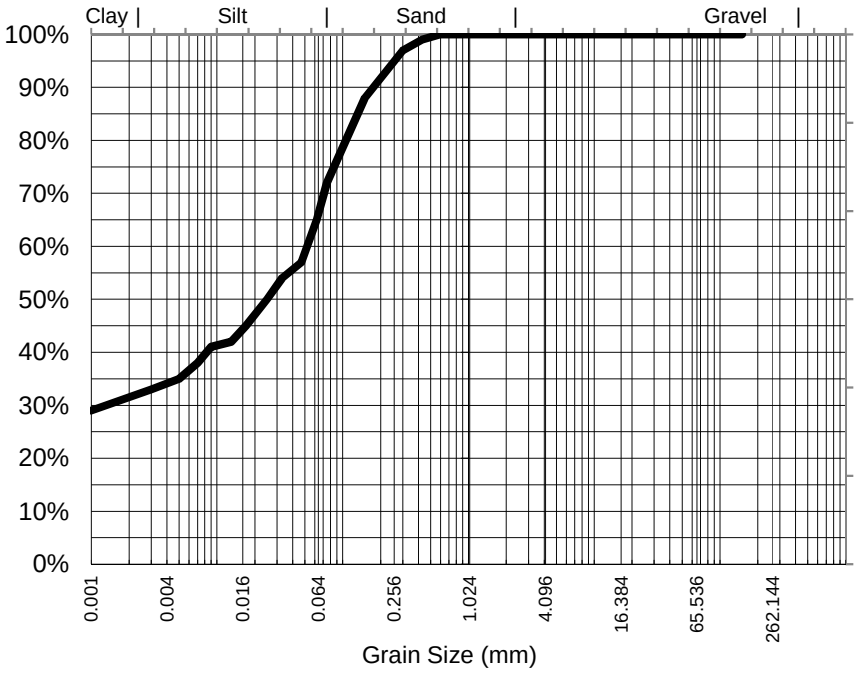
CLIENT:	Sally Leyland	**DATE REPORTED:**	26-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504836-027 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH50 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
0.600	100%
0.425	99%
0.300	97%
0.150	88%
0.075	72%
Particle Size (microns)	
62	65%
47	57%
33	54%
17	45%
9	41%
5	35%
1	29%

Samples analysed as received.

Median Particle Size (mm)*	0.025

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 21-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: GRAVEL, SAND, FINES

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.69 g/cm3

NATA Accreditation: 825 Site: Newcastle
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Dianne Blane
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Authorised Signatory

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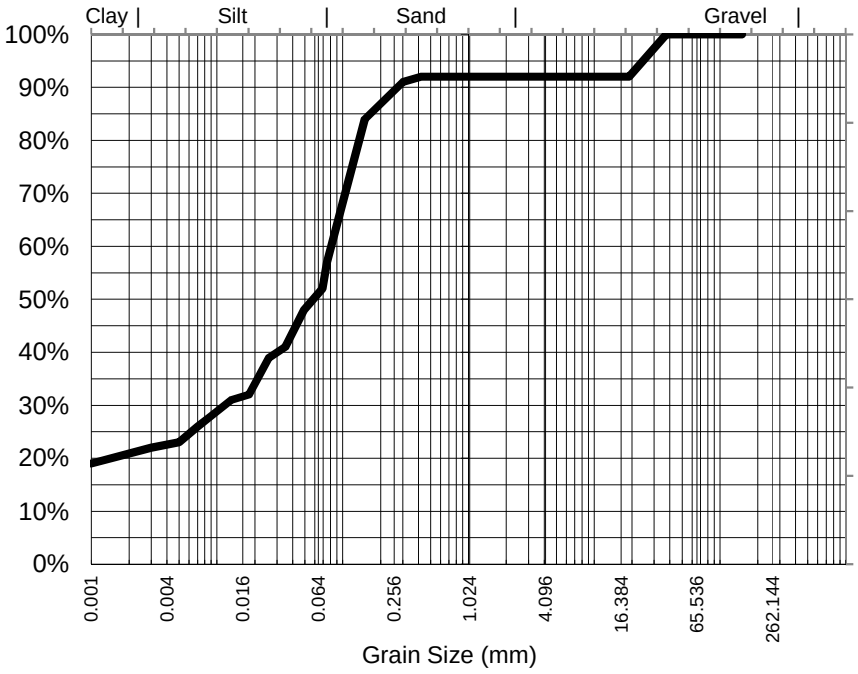
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	26-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504836-028 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH50 0.5-0.9B

Particle Size Distribution



Particle Size (mm)	Percent Passing
37.5	100%
19.0	92%
9.50	92%
4.75	92%
2.36	92%
1.18	92%
0.600	92%
0.425	92%
0.300	91%
0.150	84%
0.075	57%
Particle Size (microns)	
69	52%
49	48%
35	41%
18	32%
9	28%
5	23%
1	19%

Median Particle Size (mm)*	0.059

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 21-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: GRAVEL, SAND, FINES

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.68 g/cm3

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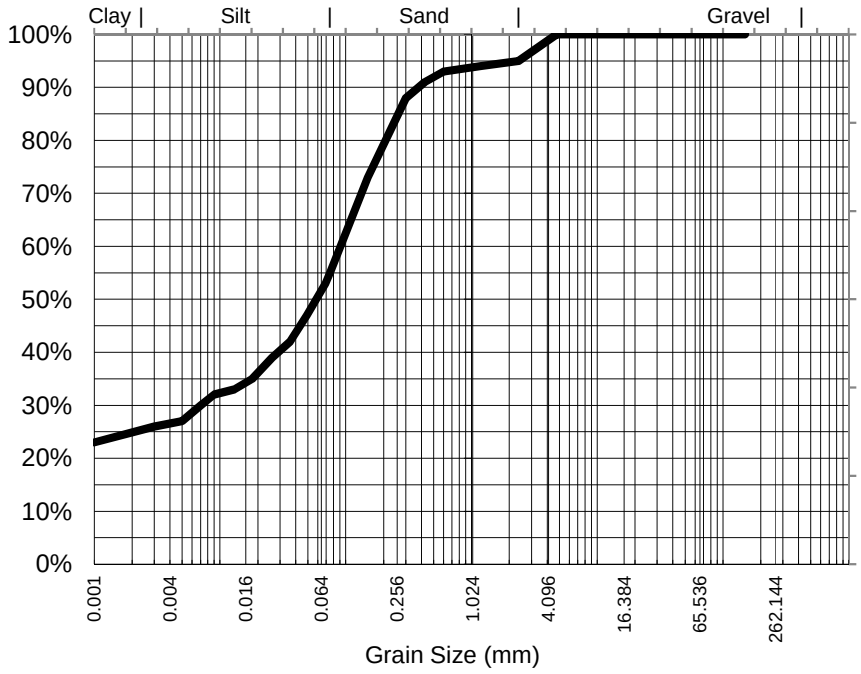
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504836-033 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH51 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	95%
1.18	94%
0.600	93%
0.425	91%
0.300	88%
0.150	73%
0.075	55%
Particle Size (microns)	
69	53%
49	47%
36	42%
18	35%
9	32%
5	27%
1	23%

Median Particle Size (mm)*	0.059

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 21-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: GRAVEL, SAND, FINES

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.66 g/cm3

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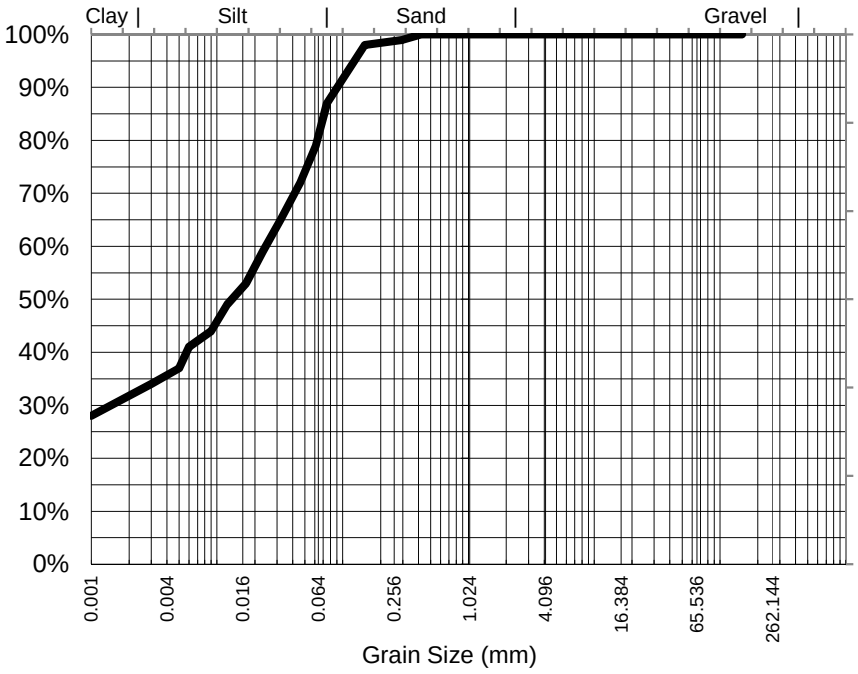
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504836-034 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH51 0.5-0.9B

Particle Size Distribution



Particle Size (mm)	Percent Passing
0.425	100%
0.300	99%
0.150	98%
0.075	87%
Particle Size (microns)	
61	79%
46	72%
32	65%
17	53%
9	44%
5	37%
1	28%

Median Particle Size (mm)*	0.013

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 21-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: GRAVEL, SAND, FINES

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.71 g/cm3

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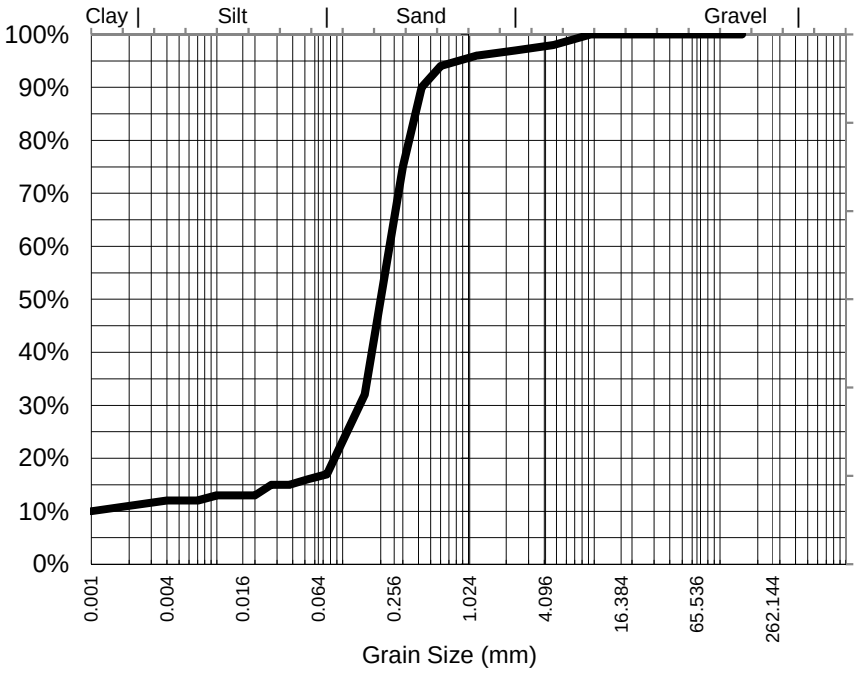
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504836-039 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH52 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	98%
2.36	97%
1.18	96%
0.600	94%
0.425	90%
0.300	75%
0.150	32%
0.075	17%
Particle Size (microns)	
75	17%
53	16%
38	15%
20	13%
10	13%
5	12%
1	10%

Samples analysed as received.

Median Particle Size (mm)*	0.213

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 21-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: GRAVEL, SAND, FINES

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.67 g/cm3

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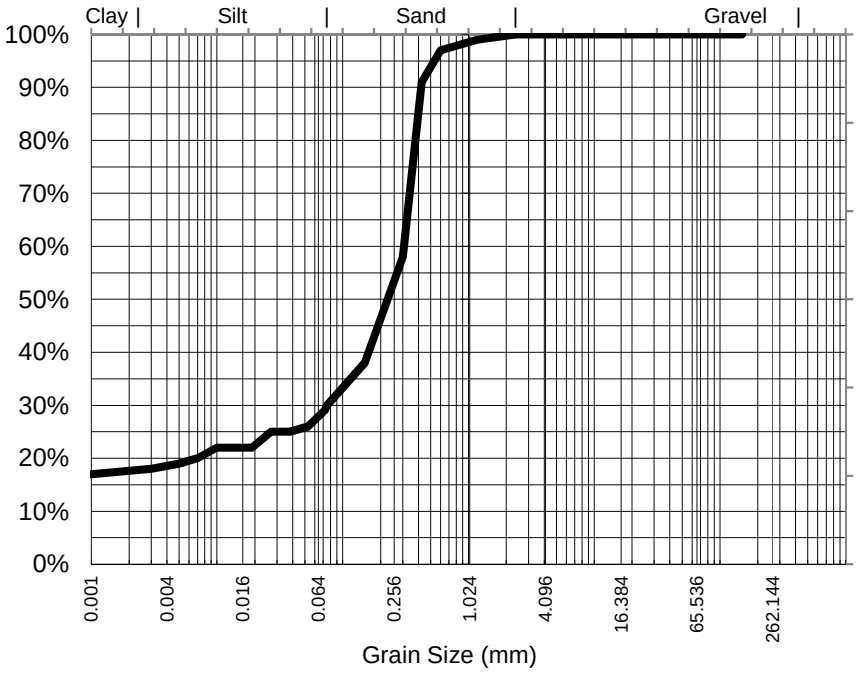
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504836-040 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH52 0.5-0.8B

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	99%
0.600	97%
0.425	91%
0.300	58%
0.150	38%
0.075	30%
Particle Size (microns)	
72	29%
53	26%
38	25%
19	22%
10	22%
5	19%
1	17%

Samples analysed as received.

Median Particle Size (mm)*	0.240

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: GRAVEL, SAND, FINES

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.66 g/cm3

Analysed: 21-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

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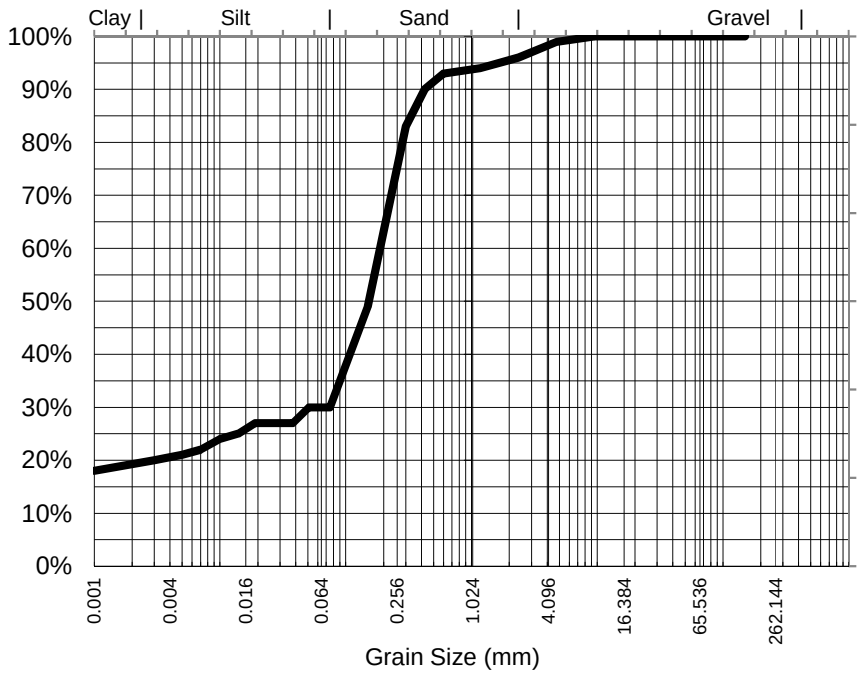
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504836-045 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH53 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	99%
2.36	96%
1.18	94%
0.600	93%
0.425	90%
0.300	83%
0.150	49%
0.075	30%
Particle Size (microns)	
72	30%
51	30%
38	27%
19	27%
10	24%
5	21%
1	18%

Samples analysed as received.

Median Particle Size (mm)*	0.154

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SAND AND FINES

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.68 g/cm3

Analysed: 21-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

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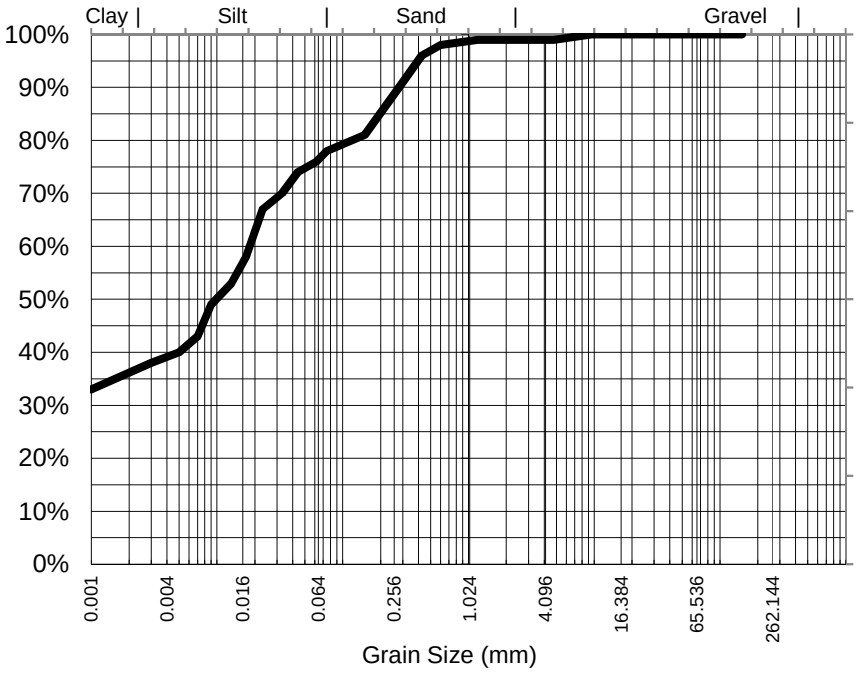
CLIENT:	Sally Leyland	**DATE REPORTED:**	26-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504836-046 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH53 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	99%
2.36	99%
1.18	99%
0.600	98%
0.425	96%
0.300	91%
0.150	81%
0.075	78%
Particle Size (microns)	
62	76%
44	74%
33	70%
17	58%
9	49%
5	40%
1	33%

Samples analysed as received.

Median Particle Size (mm)*	0.010

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SAND AND FINES

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.69 g/cm3

Analysed: 21-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

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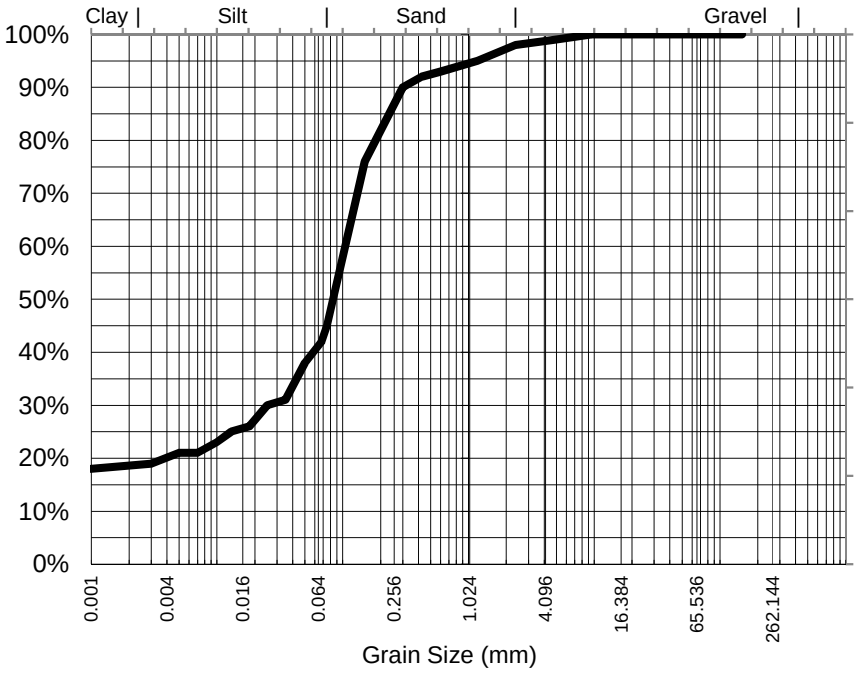
CLIENT:	Sally Leyland	**DATE REPORTED:**	26-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504836-051 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH54 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	99%
2.36	98%
1.18	95%
0.600	93%
0.425	92%
0.300	90%
0.150	76%
0.075	45%
Particle Size (microns)	
68	42%
50	38%
35	31%
18	26%
10	23%
5	21%
1	18%

Median Particle Size (mm)*	0.087

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 21-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: GRAVEL, SAND, FINES

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.7 g/cm3

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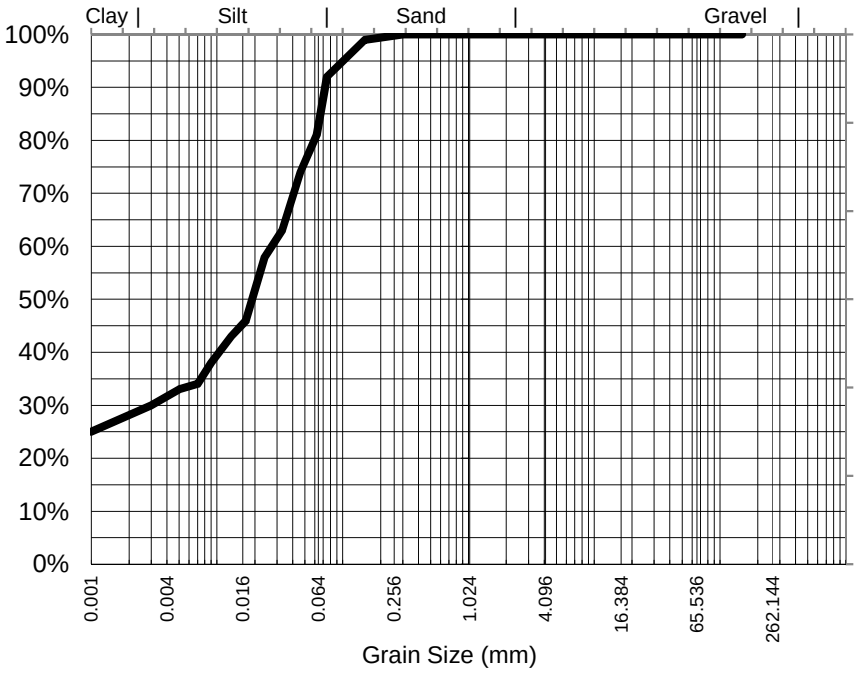
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504836-052 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH54 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
0.300	100%
0.150	99%
0.075	92%
Particle Size (microns)	
62	81%
46	74%
33	63%
17	46%
9	38%
5	33%
1	25%

Median Particle Size (mm)*	0.019

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 21-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: SAND AND FINES

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.68 g/cm3

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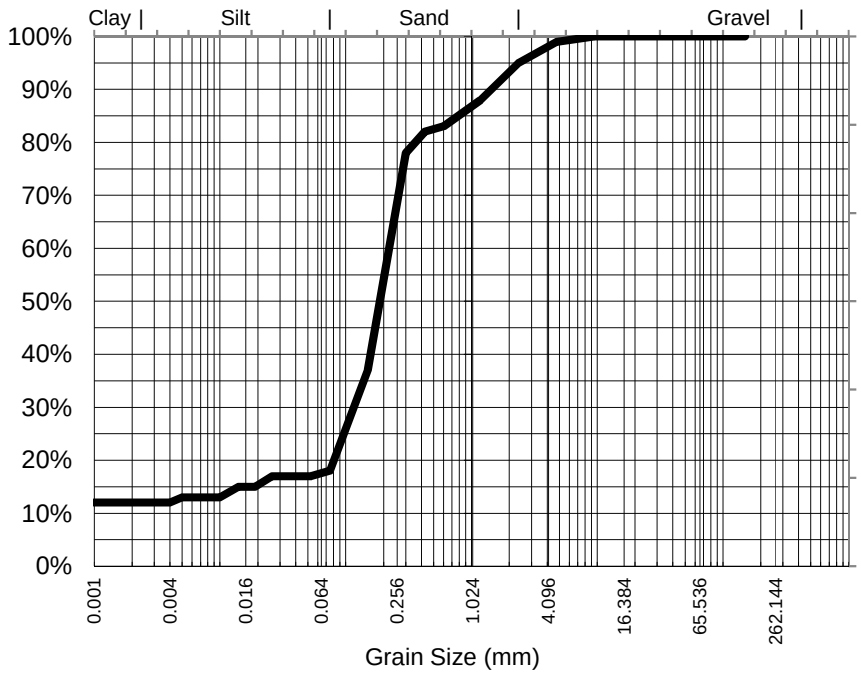
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504836-057 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH55 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	99%
2.36	95%
1.18	88%
0.600	83%
0.425	82%
0.300	78%
0.150	37%
0.075	18%
Particle Size (microns)	
75	18%
53	17%
37	17%
19	15%
10	13%
5	13%
1	12%

Median Particle Size (mm)*	0.198

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 21-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: GRAVEL, SAND, FINES

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.68 g/cm3

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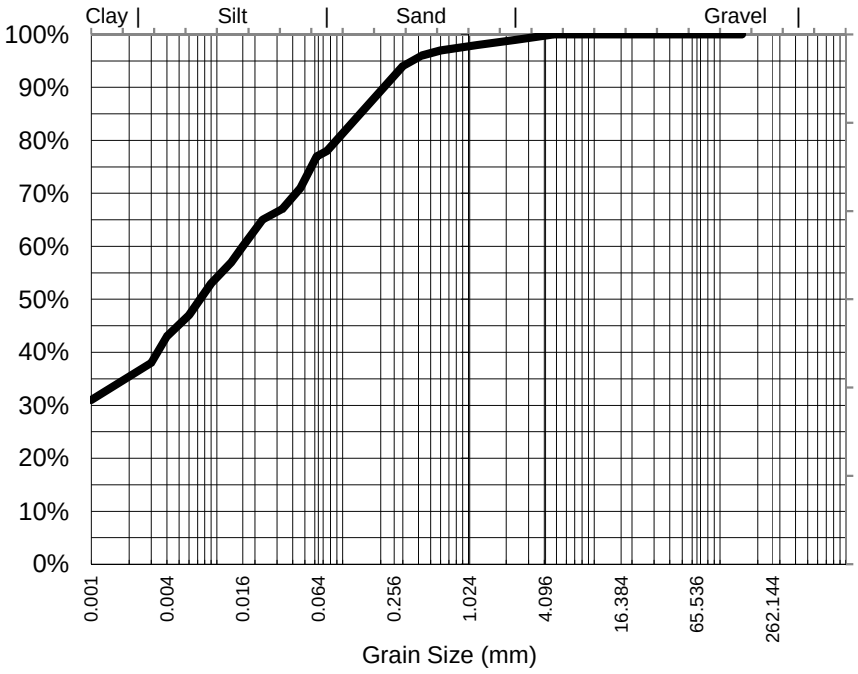
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504836-058 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH55 0.5-0.9B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	99%
1.18	98%
0.600	97%
0.425	96%
0.300	94%
0.150	86%
0.075	78%
Particle Size (microns)	
62	77%
46	71%
33	67%
16	60%
9	53%
4	43%
1	31%

Median Particle Size (mm)*	0.008

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 21-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: GRAVEL, SAND, FINES

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.65 g/cm3

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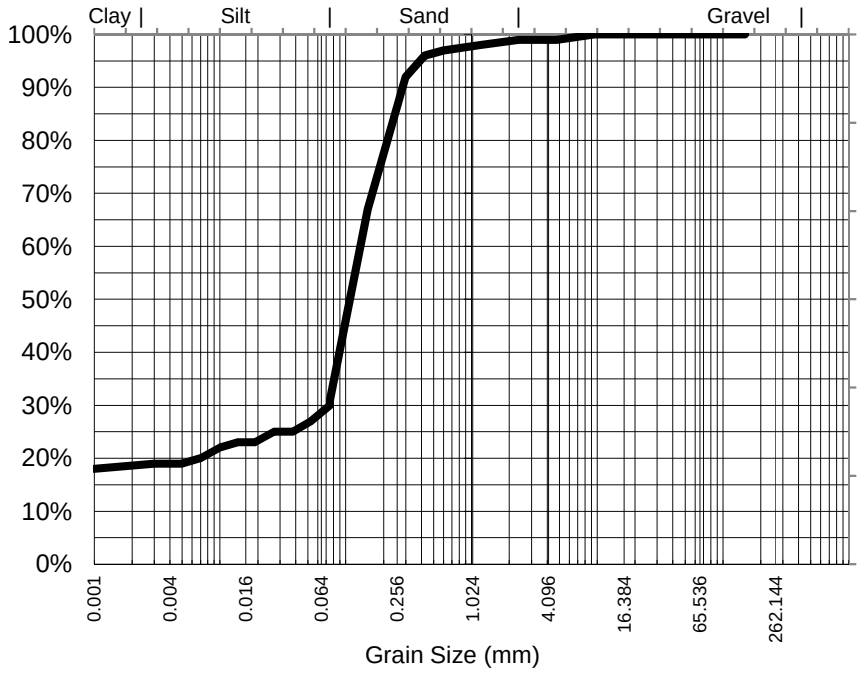
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504836-063 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH56 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	99%
2.36	99%
1.18	98%
0.600	97%
0.425	96%
0.300	92%
0.150	67%
0.075	31%
Particle Size (microns)	
75	30%
53	27%
38	25%
19	23%
10	22%
5	19%
1	18%

Median Particle Size (mm)*	0.115

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 21-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: SAND AND FINES

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.65 g/cm3

NATA Accreditation: 825 Site: Newcastle
This document is issued in accordance with NATA's accreditation requirements. Accredited for compliance with ISO/IEC 17025. This document shall not be reproduced, except in full.

Dianne Blane
Inorganic Coordinator Newcastle
Authorised Signatory

Certificate of Analysis

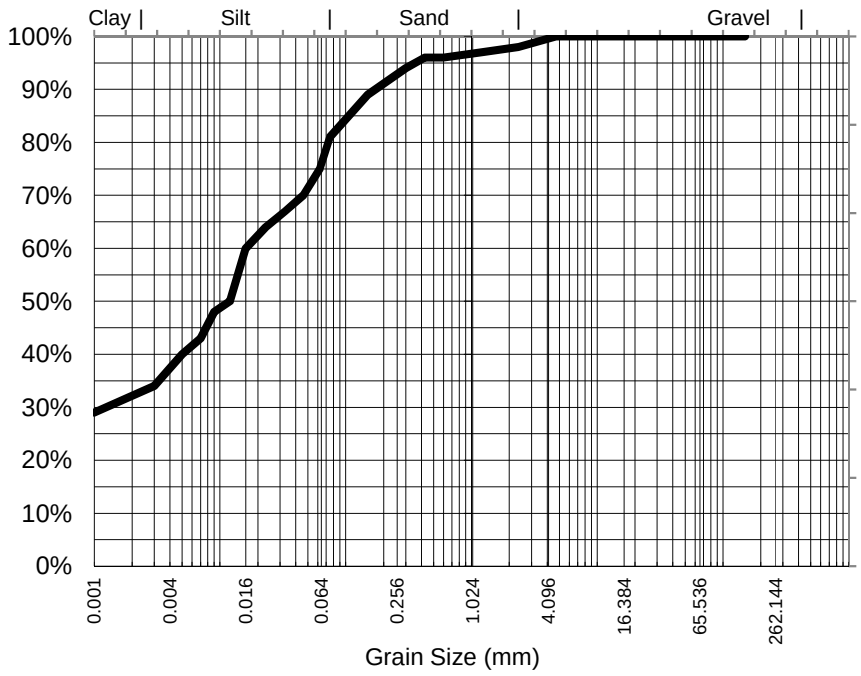
ALS Laboratory Group Pty Ltd
5/585 Maitland Road
Mayfield West, NSW 2304
pH 02 4014 2500
fax 02 4968 0349
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	26-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504836-064 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH56 0.5-1.0A

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	98%
1.18	97%
0.600	96%
0.425	96%
0.300	94%
0.150	89%
0.075	81%
Particle Size (microns)	
62	75%
46	70%
33	67%
16	60%
9	48%
5	40%
1	29%

Median Particle Size (mm)*	0.012

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 21-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: SAND AND FINES

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.69 g/cm3

NATA Accreditation: 825 Site: Newcastle
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Dianne Blane
Inorganic Coordinator Newcastle
Authorised Signatory

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☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 7
ORDER NUMBER: 245553		
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt	Yes	No	N/A
Random Sample Temperature on Receipt		C	
Other comment			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	Kelly Schafer	KSchafer	AM
DATE/TIME: 27-Feb-15	DATE/TIME: 27-Feb-15 1730	DATE/TIME: 2-3-15 1600	DATE/TIME: 3-3-15 09-15

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION										Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	BH24 0.0-0.2 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1		1						
2	BH24 0.0-0.2 B	27/02/2015	S	Bag (White label)	1		1	1						
				TOTAL	3	1	1	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

150ml A Jars and 500ml Amber sent direct to Brisbane for TOC/TBT

Environmental Division Sydney

Work Order

ES1504998

Telephone : +61-2-8784 8555

ALS Environmental

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☐NEWCASTLE 6 Rees Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
☐NOWRA 4/18 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
☐PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
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☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 (2) 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comments:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		27-Feb-15	27-Feb-15		

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
3	BH26 0.0-0.2 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1		1						
4	BH26 0.0-0.2 B	27/02/2015	S	Bag (White label)	1		1	1						
				TOTAL	3	1	1	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody seal intact? Yes No N/A Cooling Method: Ice Gel Ice Bricks None CoC / Sample labels present and match? Yes No N/A Samples received within recommended holding times? Yes No N/A Any comments?
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 7	
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		27-Feb-15	27-Feb-15		

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
5	BH31 0.0-0.5A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
6	BH31 0.5-1.0A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
7	BH31 1.0-1.3 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
8	BH31 0.0-0.5B	27/02/2015	S	Bag (White label)	1		1							
9	BH31 0.5-1.0B	27/02/2015	S	Bag (White label)	1		1							
10	BH31 0.3V	27/02/2015	S	Glass Jar (150 ml)	1			1						
11	BH31 0.7V	27/02/2015	S	Glass Jar (150 ml)	1			1						
12	BH31 1.3 V	27/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	11	3	2	3						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody seal intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Cooler Present and Intact? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Receipt Sample Temperature on Receipt: 21.2 °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 16	Free of Contamination? Yes No N/A
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*		
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
27-Feb-15	27-Feb-15		

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
✓ 13	BH33 0.0-0.5 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
✓ 14	BH33 0.5-1.0 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
✓ 15	BH33 1.0 - 1.5 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
✓ 16	BH33 1.5-1.8 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
17	BH33 0.0-0.5 B	27/02/2015	S	Bag (White label)	1		1							
18	BH33 0.5-1.0 B	27/02/2015	S	Bag (White label)	1		1							
19	BH33 1.0-1.5 B	27/02/2015	S	Bag (White label)	1		1							
20	BH33 0.3V	27/02/2015	S	Glass Jar (150 ml)	1			1						
21	BH33 0.7V	27/02/2015	S	Glass Jar (150 ml)	1			1						
22	BH33 1.3V	27/02/2015	S	Glass Jar (150 ml)	1			1						
23	BH33 1.7V	27/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	15	4	3	4						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact: Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice brick present upon receipt: Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt (°C): 15.6
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Cooling Method:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*		
DATE/TIME: 27-Feb-15	DATE/TIME: 27-Feb-15	DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH				Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
24	BH34 0.0-0.5 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
25	BH34 0.5-1.0 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
26	BH34 1.0-1.6 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
27	BH34 0.0-0.5 B	27/02/2015	S	Bag (White label)	1		1								
28	BH34 0.5-1.0 B	27/02/2015	S	Bag (White label)	1		1								
29	BH34 1.0-1.6 B	27/02/2015	S	Bag (White label)	1		1								
30	BH34 0.3V	27/02/2015	S	Glass Jar (150 ml)	1			1							
31	BH34 0.7V	27/02/2015	S	Glass Jar (150 ml)	1			1							
32	BH34 1.3V	27/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	12	3	3	3							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 07 7471 5600 E: gladstone@alsglobal.com
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Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hea Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
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Ph: 02 8784 5555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: [illegible]
WELLINGTON 2 [illegible] Street Wellington NSW 2820
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comments:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		27-Feb-15	27-Feb-15		

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
33	BH35 0.0-0.7 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
34	BH35 0.0-0.7 B	27/02/2015	S	Bag (White label)	1		1							
35	BH35 0.3V	27/02/2015	S	Glass Jar (150 ml)	1			1						
36	BH35 0.7V	27/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	5	1	1	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	**FOR LABORATORY USE ONLY (Circle)** Security seal Intact / Broken / None; Ice bricks present / Ice packs present / No ice; Cooling Method: Ice / Ice bricks / Ice packs / None; Temperature of Receipt (°C)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)** COC: 1 2 3 4 5 6 7	
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 (7)	
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006		

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		27-Feb-15	27-Feb-15		

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
37	BH36 0.0-0.4 A	27/02/2015	S	Glass Jar (250 ml and 160 ml)	2	1									
38	BH38 0.3V	27/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	3	1		1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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GLADSTONE 1/3 Kitchener Drive Callemondah QLD 4680 Ph: 07 4971 6900 E: gladstone@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6	
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 27-Feb-15	DATE/TIME: 27-Feb-15
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY:	RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
39	BH39 0.0-0.5 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
40	BH39 0.5-1.0 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
41	BH39 1.0-1.5 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
42	BH39 1.5-1.8 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
43	BH39 0.0-0.5 B	27/02/2015	S	Bag (White label)	1		1								
44	BH39 0.5-1.0 B	27/02/2015	S	Bag (White label)	1		1								
45	BH39 0.0-0.5 B	27/02/2015	S	Bag (White label)	1		1								
46	BH39 1.5-1.8 B	27/02/2015	S	Bag (White label)	1		1								
47	BH39 0.3V	27/02/2015	S	Glass Jar (150 ml)	1			1							
48	BH39 0.7V	27/02/2015	S	Glass Jar (150 ml)	1			1							
49	BH39 1.3V	27/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	13	4	4	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody seal intact	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (9)	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (9)	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		27-Feb-15	27-Feb-15

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS – MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
50	BH40 0.0-0.5 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
51	BH40 0.5-1.0 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
52	BH40 1.0-1.2 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
53	BH40 0.5-1.0 B	27/02/2015	S	Bag (White label)	1		1								
54	BH40 0.3V	27/02/2015	S	Glass Jar (150 ml)	1			1							
55	BH40 0.7V	27/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	8	3	1	1							

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Free ice / frozen ice / pack present on receipt? N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Random Sample Temperature on Receipt
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6	Other comments
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	DATE/TIME: 27-Feb-15	DATE/TIME: 27-Feb-16
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			RELINQUISHED BY: DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			RECEIVED BY: DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
56	BH41 0.0-0.5 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
57	BH41 0.0-0.5 B	27/02/2015	S	Bag (White label)	1		1							
58	BH41 0.3V	27/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Chiller Seal Intact: Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free Ice / Frozen Ice Bricks presentation: Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (11)	Random Sample Temperature Receipt: Yes No N/A
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (19)	Dioxin Comment:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		27-Feb-15	27-Feb-15		

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
59	BH43 0.0-0.5 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
60	BH43 0.0-0.5 B	27/02/2015	S	Bag (White label)	1		1							
61	BH43 0.3V	27/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5800 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MOOREBANK 27 Dunlop Road Moorebank NSW 2170 Ph: 02 8784 8555 E: moorebank@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Stony Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody seal intact on cooler/box upon receipt? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Random sample temperature on receipt (°C):
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6	Cooling Method:
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6	

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		27-Feb-15	27-Feb-15		

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
62	BH45 0.0-0.5 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
63	BH45 0.5-0.8 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
64	BH45 0.0-0.5 B	27/02/2015	S	Bag (White label)	1		1								
65	BH45 0.3V	27/02/2015	S	Glass Jar (150 ml)	1			1							
66	BH45 0.7V	27/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	6	2	1	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 6 day turnaround	Security Seal Intact: Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Temperature on Receipt:
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6	Receipt Confirmed via Email: Yes / No
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6	Free ice supplied: Yes / No

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		27-Feb-15	27-Feb-15		

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS - MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
67	BH46 0.0-0.6 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
68	BH46 0.0-0.6 B	27/02/2015	S	Bag (White label)	1		1							
69	BH46 0.3V	27/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) **Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround		Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Preservation Correct / Container Appropriate? Yes / No
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6	Parcel Sample Temperature on Receipt:
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6	Other Comments:

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		27-Feb-15	27-Feb-15		

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	Rinsate Suite	Trip blank suite	
70	~~Triplicate 18~~ TRIP BLANK	27/02/2015	S	Glass Jar (250 ml)	1	✓							1	
✓ 71	Rinsate 18	27/02/2015	W	Bottle	8							1		
				TOTAL	8							1		

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround		
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000				
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7		
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 7		
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8008			
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer	RELINQUISHED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 27-Feb-15	DATE/TIME: 27-Feb-15 1730	DATE/TIME: 2-3-15 1600
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com				RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com				DATE/TIME: 3/3/15 9am

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S)				ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	BH24 0.0-0.2 A	27/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1		1						
2	BH24 0.0-0.2 B	27/02/2015	S	Bag (White label)	1		1	1						
				TOTAL	3	1	1	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AV = Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

150ml A Jars and 500ml Amber sent direct to Brisbane for TOC/TBT

Environmental Division
Sydney
Work Order
ES1504998

Telephone : +61-2-8784 8555

Certificate of Analysis

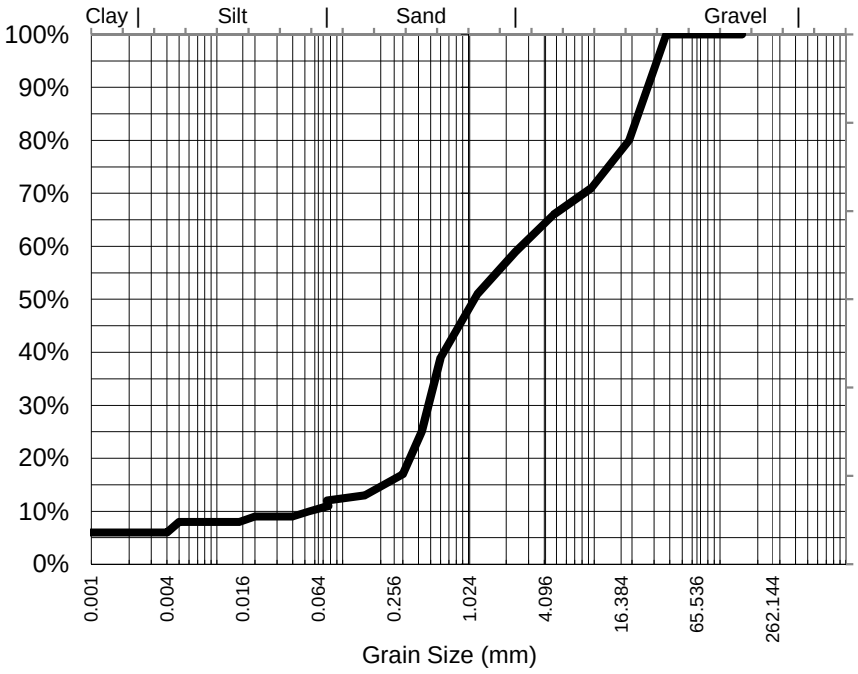
ALS Laboratory Group Pty Ltd
5/585 Maitland Road
Mayfield West, NSW 2304
pH 02 4014 2500
fax 02 4968 0349
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	30-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504998-002 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH24 0.0-0.2B

Particle Size Distribution



Particle Size (mm)	Percent Passing
37.5	100%
19.0	80%
9.50	71%
4.75	66%
2.36	59%
1.18	51%
0.600	39%
0.425	25%
0.300	17%
0.150	13%
0.075	12%
Particle Size (microns)	
77	11%
54	10%
40	9%
20	9%
10	8%
5	8%
1	6%

Samples analysed as received.

Median Particle Size (mm)*	1.132

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SAND, STONE, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.64 g/cm3

Analysed: 23-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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Dianne Blane
Inorganic Coordinator Newcastle
Authorised Signatory

Certificate of Analysis

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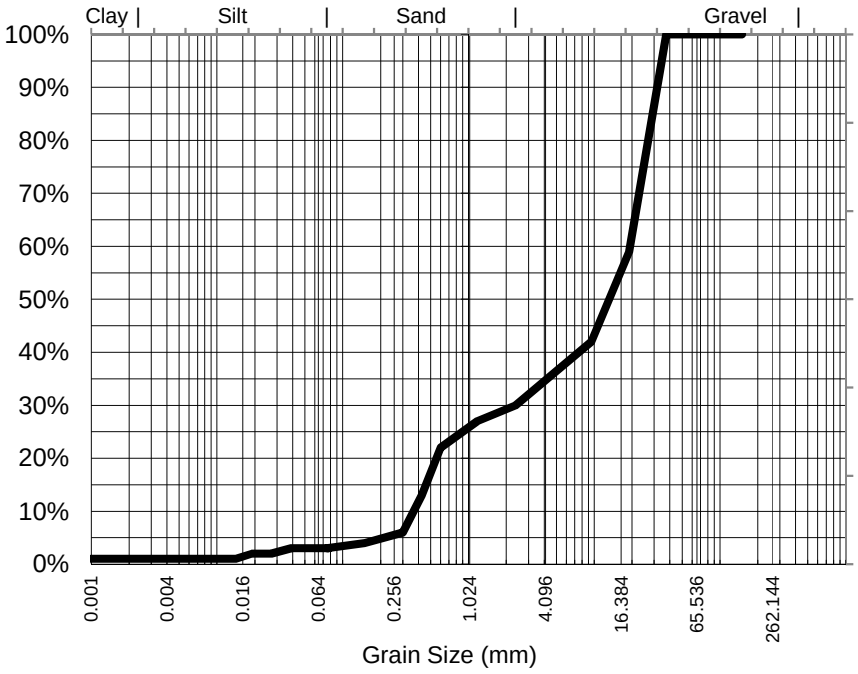
5/585 Maitland Road
Mayfield West, NSW 2304
pH 02 4014 2500
fax 02 4968 0349
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	30-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504998-004 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH26 0.0-0.2B

Particle Size Distribution



Particle Size (mm)	Percent Passing
37.5	100%
19.0	59%
9.50	42%
4.75	36%
2.36	30%
1.18	27%
0.600	22%
0.425	13%
0.300	6%
0.150	4%
0.075	3%
Particle Size (microns)	
78	3%
55	3%
39	3%
19	2%
10	1%
5	1%
1	1%

Median Particle Size (mm)*	13.971

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	23-Mar-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, STONE	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.71 g/cm3

NATA Accreditation: 825 Site: Newcastle
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Dianne Blane
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Certificate of Analysis

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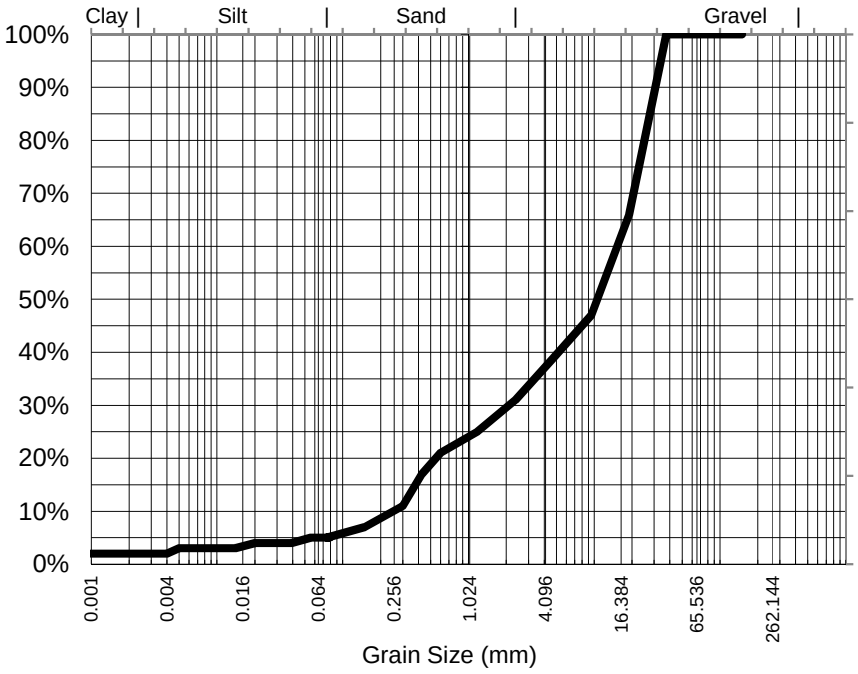
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	30-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504998-008 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH31 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
37.5	100%
19.0	66%
9.50	47%
4.75	39%
2.36	31%
1.18	25%
0.600	21%
0.425	17%
0.300	11%
0.150	7%
0.075	5%
Particle Size (microns)	
79	5%
56	5%
39	4%
20	4%
10	3%
5	3%
1	2%

Median Particle Size (mm)*	11.000

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	23-Mar-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, STONE	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.68 g/cm3

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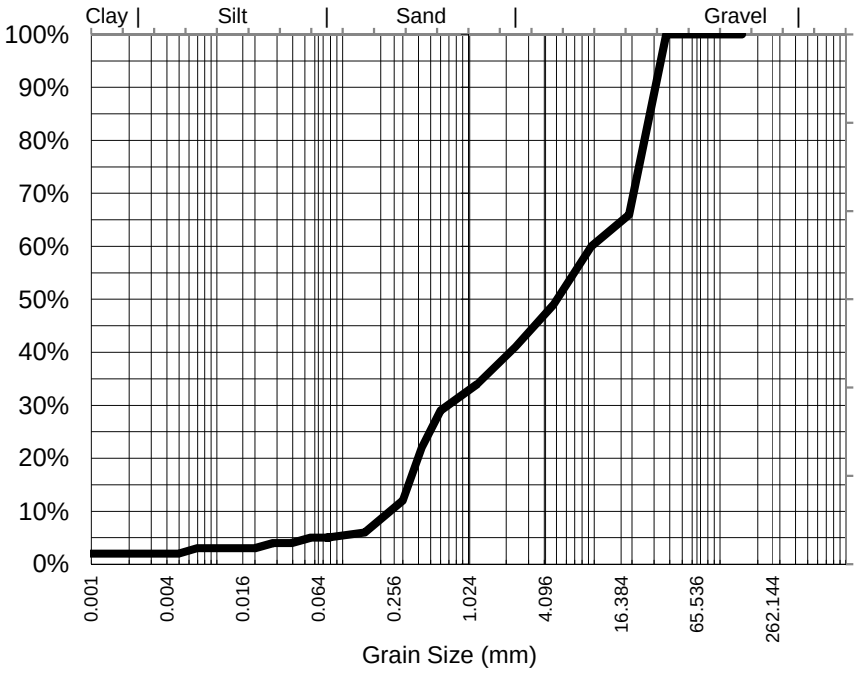
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504998-009 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH31 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
37.5	100%
19.0	66%
9.50	60%
4.75	49%
2.36	41%
1.18	34%
0.600	29%
0.425	22%
0.300	12%
0.150	6%
0.075	5%
Particle Size (microns)	
79	5%
56	5%
39	4%
20	3%
10	3%
5	2%
1	2%

Samples analysed as received.

Median Particle Size (mm)*	5.182

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	23-Mar-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, STONE	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.68 g/cm3

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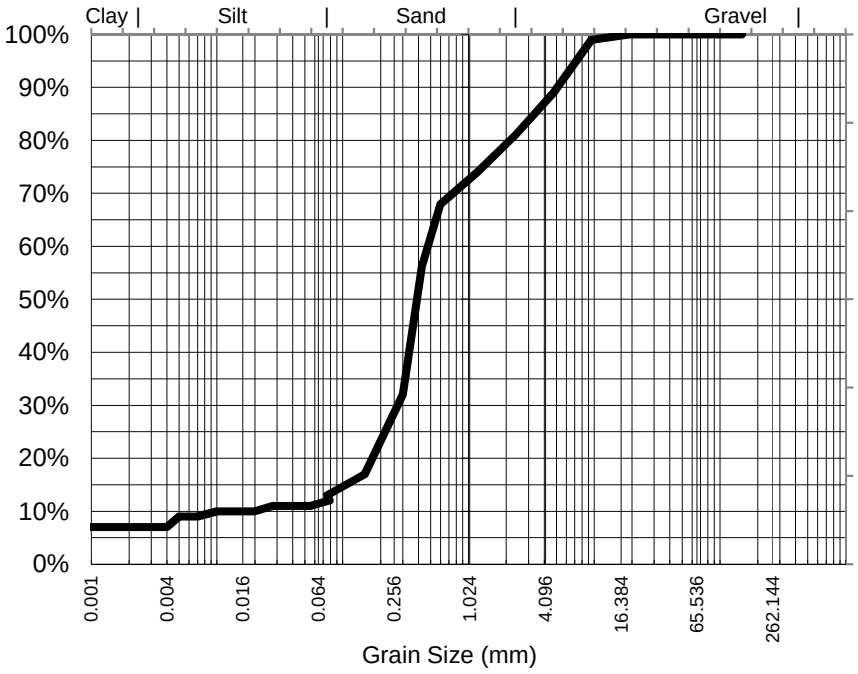
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504998-017 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH33 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	99%
4.75	89%
2.36	81%
1.18	74%
0.600	68%
0.425	56%
0.300	32%
0.150	17%
0.075	13%
Particle Size (microns)	
79	12%
56	11%
39	11%
20	10%
10	10%
5	9%
1	7%

Samples analysed as received.

Median Particle Size (mm)*	0.394

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SILT, SAND, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.67 g/cm3

Analysed: 23-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

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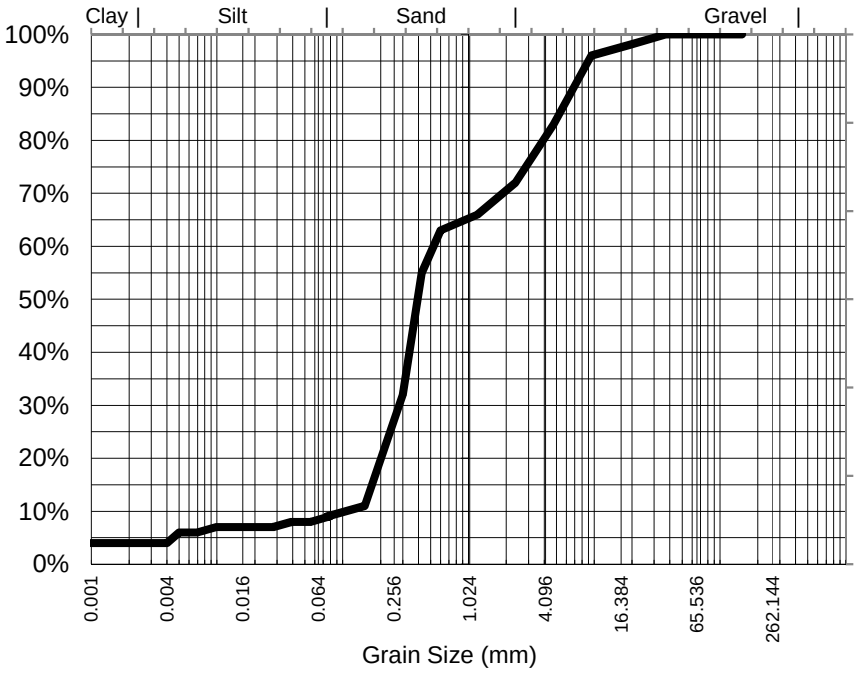
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504998-018 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH33 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
37.5	100%
19.0	98%
9.50	96%
4.75	83%
2.36	72%
1.18	66%
0.600	63%
0.425	55%
0.300	32%
0.150	11%
0.075	9%
Particle Size (microns)	
79	9%
56	8%
39	8%
20	7%
10	7%
5	6%
1	4%

Median Particle Size (mm)*	0.398

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	23-Mar-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SILT, SAND, SHELL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.67 g/cm3

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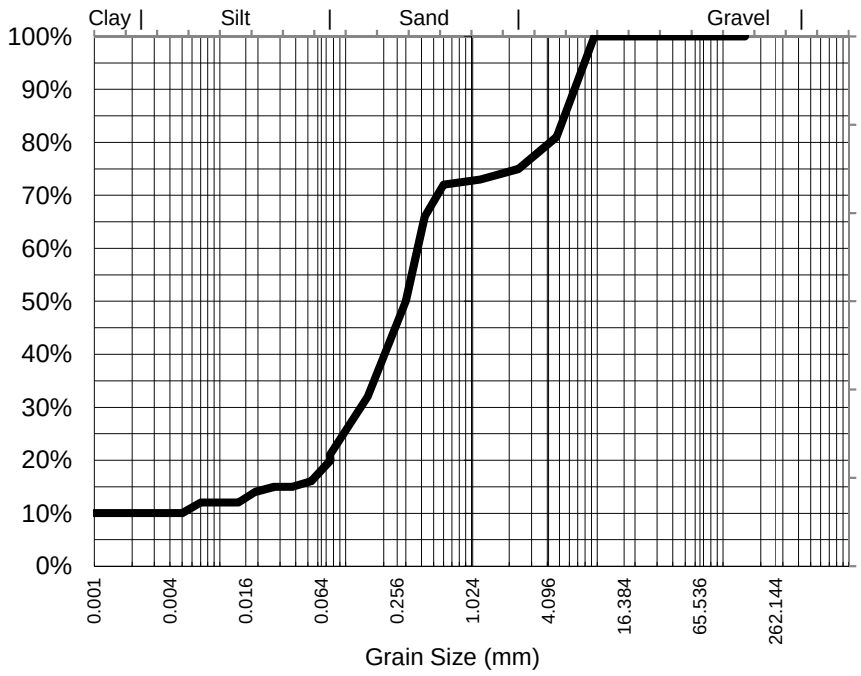
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504998-019 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH33 1.0-1.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	81%
2.36	75%
1.18	73%
0.600	72%
0.425	66%
0.300	50%
0.150	32%
0.075	21%
Particle Size (microns)	
76	20%
53	16%
38	15%
19	14%
10	12%
5	10%
1	10%

Median Particle Size (mm)*	0.300

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SILT, STONE, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.67 g/cm3

Analysed: 23-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

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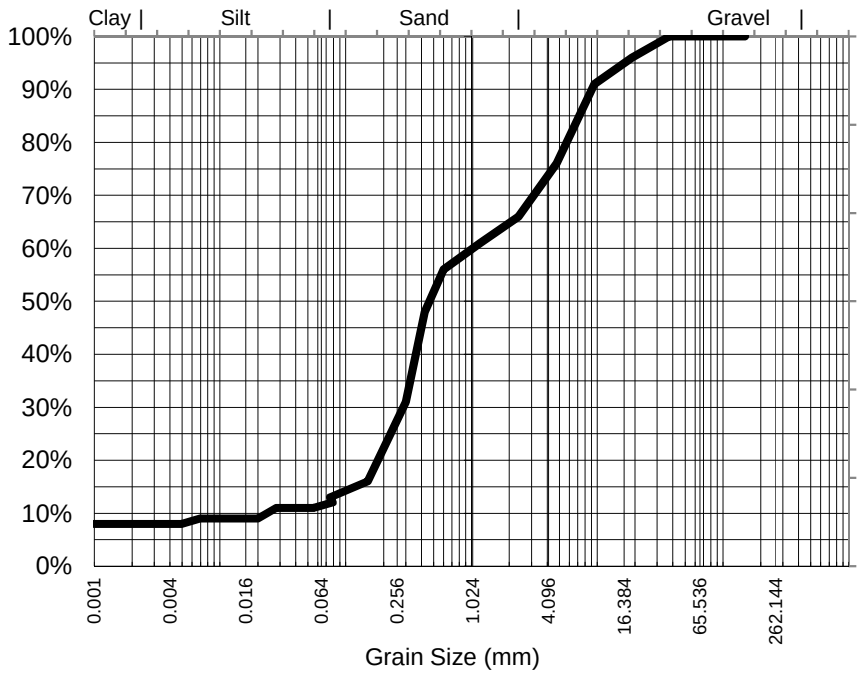
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504998-027 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH34 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
37.5	100%
19.0	96%
9.50	91%
4.75	76%
2.36	66%
1.18	61%
0.600	56%
0.425	48%
0.300	31%
0.150	16%
0.075	13%
Particle Size (microns)	
79	12%
56	11%
39	11%
20	9%
10	9%
5	8%
1	8%

Samples analysed as received.

Median Particle Size (mm)*	0.469

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SILT, STONE, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.68 g/cm3

Analysed: 23-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

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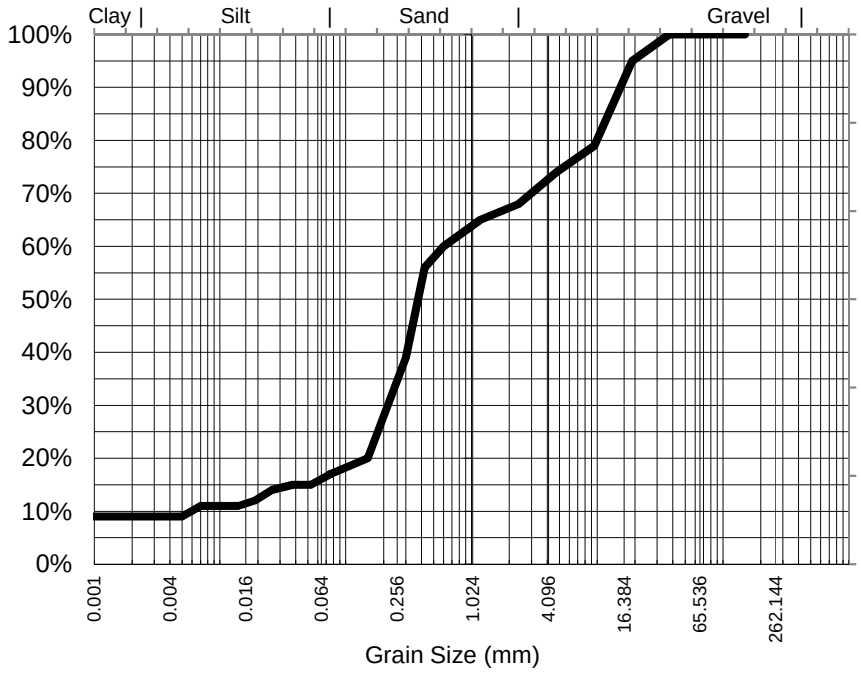
CLIENT:	Sally Leyland	**DATE REPORTED:**	30-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504998-028 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH34 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
37.5	100%
19.0	95%
9.50	79%
4.75	74%
2.36	68%
1.18	65%
0.600	60%
0.425	56%
0.300	39%
0.150	20%
0.075	17%
Particle Size (microns)	
76	17%
53	15%
38	15%
19	12%
10	11%
5	9%
1	9%

Median Particle Size (mm)*	0.381

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 23-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: SILT, SAND

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.68 g/cm3

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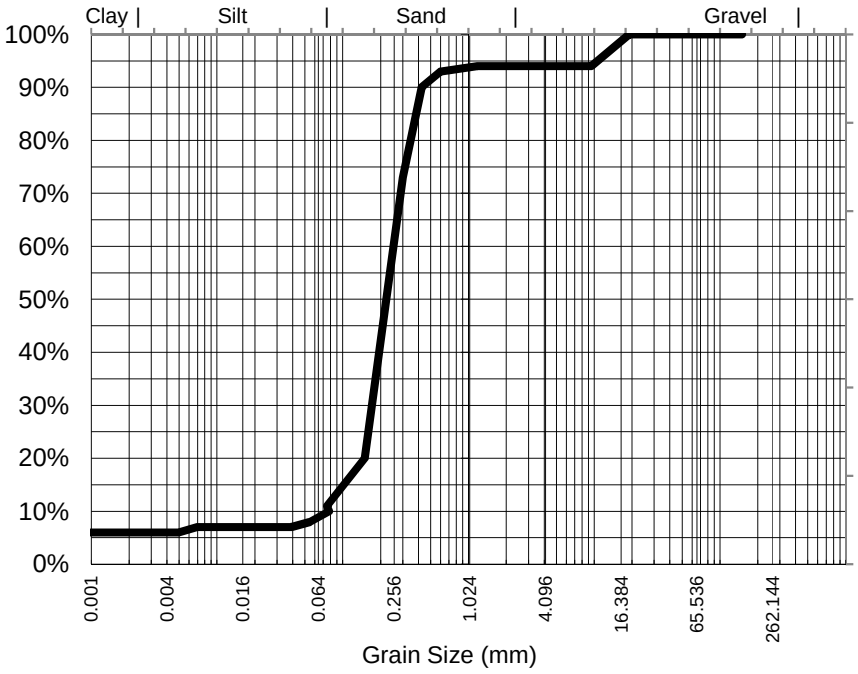
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504998-029 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH34 1.0-1.6B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	94%
4.75	94%
2.36	94%
1.18	94%
0.600	93%
0.425	90%
0.300	73%
0.150	20%
0.075	11%
Particle Size (microns)	
78	10%
55	8%
39	7%
19	7%
10	7%
5	6%
1	6%

Samples analysed as received.

Median Particle Size (mm)*	0.235

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SAND

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.67 g/cm3

Analysed: 23-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

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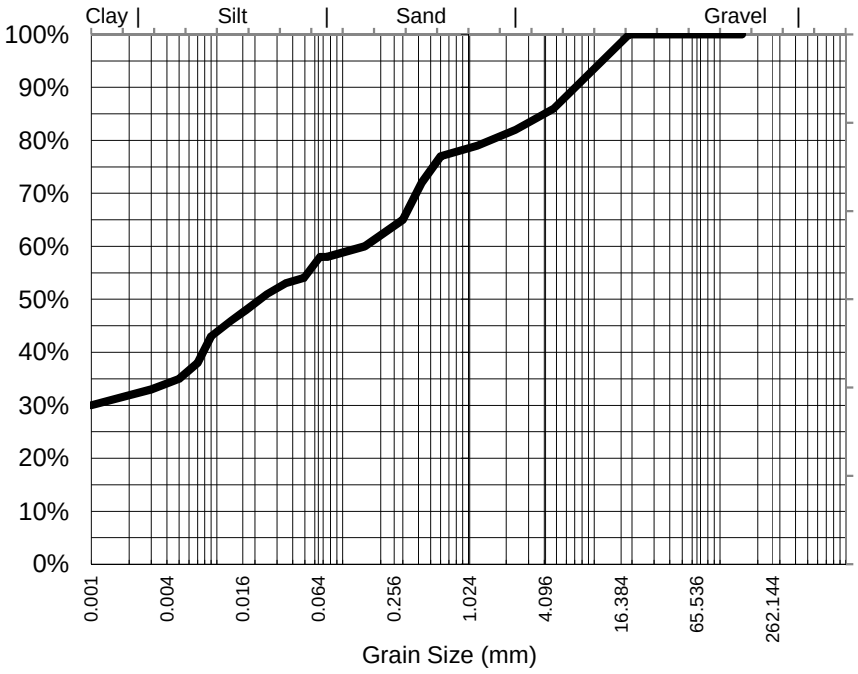
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504998-034 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH35 0.0-0.7B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	93%
4.75	86%
2.36	82%
1.18	79%
0.600	77%
0.425	72%
0.300	65%
0.150	60%
0.075	58%
Particle Size (microns)	
66	58%
49	54%
35	53%
17	48%
9	43%
5	35%
1	30%

Samples analysed as received.

Median Particle Size (mm)*	0.022

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:		**Analysed:**	23-Mar-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SILT, SAND, STONE	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.6 g/cm3

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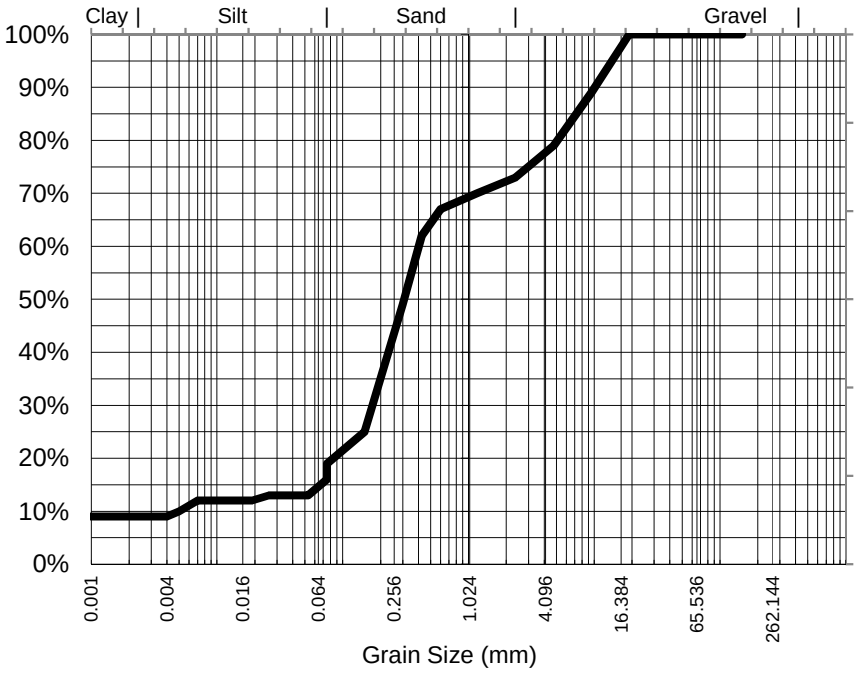
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504998-043 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH39 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	89%
4.75	79%
2.36	73%
1.18	70%
0.600	67%
0.425	62%
0.300	49%
0.150	25%
0.075	19%
Particle Size (microns)	
75	16%
53	13%
37	13%
19	12%
10	12%
5	10%
1	9%

Median Particle Size (mm)*	0.310

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 23-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: SILT, SAND, SHELL

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.68 g/cm3

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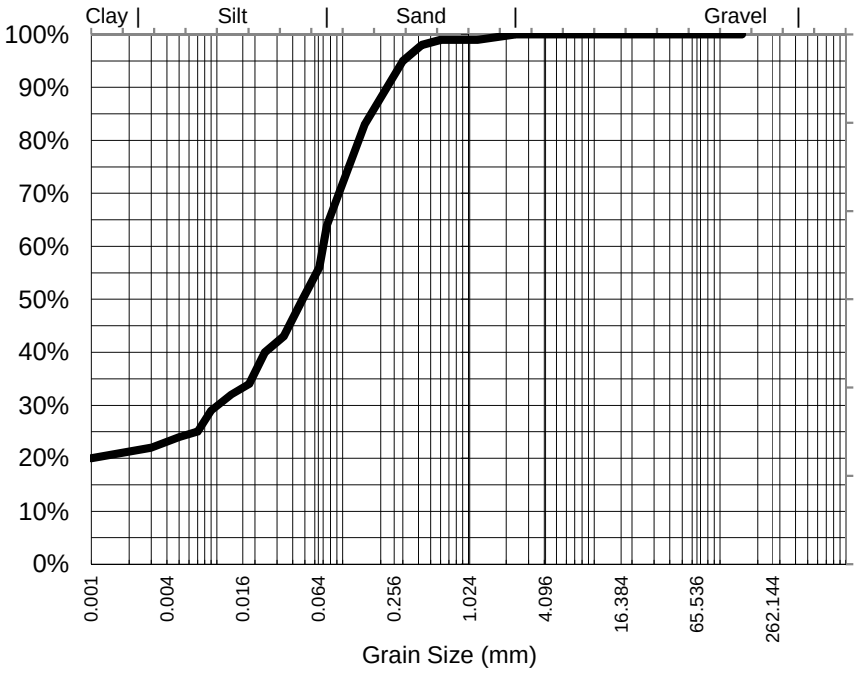
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504998-044 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH39 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	99%
0.600	99%
0.425	98%
0.300	95%
0.150	83%
0.075	64%
Particle Size (microns)	
65	56%
48	50%
34	43%
18	34%
9	29%
5	24%
1	20%

Samples analysed as received.

Median Particle Size (mm)*	0.048

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SAND AND SILT

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.69 g/cm3

Analysed: 23-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

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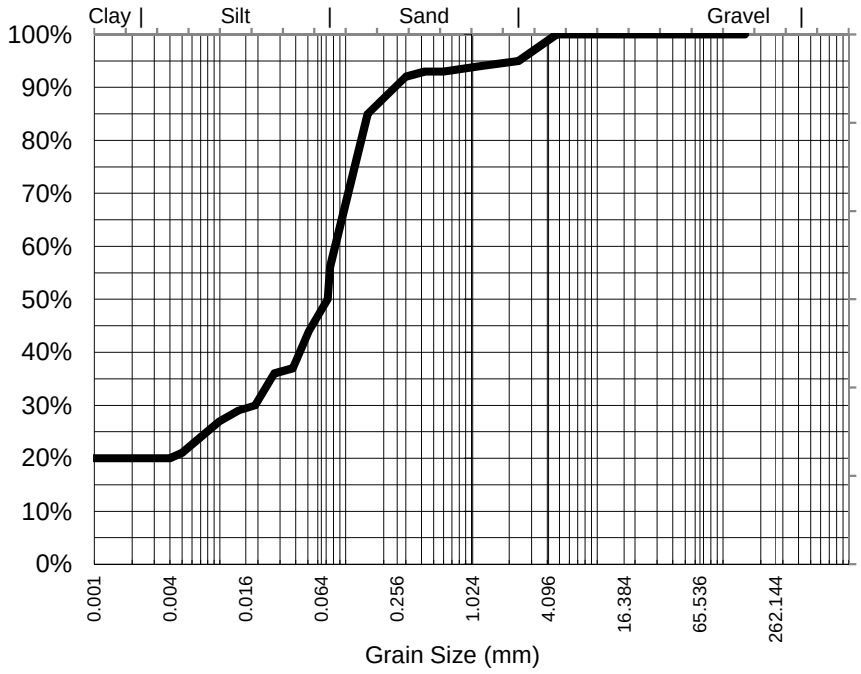
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504998-045 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH39 1.0 - 1.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	95%
1.18	94%
0.600	93%
0.425	93%
0.300	92%
0.150	85%
0.075	56%
Particle Size (microns)	
72	50%
51	44%
38	37%
19	30%
10	27%
5	21%
1	20%

Median Particle Size (mm)*	0.072

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 23-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: SAND AND SILT

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.54 g/cm3

NATA Accreditation: 825 Site: Newcastle
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Dianne Blane
Inorganic Coordinator Newcastle
Authorised Signatory

Certificate of Analysis

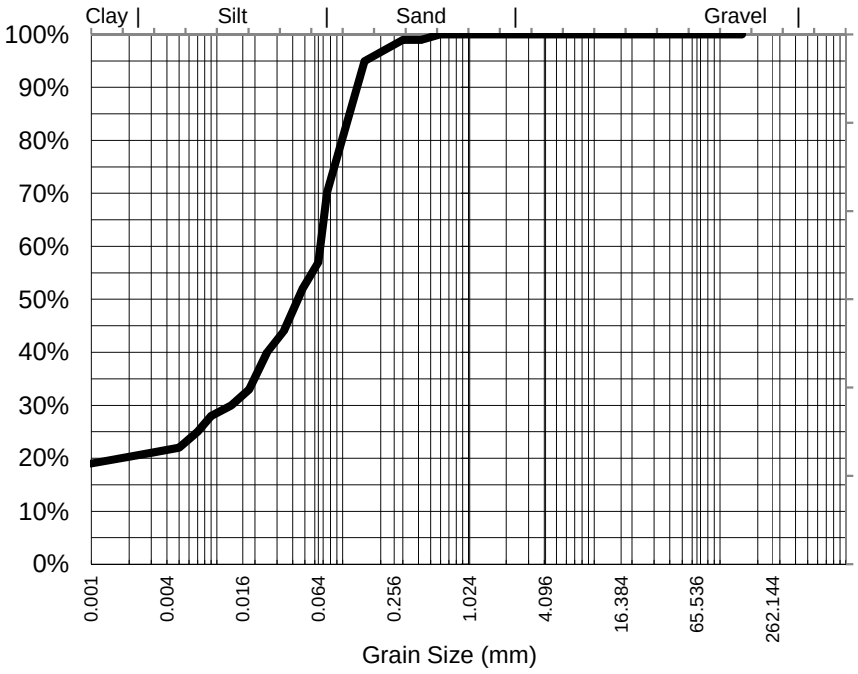
ALS Laboratory Group Pty Ltd
5/585 Maitland Road
Mayfield West, NSW 2304
pH 02 4014 2500
fax 02 4968 0349
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	30-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504998-046 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH39 1.5-1.8B

Particle Size Distribution



Particle Size (mm)	Percent Passing
0.600	100%
0.425	99%
0.300	99%
0.150	95%
0.075	70%
Particle Size (microns)	
64	57%
48	52%
34	44%
18	33%
9	28%
5	22%
1	19%

Median Particle Size (mm)*	0.045

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SAND AND SILT

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.7 g/cm3

Analysed: 23-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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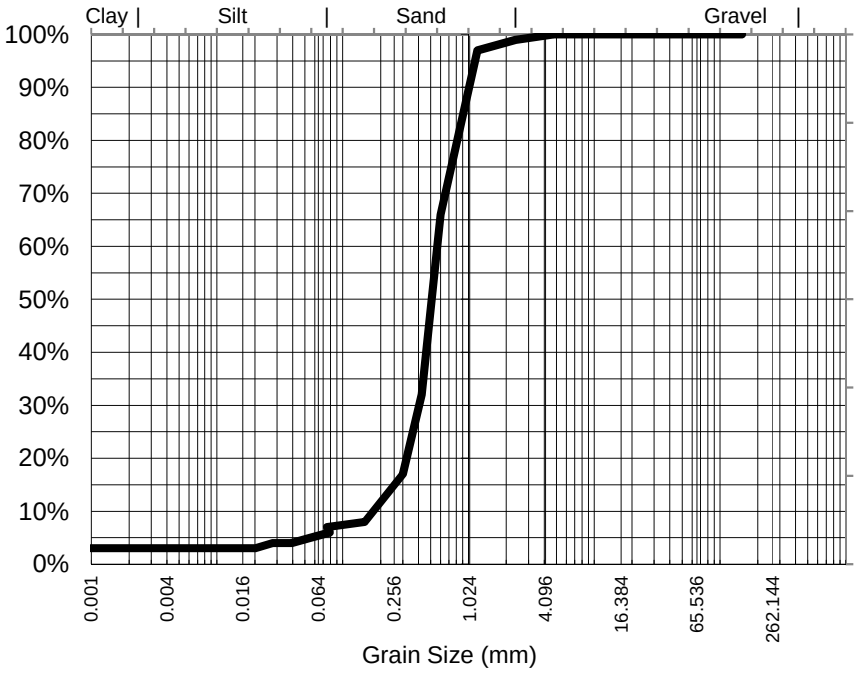
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	30-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504998-053 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH40 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	99%
1.18	97%
0.600	66%
0.425	32%
0.300	17%
0.150	8%
0.075	7%
Particle Size (microns)	
79	6%
56	5%
39	4%
20	3%
10	3%
5	3%
1	3%

Samples analysed as received.

Median Particle Size (mm)*	0.518

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	23-Mar-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.64 g/cm3

NATA Accreditation: 825 Site: Newcastle
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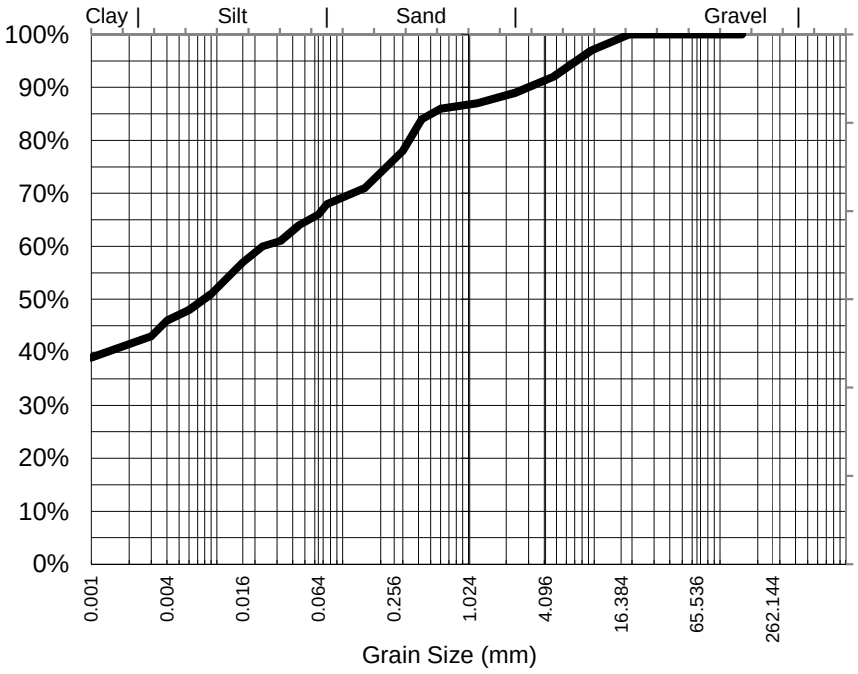
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	30-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504998-057 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH41 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	97%
4.75	92%
2.36	89%
1.18	87%
0.600	86%
0.425	84%
0.300	78%
0.150	71%
0.075	68%
Particle Size (microns)	
64	66%
45	64%
32	61%
16	57%
9	51%
4	46%
1	39%

Median Particle Size (mm)*	0.008

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 23-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: SAND AND SILT

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.7 g/cm3

NATA Accreditation: 825 Site: Newcastle
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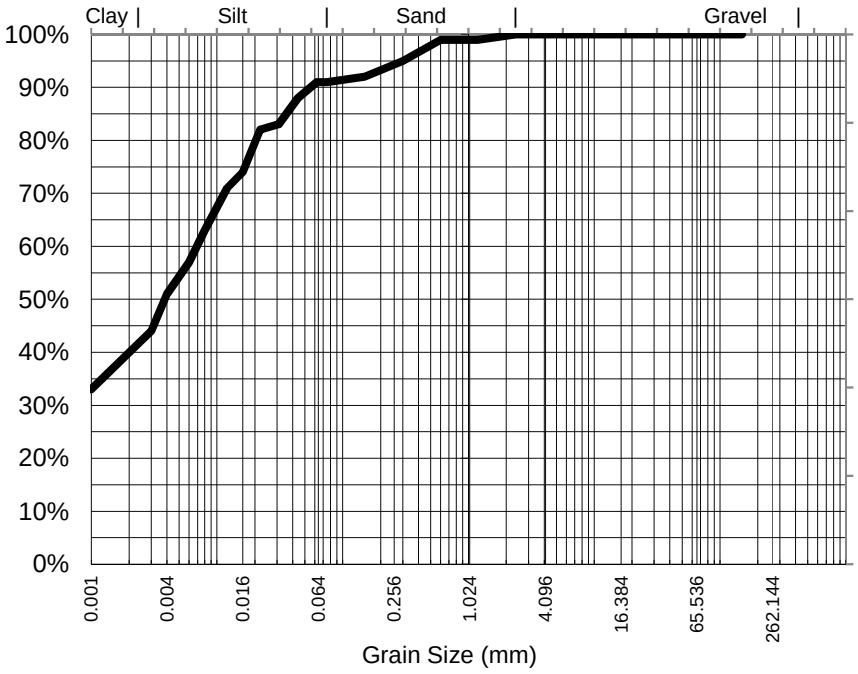
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	30-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504998-060 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH43 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	99%
0.600	99%
0.425	97%
0.300	95%
0.150	92%
0.075	91%
Particle Size (microns)	
62	91%
44	88%
31	83%
16	74%
8	63%
4	51%
1	33%

Median Particle Size (mm)*	0.004

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 23-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: SAND , SILT AND CLAY

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.64 g/cm3

NATA Accreditation: 825 Site: Newcastle
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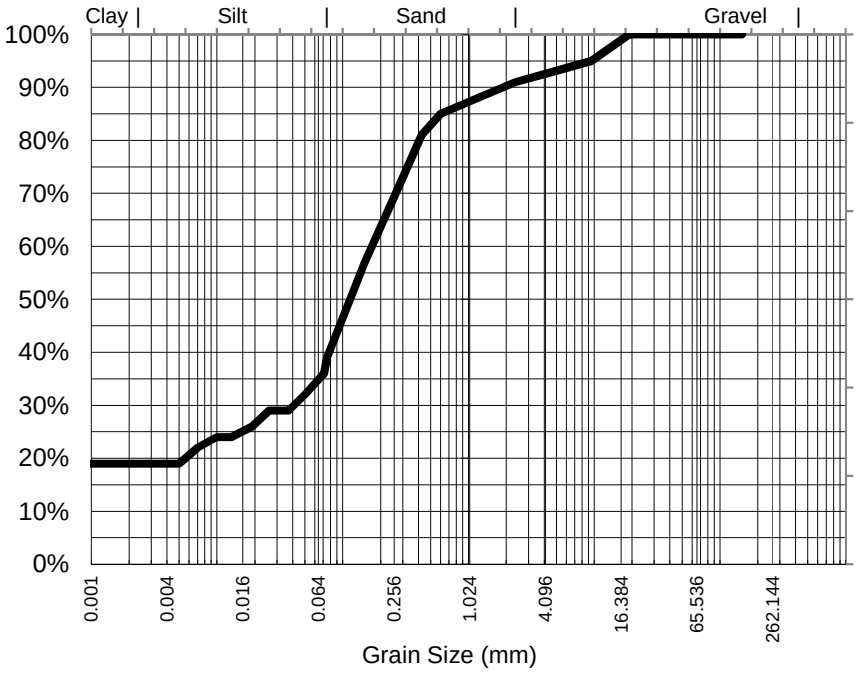
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	30-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504998-064 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH45 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	95%
4.75	93%
2.36	91%
1.18	88%
0.600	85%
0.425	81%
0.300	73%
0.150	57%
0.075	39%
Particle Size (microns)	
71	36%
50	32%
37	29%
19	26%
10	24%
5	19%
1	19%

Median Particle Size (mm)*	0.121

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 23-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: SAND, SILT AND CLAY

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.66 g/cm3

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fax 02 4968 0349
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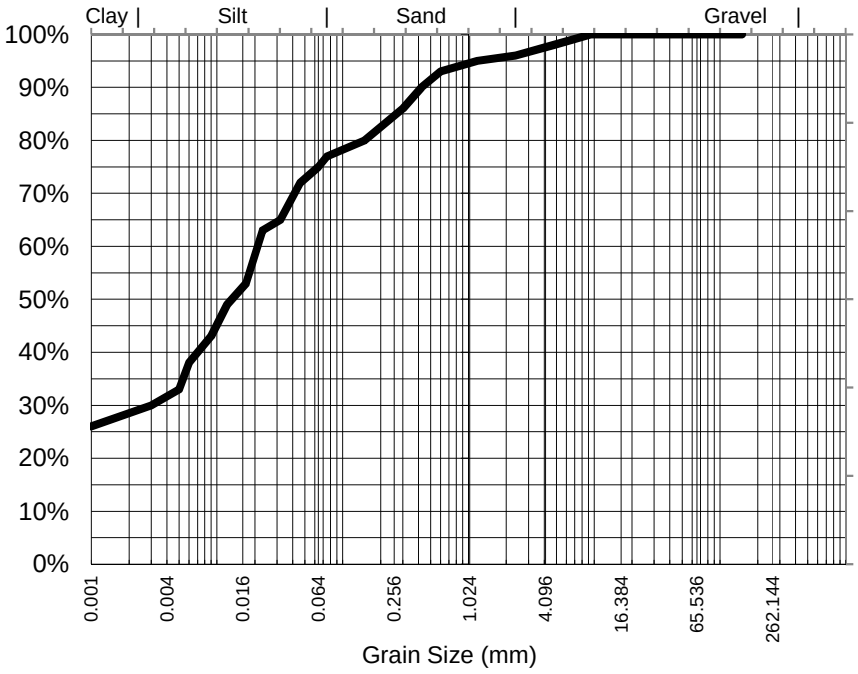
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	30-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	3-Mar-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504998-068 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH46 0.0-0.6B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	98%
2.36	96%
1.18	95%
0.600	93%
0.425	90%
0.300	86%
0.150	80%
0.075	77%
Particle Size (microns)	
64	75%
46	72%
32	65%
17	53%
9	43%
5	33%
1	26%

Median Particle Size (mm)*	0.013

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 23-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: SAND, SILT AND CLAY

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.65 g/cm3

NATA Accreditation: 825 Site: Newcastle
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Inorganic Coordinator Newcastle
Authorised Signatory

CHAIN OF CUSTODY

ALS Environmental

ALS Laboratory: please tick →

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6	Other comment:	

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer	K Schafer	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		4 February 2015	4 February 2015	5.2.15 1600	6/2/15 9:00

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	WB3 0.0-1.0A	4/02/2015	S	Glass Jar (250 ml)	1	1								
2	WB3 0.0-0.5A	4/02/2015	S	Glass Jar (250 ml)	1	1								
3	WB3 0.3V	4/02/2015	S	Glass Jar (250 ml)	1			1						
4	WB3 0.7V	4/02/2015	S	Glass Jar (250 ml)	1			1						
5	WB3 0.0-0.5B	4/02/2015	S	Bag (White label)	1		1							
6	WB3 0.5-1.0B	4/02/2015	S	Bag (White label)	1		1							
7	Triplicate 2A	4/02/2015	S	Glass Jar (250 ml)	1	1								
8	Triplicate 2B	4/02/2015	S	Glass Jar (250 ml)	1	1								
9	Duplicate 2A	4/02/2015	S	Glass Jar (250 ml)	1									
10	Duplicate 2B	4/02/2015	S	Glass Jar (250 ml)	1				SENT TO EUROFINS					
11	Trip Blank 1	4/02/2015	S	Pre-filled glass jar	1	1								
12	Trip Blank 2	4/02/2015	S	Pre-filled glass jar	1	1								
13	Rinsate 2	4/02/2015	W	Bottle	8	1								
				TOTAL	22	7	2	2						

Aurecon/Forward Lab/Split WO

Lab / Analysis: Eurofins / 10

Organised By / Date: Brisbane / TBT & TOC

Relinquished By / Date: 1-6-5-8-14-15-22-23,

Connote / Courier: 26-27, 32-33, 40-41, 44-47,

WO No: 52-53, 58-59, 10 (TBT only - Water)

Attach By PO / Internal Sheet: -----

Newcastle/BSD

5-6, 18-29, 30-31, 36/37

38-39, 44-45, 50-51

56-57,

Environmental Division Sydney

Work Order

ES1502737

Telephone : +61-2-8784 8555

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS: ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround		Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 (2) 3 4 5 6 7	Random Sample Temperature on Receipt °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		4 February 2015	4 February 2015

RELINQUISHED BY:	RECEIVED BY:
KS	
DATE/TIME: 5.2.15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
14	WB4 0.5-0.6A	4/02/2015	S	Glass Jar (250 ml)	1	1								
15	WB4 0.5-1.0A	4/02/2015	S	Glass Jar (250 ml)	1	1								
16	WB4 0.3V	4/02/2015	S	Glass Jar (250 ml)	1			1						
17	WB4 0.7V	4/02/2015	S	Glass Jar (250 ml)	1			1						
18	WB4 0.5-1.0B	4/02/2015	S	Bag (White label)	1		1							
19	WB4 0.0-0.5B	4/02/2015	S	Bag (White label)	1		1							
				TOTAL	6	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A; Free ice / frozen ice bricks present upon receipt? Yes No N/A; Random Sample Temperature on Receipt: °C; Other comments:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8005	OF: 1 2 3 4 5 6 (7)	

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		4 February 2015	4 February 2015

RELINQUISHED BY:	RECEIVED BY:	
DATE/TIME: 5-2-15 1600	DATE/TIME:	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE?	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH				Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
20	WB5 0.5-1.0B	4/02/2015	S	Bag (White label)			1								
21	WB5 0.0-0.5B	4/02/2015	S	Bag (White label)			1								
22	WB5 0.5-1A	4/02/2015	S	Glass Jar (250 ml)	1	1									
23	WB5 0.0-0.5A	4/02/2015	S	Glass Jar (250 ml)	1	1									
24	WB5 0.3V	4/02/2015	S	Glass Jar (250 ml)				1							
25	WB5 0.7V	4/02/2015	S	Glass Jar (250 ml)				1							
				TOTAL	2	2	2	2							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	(Ice Bag / Frozen Ice Bricks present upon receipt?)	Yes / No / N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 (4) 5 6 7	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8008	OF: 1 2 3 4 5 6 (7)	Other comments:	

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY: / RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME: 5.2.15 1600
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		4 February 2015	4 February 2015	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH				Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
26	WB8 0.5-1.0A	4/02/2015	S	Glass Jar (250 ml)	1	1									
27	WB8 0.0-0.5A	4/02/2015	S	Glass Jar (250 ml)	1	1									
28	WB8 0.3V	4/02/2015	S	Glass Jar (250 ml)	1			1							
29	WB8 0.7V	4/02/2015	S	Glass Jar (250 ml)	1			1							
30	WB8 0.5-1.0B	4/02/2015	S	Bag (White label)	1		1				1				
31	WB8 0.0-0.5B	4/02/2015	S	Bag (White label)	1		1								
				TOTAL	6	2	2	2							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Free ice / frozen ice bricks present upon receipt? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: C
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 7	Other comment:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		RELINQUISHED BY: KS
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 4 February 2015	DATE/TIME: 4 February 2015
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			RECEIVED BY: DATE/TIME: 5.2.15 1600

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
32	WB9 0.0-0.5A	4/02/2015	S	Glass Jar (250 ml)	1	1								
33	WB9 0.5-1.0A	4/02/2015	S	Glass Jar (250 ml)	1	1								
34	WB9 0.3V	4/02/2015	S	Glass Jar (250 ml)	1			1						
35	WB9 0.7V	4/02/2015	S	Glass Jar (250 ml)	1			1						
36	WB9 0.5-1.0B	4/02/2015	S	Bag (White label)			1							
37	WB9 0.0-0.5 B	4/02/2015	S	Bag (White label)			1							
				TOTAL	4	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free Ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		4 February 2015	4 February 2015

RELINQUISHED BY:	RECEIVED BY:
KS	
DATE/TIME: 5-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
38	WB12 0.0-0.5 B	4/02/2015	S	Bag (White label)	1		1							
39	WB12 0.5-1.0 B	4/02/2015	S	Bag (White label)	1		1							
40	WB12 0.0-1.0 A	4/02/2015	S	Glass Jar (250 ml)	1	1								
41	WB12 0.0-1.0 A	4/02/2015	S	Glass Jar (250 ml)	1	1								
42	WB12 0.3V	4/02/2015	S	Glass Jar (250 ml)	1			1						
43	WB12 0.7V	4/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	6	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free Ice / frozen Ice Packs present upon receipt?	Yes / No / N/A
ORDER NUMBER: 246553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006		Other comments:	

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6609	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*	*K Schafer*	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		4 February 2015	4 February 2015	5.2.15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
44	WB13 0.0-0.5 B	4/02/2015	S	Bag (White label)	1		1							
45	WB13 0.5-1.0 B	4/02/2015	S	Bag (White label)	1		1							
46	WB13 0.0-0.5 A	4/02/2015	S	Glass Jar (250 ml)	1	1								
47	WB13 0.5-1.0 A	4/02/2015	S	Glass Jar (250 ml)	1	1								
48	WB13 0.3 V	4/02/2015	S	Glass Jar (250 ml)	1			1						
49	WB13 0.7 V	4/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	6	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Free Ice / Frozen Ice Pack present upon receipt? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6	Random Sample Temperature on Receipt: °C
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6	Other comment:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 4 February 2015	DATE/TIME: 4 February 2015
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY:	RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 5.2.15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
50	WB16 0.0-0.5 B	4/02/2015	S	Bag (White label)	1		1							
51	WB16 0.5-1.0 B	4/02/2015	S	Bag (White label)	1		1							
52	WB16 0.0-0.5 A	4/02/2015	S	Glass Jar (250 ml)	1	1								
53	WB16 0.5-1.0 A	4/02/2015	S	Glass Jar (250 ml)	1	1								
54	WB16 0.3V	4/02/2015	S	Glass Jar (250 ml)	1			1						
55	WB16 0.7V	4/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	6	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS: ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 OF: 1 2 3 4 5 6	Random Sample Temperature on Receipt	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006		Other comment:	
SAMPLER: Georgina Kerr SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO) EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com	DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com	4 February 2015	4 February 2015	5.2.15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
56	WB18 0.0-0.5 B	4/02/2015	S	Bag (White label)	1		1							
57	WB18 0.5-1.0 B	4/02/2015	S	Bag (White label)	1		1							
58	WB18 0.0-0.5 A	4/02/2015	S	Glass Jar (250 ml)	1	1								
59	WB18 0.5-1.0 A	4/02/2015	S	Glass Jar (250 ml)	1	1								
60	WB18 0.3V	4/02/2015	S	Glass Jar (250 ml)	1			1						
61	WB18 0.7V	4/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	6	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Wanida Roberts

From: Jacob Waugh
Sent: Thursday, 12 February 2015 2:52 PM
To: Wanida Roberts
Cc: Saman Taeidi
Subject: FW: ES1502737-009 Duplicate 2A didnt have any analysis selected on the COC

From: Saman Taeidi
Sent: Thursday, 12 February 2015 2:51 PM
To: Jacob Waugh
Subject: RE: ES1502737-009 Duplicate 2A didnt have any analysis selected on the COC

Thanks Jacob for picking that up.

Yes this is a mistake on the CoC – Please schedule Duplicate 2A for Aurecon Suite 1.

Kind Regards

Saman Taeidi

Client Services Officer
ALS | Environmental Division

277-289 Woodpark Road
Smithfield NSW 2164 Australia

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We are keen for your feedback! Please click here for your 1 question survey

EnviroMail™ 85 – Temperature Management Best Practice
EnviroMail™ 00 - Summary of all EnviroMails™ by Category

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From: Jacob Waugh
Sent: Thursday, 12 February 2015 2:34 PM
To: Saman Taeidi
Subject: ES1502737-009 Duplicate 2A didnt have any analysis selected on the COC

Hi Saman,

Can you confirm if sample #9 should really be on hold or was it a mistake on the COC?

Jacob Waugh

Laboratory Co-ordinator
ALS | Environmental Division

277-289 Woodpark Road
Smithfield NSW 2164 Australia

T +61 2 8784 8555
F +61 2 8784 8500

We are keen for your feedback! Please click here for your 1 question survey

EnviroMail™ 81 - TRH Silica and Reducing Potential False Positives on TPH

EnviroMail™ 85 - Temperature Management Best Practice

EnviroMail™ 00 - Summary of all EnviroMails™ by Category

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ALS Environmental

ALS Laboratory: please tick →

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☐GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph 07 7471 5600 E gladstone@alsglobal.com
☐MACKAY 78 Harbour Road Mackay QLD 4740 Ph 07 4944 0177 E mackay@alsglobal.com
☐MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph 03 8549 9600 E samples.melbourne@alsglobal.com
☐MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph 02 6372 6735 E mudgee.mail@alsglobal.com
☐NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph 02 4968 9433 E samples.newcastle@alsglobal.com
☐NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph 02 4423 2063 E nowra@alsglobal.com
☐PERTH 10 Hod Way Malaga WA 6090 Ph 08 9209 7655 E samples.perth@alsglobal.com
☐SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph 02 8784 8555 E samples.sydney@alsglobal.com
☐TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph 07 4796 0600 E townsville.environmental@alsglobal.com
☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph 02 4225 3125 E portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: (1) 2 3 4 5 6 7	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comment:	
SAMPLER: Georgina Kerr SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr DATE/TIME: 4 February 2015	RECEIVED BY: Kelly Schafer DATE/TIME: 4 February 2015	RELINQUISHED BY: DATE/TIME: 5.2.15 1600
COC emailed to ALS? (YES / NO) EDD FORMAT (or default):			RECEIVED BY: DATE/TIME: 6/2/15 900
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	WB3 0.5-1.0A	4/02/2015	S	Glass Jar (250 ml)	1	1								
2	WB3 0.0-0.5A	4/02/2015	S	Glass Jar (250 ml)	1	1								
3	WB3 0.3V	4/02/2015	S	Glass Jar (250 ml)	1			1						
4	WB3 0.7V	4/02/2015	S	Glass Jar (250 ml)	1			1						
5	WB3 0.0-0.5B	4/02/2015	S	Bag (White label)	1		1							
6	WB3 0.5-1.0B	4/02/2015	S	Bag (White label)	1		1							
7	Triplicate 2A	4/02/2015	S	Glass Jar (250 ml)	1	1								
8	Triplicate 2B	4/02/2015	S	Glass Jar (250 ml)	1	1								
9	Duplicate 2A	4/02/2015	S	Glass Jar (250 ml)	1									
10	Duplicate 2B	4/02/2015	S	Glass Jar (250 ml)	1									
11	Trip Blank 1	4/02/2015	S	Pre-filled glass jar	1	1								
12	Trip Blank 2	4/02/2015	S	Pre-filled glass jar	1	1								
13	Rinsate 2	4/02/2015	W	Bottle	8	1								
				TOTAL	22	7	2	2						

SENT TO EUROFINS

Environmental Division Sydney

Work Order

ES1502737

Telephone : +61-2-8784 8555

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
ORANGE 4/13 Geary Place North Nowra NSW 2541
Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville@environmental.alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 (2) 3 4 5 6 7	Random Sample Temperature on Receipt
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		4 February 2015	4 February 2015

RELINQUISHED BY:	RECEIVED BY:
KS	
DATE/TIME: 5·2·15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
14	[redacted]	4/02/2015	S	Glass Jar (250 ml)	1	1								
15	[redacted]	4/02/2015	S	Glass Jar (250 ml)	1	1								
16	WB4 0.3V	4/02/2015	S	Glass Jar (250 ml)	1			1						
17	WB4 0.7V	4/02/2015	S	Glass Jar (250 ml)	1			1						
18	WB4 0.5-1.0B	4/02/2015	S	Bag (White label)	1		1							
19	WB4 0.0-0.5B	4/02/2015	S	Bag (White label)	1		1							
				TOTAL	6	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VD = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes / No / N/A; Free ice / frozen ice bricks present upon receipt? Yes / No / N/A; Random Sample Temperature on Receipt: °C; Other comments:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		4 February 2015	4 February 2015

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 5-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB, Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH				
20	WB5 0.5-1.0B	4/02/2015	S	Bag (White label)			1								
21	WB5 0.0-0.5B	4/02/2015	S	Bag (White label)			1								
22	[redacted]	4/02/2015	S	Glass Jar (250 ml)	1	1									
23	[redacted]	4/02/2015	S	Glass Jar (250 ml)	1	1									
24	WB5 0.5V	4/02/2015	S	Glass Jar (250 ml)				1							
25	WB5 0.7V	4/02/2015	S	Glass Jar (250 ml)				1							
				TOTAL	2	2	2	2							

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Free Ice / frozen ice bricks present upon receipt? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 (4) 5 6 7	Random Sample Temperature on Receipt: °C
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 (7)	Other comments:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	*KS*	
DATE/TIME: 4 February 2015	DATE/TIME: 4 February 2015	DATE/TIME: 5.2.15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION	ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
26	WB8 0.1A	4/02/2015	S	Glass Jar (250 ml)	1	1								
27	WB8 0.2A	4/02/2015	S	Glass Jar (250 ml)	1	1								
28	WB8 0.3V	4/02/2015	S	Glass Jar (250 ml)	1			1						
29	WB8 0.7V	4/02/2015	S	Glass Jar (250 ml)	1			1						
30	WB8 0.5-1.0B	4/02/2015	S	Bag (White label)	1		1							
31	WB8 0.0-0.5B	4/02/2015	S	Bag (White label)	1		1							
					6	2	2	2						

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A; Free ice / frozen ice bricks present upon receipt? Yes No N/A; Random Sample Temperature on Receipt °C; Quote comments
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 7	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	Kelly Schafer		
DATE/TIME: 4 February 2015	DATE/TIME: 4 February 2015	DATE/TIME: 5.2.15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
32	[redacted]	4/02/2015	S	Glass Jar (250 ml)	1	1								
33	[redacted]	4/02/2015	S	Glass Jar (250 ml)	1	1								
34	WB9 0.3V	4/02/2015	S	Glass Jar (250 ml)	1			1						
35	WB9 0.7V	4/02/2015	S	Glass Jar (250 ml)	1			1						
36	WB9 0.5-1.0B	4/02/2015	S	Bag (White label)			1							
37	WB9 0.0-0.5 B	4/02/2015	S	Bag (White label)			1							
				TOTAL	4	2	2	2						

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
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OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 7	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 4 February 2015	DATE/TIME: 4 February 2015
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: GK DATE/TIME: 5-2-15 1600	RECEIVED BY: DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB, Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
38	WB12 0.0-0.5 B	4/02/2015	S	Bag (White label)	1		1							
39	WB12 0.5-1.0 B	4/02/2015	S	Bag (White label)	1		1							
40	[redacted]	4/02/2015	S	Glass Jar (250 ml)	1	1								
41	[redacted]	4/02/2015	S	Glass Jar (250 ml)	1	1								
42	WB12 0.5V	4/02/2015	S	Glass Jar (250 ml)	1			1						
43	WB12 0.7V	4/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	6	2	2	2						

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OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Frozen/Frozen Ice Packs present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	Kelly Schafer	Schafer	
DATE/TIME: 4 February 2015	DATE/TIME: 4 February 2015	DATE/TIME: 5.2.15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
44	WB13 0.0-0.5 B	4/02/2015	S	Bag (White label)	1		1							
45	WB13 0.5-1.0 B	4/02/2015	S	Bag (White label)	1		1							
46	[redacted]	4/02/2015	S	Glass Jar (250 ml)	1	1								
47	[redacted]	4/02/2015	S	Glass Jar (250 ml)	1	1								
48	WB13 0.5 V	4/02/2015	S	Glass Jar (250 ml)	1			1						
49	WB13 0.7 V	4/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	6	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
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NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2060 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Freeze/Frozen ice brick present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6	Random Sample Temperature on Receipt: 8 9
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		4 February 2015	4 February 2015

RELINQUISHED BY:	RECEIVED BY:
KS	
DATE/TIME: 5.2.15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
50	WB16 0.0-0.5 B	4/02/2015	S	Bag (White label)	1		1							
51	WB16 0.5-1.0 B	4/02/2015	S	Bag (White label)	1		1							
52	[redacted]	4/02/2015	S	Glass Jar (250 ml)	1	1								
53	[redacted]	4/02/2015	S	Glass Jar (250 ml)	1	1								
54	WB16 3V	4/02/2015	S	Glass Jar (250 ml)	1			1						
55	WB16 7V	4/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	6	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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NOWRA 4/13 Geary Place North Nowra NSW 2541
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Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: porkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A; Free ice/frozen ice bricks present upon arrival? Yes No N/A; Random Sample Temperature on Receipt: °C; Other comments:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 OF: 1 2 3 4 5 6	
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 4 February 2015	DATE/TIME: 4 February 2015
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY:	RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 5-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB, Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
56	WB18 0.0-0.5 B	4/02/2015	S	Bag (White label)	1		1							
57	WB18 0.5-1.0 B	4/02/2015	S	Bag (White label)	1		1							
58	[redacted]	4/02/2015	S	Glass Jar (250 ml)	1	1								
59	[redacted]	4/02/2015	S	Glass Jar (250 ml)	1	1								
60	WB18 0.5-V	4/02/2015	S	Glass Jar (250 ml)	1			1						
61	WB18 0.7-V	4/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	6	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Certificate of Analysis

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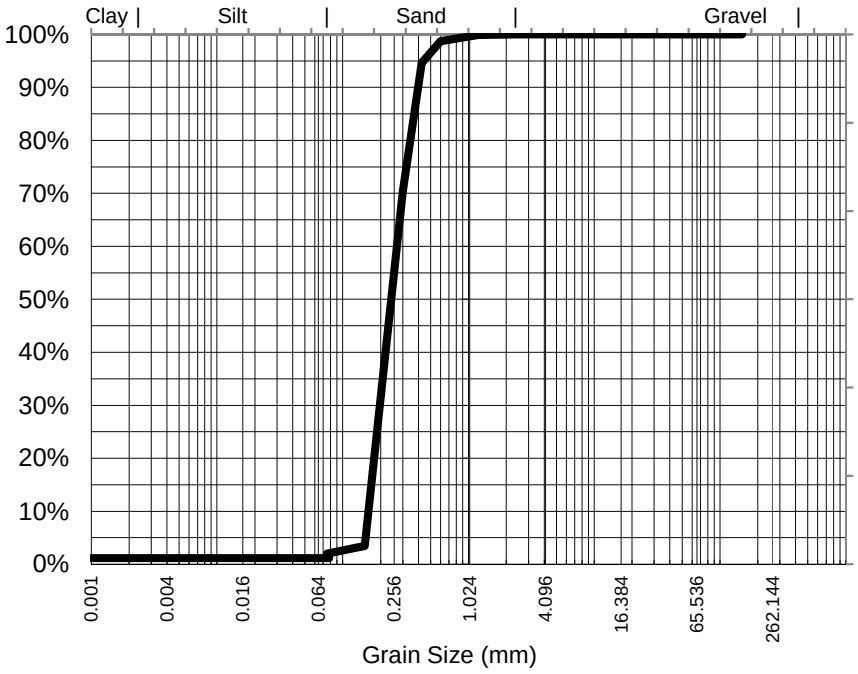
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	26-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	6-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1502737-005 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB3 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	100%
0.600	99%
0.425	95%
0.300	70%
0.150	3%
0.075	2%
Particle Size (microns)	
78	1%
56	1%
39	1%
19	1%
10	1%
5	1%
1	1%

Samples analysed as received.

Median Particle Size (mm)*	0.254

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	20-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SHELL, GRAVEL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.7 g/cm3

NATA Accreditation: 825 Site: Newcastle
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Dianne Blane
Laboratory Co-ordinator, Newcastle
Authorised Signatory

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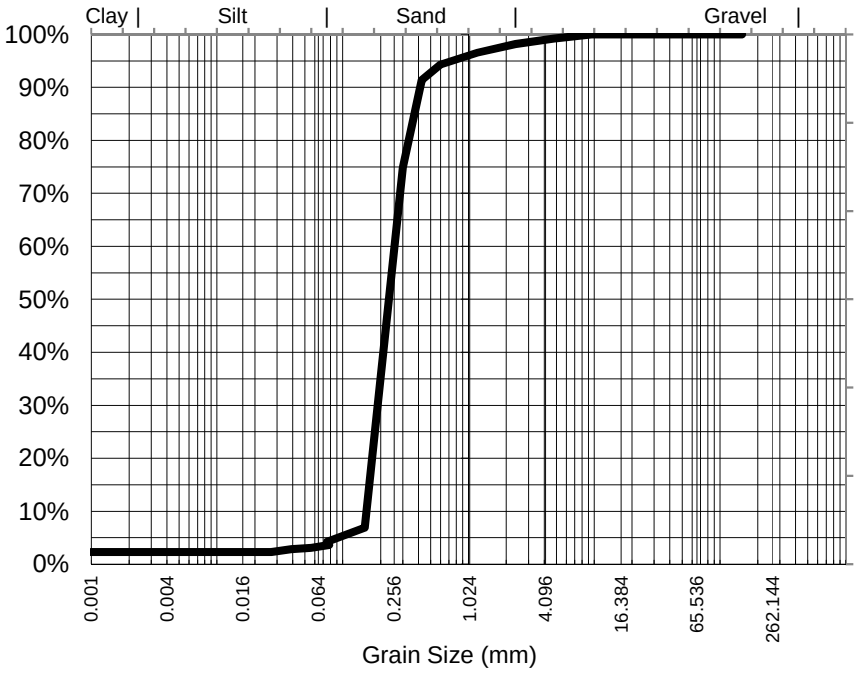
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	26-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	6-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1502737-006 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB3 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	99%
2.36	98%
1.18	97%
0.600	94%
0.425	91%
0.300	75%
0.150	7%
0.075	4%
Particle Size (microns)	
78	4%
56	3%
39	3%
19	2%
10	2%
5	2%
1	2%

Median Particle Size (mm)*	0.245

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	20-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SHELL, GRAVEL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.72 g/cm3

NATA Accreditation: 825 Site: Newcastle
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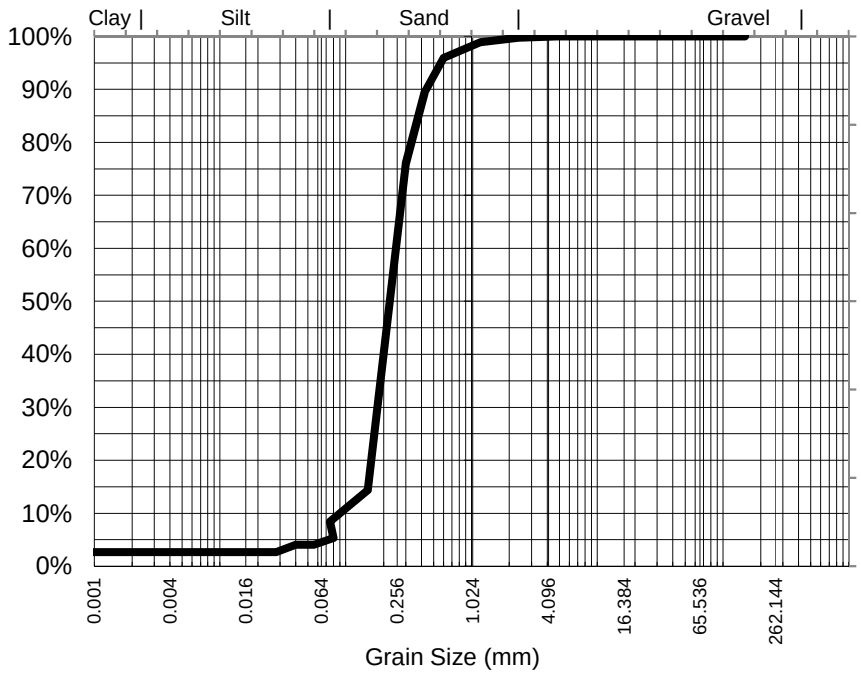
Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	26-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	6-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1502737-018 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB4 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	100%
1.18	99%
0.600	96%
0.425	90%
0.300	76%
0.150	14%
0.075	8%
Particle Size (microns)	
80	5%
56	4%
40	4%
19	3%
10	3%
5	3%
1	3%

Samples analysed as received.

Median Particle Size (mm)*	0.237

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	20-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SHELL, GRAVEL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.69 g/cm3

NATA Accreditation: 825 Site: Newcastle
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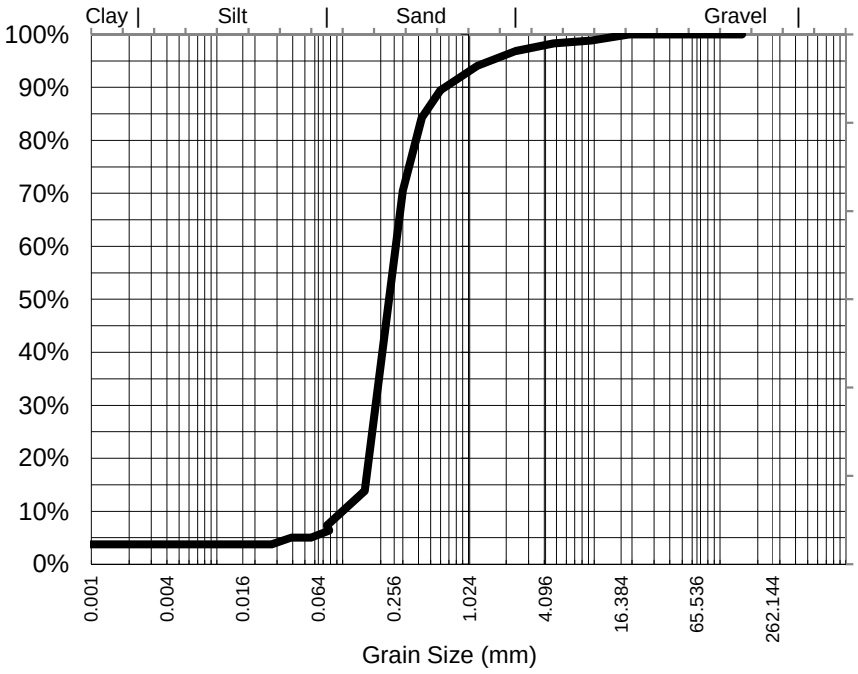
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	26-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	6-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1502737-019 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB4 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	99%
4.75	98%
2.36	97%
1.18	94%
0.600	89%
0.425	84%
0.300	71%
0.150	14%
0.075	7%
Particle Size (microns)	
78	6%
56	5%
39	5%
19	4%
10	4%
5	4%
1	4%

Samples analysed as received.

Median Particle Size (mm)*	0.246

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	20-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SHELL, GRAVEL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.7 g/cm3

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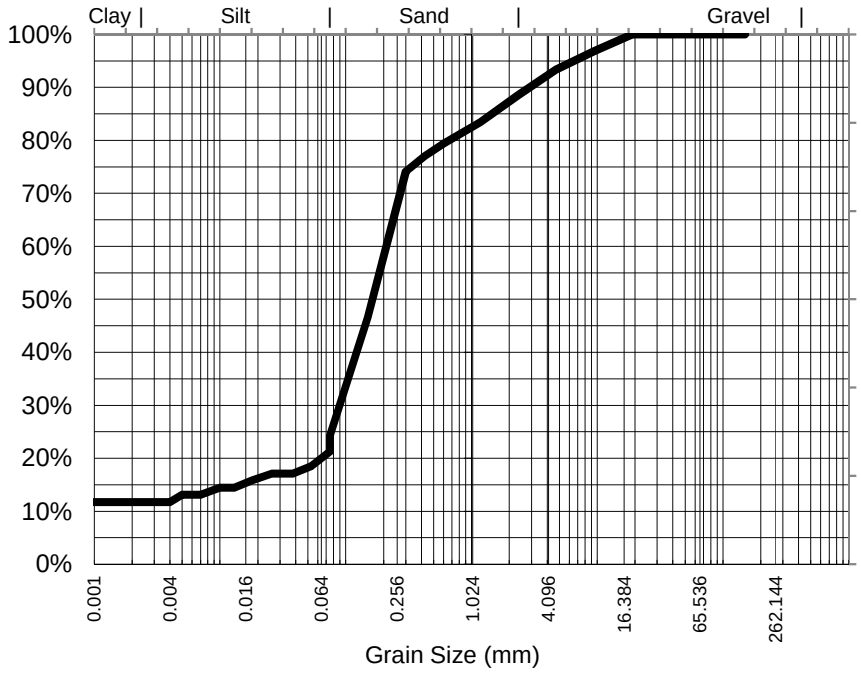
CLIENT:	Sally Leyland	**DATE REPORTED:**	26-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	6-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1502737-020 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB5 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	97%
4.75	93%
2.36	89%
1.18	83%
0.600	79%
0.425	77%
0.300	74%
0.150	47%
0.075	24%
Particle Size (microns)	
75	21%
53	18%
38	17%
18	16%
10	14%
5	13%
1	12%

Samples analysed as received.

Median Particle Size (mm)*	0.169

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SAND, SILT, SHELL, GRAVEL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.7 g/cm3

Analysed: 20-Feb-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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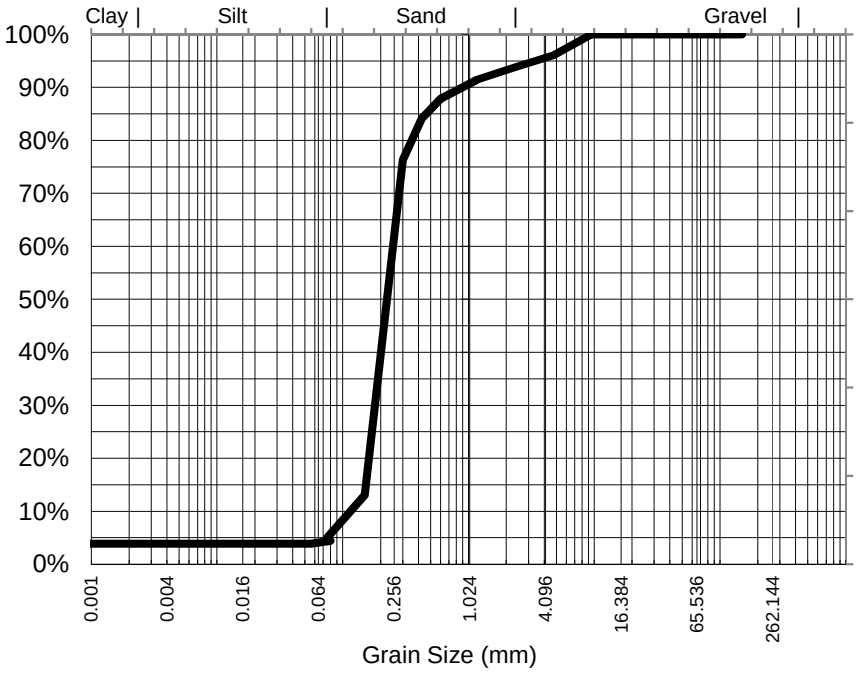
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	26-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	6-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1502737-021 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB5 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	96%
2.36	94%
1.18	91%
0.600	88%
0.425	84%
0.300	76%
0.150	13%
0.075	5%
Particle Size (microns)	
80	4%
56	4%
40	4%
19	4%
10	4%
5	4%
1	4%

Samples analysed as received.

Median Particle Size (mm)*	0.238

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	20-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SHELL, GRAVEL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.69 g/cm3

NATA Accreditation: 825 Site: Newcastle
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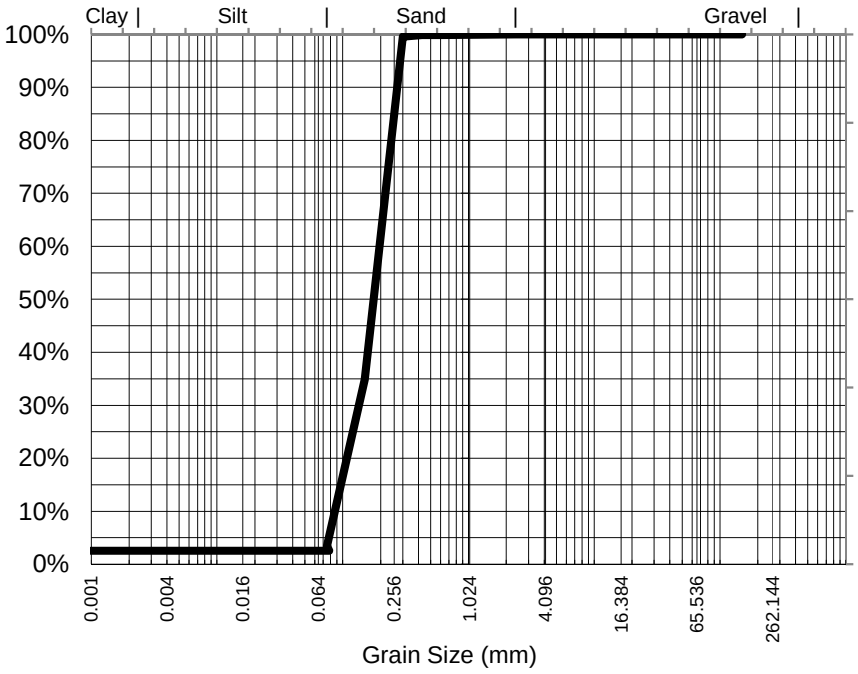
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	26-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	6-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1502737-030 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB8 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	100%
1.18	100%
0.600	100%
0.425	100%
0.300	100%
0.150	35%
0.075	3%
Particle Size (microns)	
78	3%
56	3%
39	3%
19	3%
10	3%
5	3%
1	3%

Samples analysed as received.

Median Particle Size (mm)*	0.185

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	20-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SHELL, VEG	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.7 g/cm3

NATA Accreditation: 825 Site: Newcastle
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Dianne Blane
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Authorised Signatory

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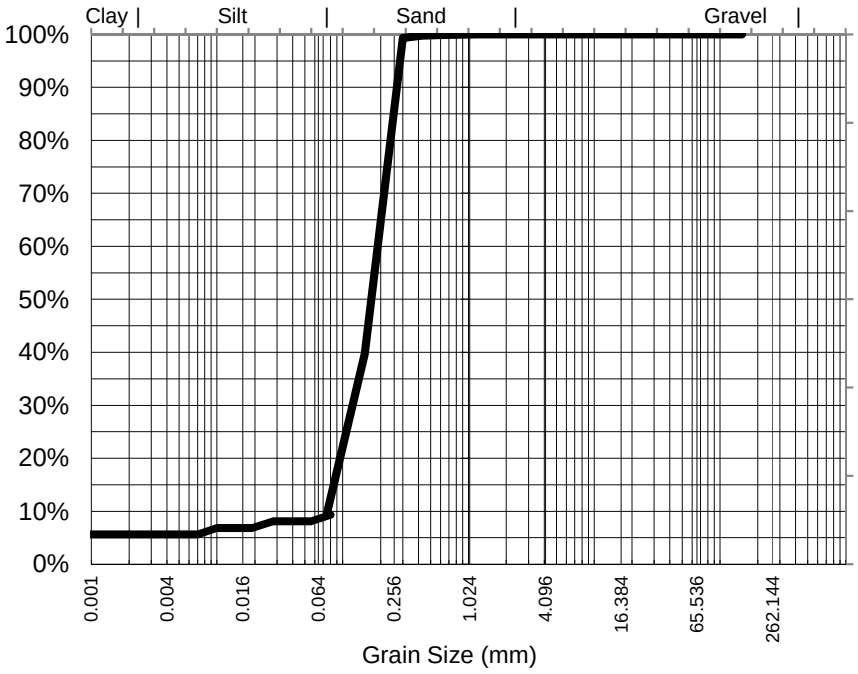
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	26-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	6-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1502737-031 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB8 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	100%
0.600	100%
0.425	100%
0.300	99%
0.150	40%
0.075	10%
Particle Size (microns)	
80	9%
56	8%
40	8%
19	7%
10	7%
5	6%
1	6%

Median Particle Size (mm)*	0.176

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	20-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SHELL, VEG	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.69 g/cm3

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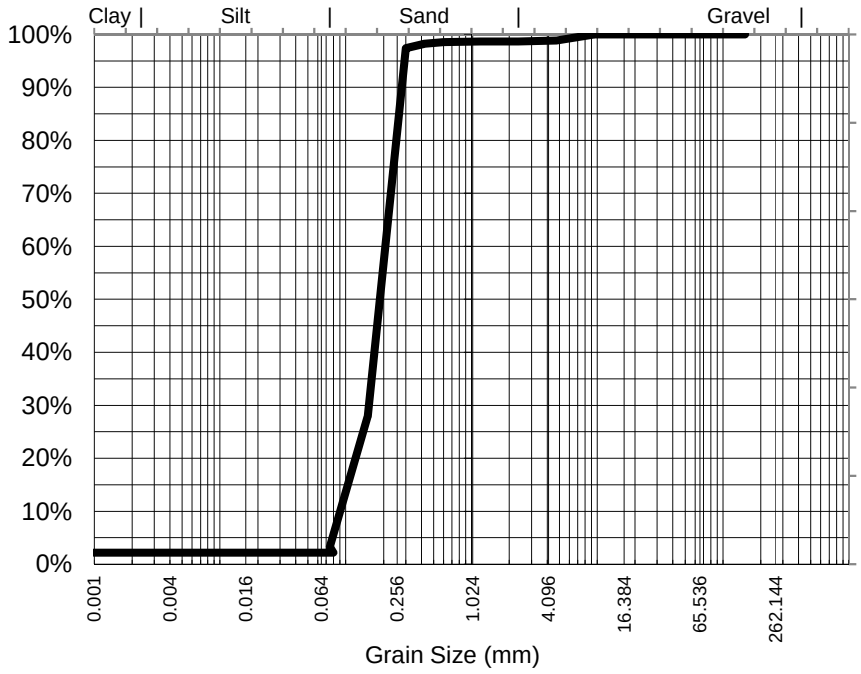
CLIENT:	Sally Leyland	**DATE REPORTED:**	26-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	6-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1502737-036 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB9 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	99%
2.36	99%
1.18	99%
0.600	99%
0.425	98%
0.300	97%
0.150	28%
0.075	3%
Particle Size (microns)	
80	2%
56	2%
40	2%
19	2%
10	2%
5	2%
1	2%

Samples analysed as received.

Median Particle Size (mm)*	0.198

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	20-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SHELL, VEG	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.67 g/cm3

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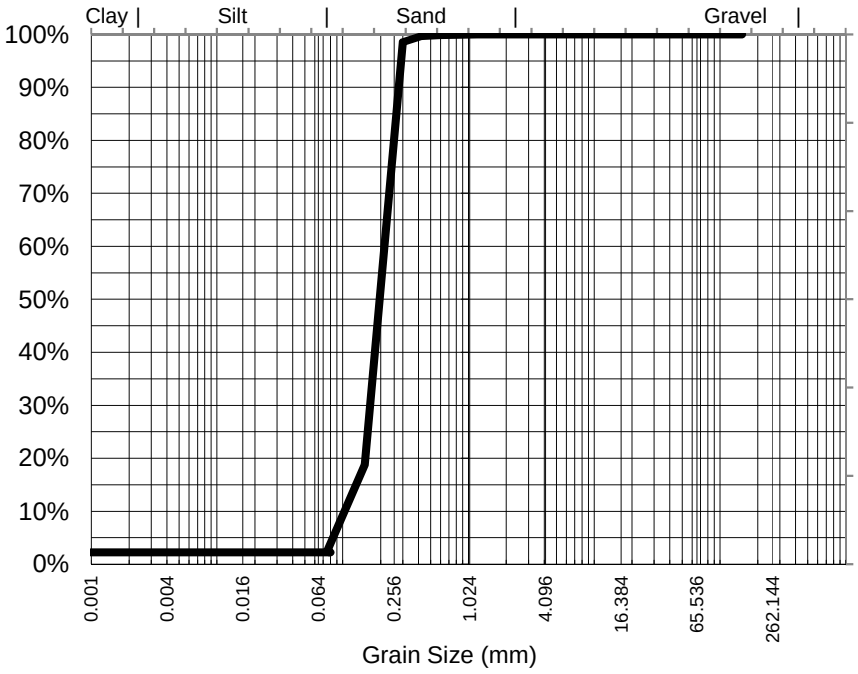
CLIENT:	Sally Leyland	**DATE REPORTED:**	26-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	6-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1502737-037 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB9 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	100%
0.600	100%
0.425	100%
0.300	99%
0.150	19%
0.075	2%
Particle Size (microns)	
80	2%
56	2%
40	2%
19	2%
10	2%
5	2%
1	2%

Median Particle Size (mm)*	0.209

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	20-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SHELL, VEG	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.69 g/cm3

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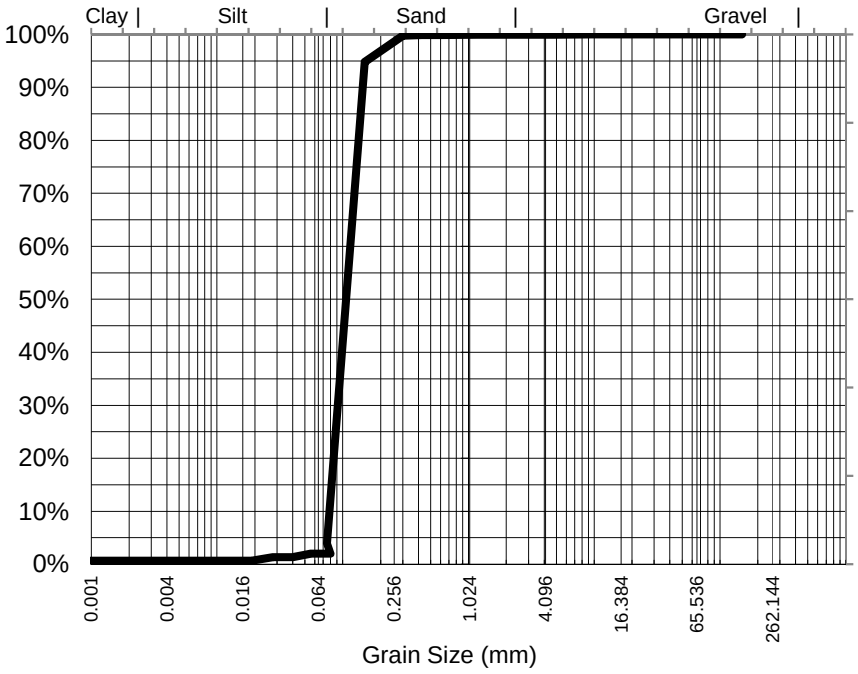
CLIENT:	Sally Leyland	**DATE REPORTED:**	26-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	6-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1502737-038 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB12 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	100%
2.36	100%
1.18	100%
0.600	100%
0.425	100%
0.300	100%
0.150	95%
0.075	4%
Particle Size (microns)	
80	2%
56	2%
40	1%
19	1%
10	1%
5	1%
1	1%

Samples analysed as received.

Median Particle Size (mm)*	0.113

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	20-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SHELL, VEG	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.66 g/cm3

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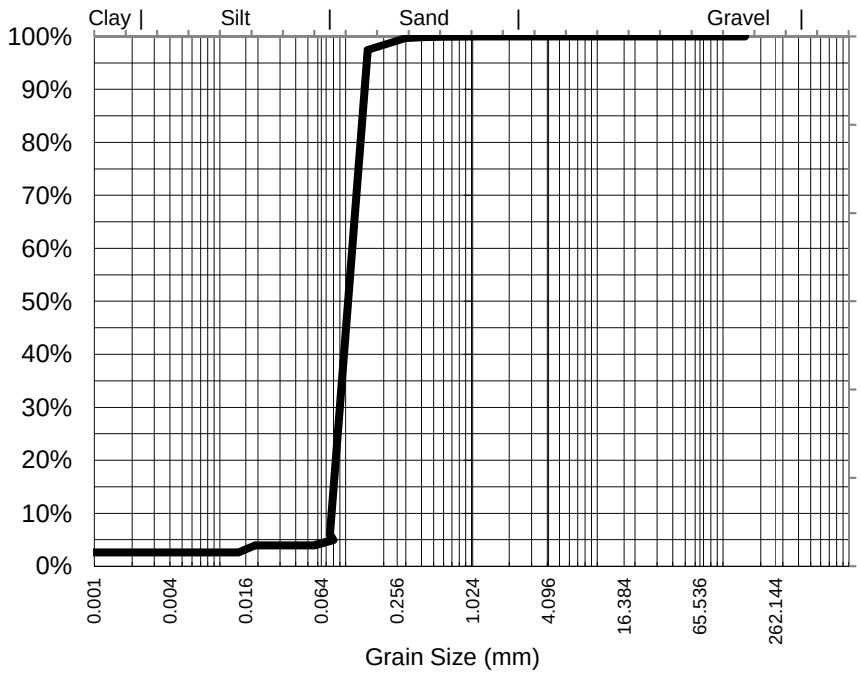
CLIENT:	Sally Leyland	**DATE REPORTED:**	26-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	6-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1502737-039 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB12 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
1.18	100%
0.600	100%
0.425	100%
0.300	100%
0.150	97%
0.075	6%
Particle Size (microns)	
80	5%
56	4%
40	4%
19	4%
10	3%
5	3%
1	3%

Median Particle Size (mm)*	0.111

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	20-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SHELL, VEG	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.69 g/cm3

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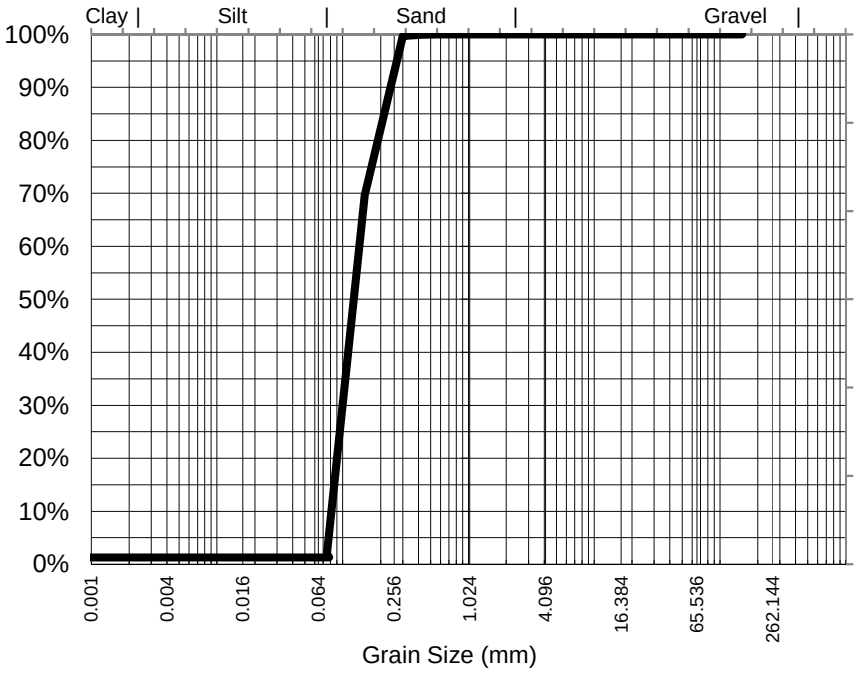
CLIENT:	Sally Leyland	**DATE REPORTED:**	26-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	6-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1502737-044 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB13 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	100%
0.600	100%
0.425	100%
0.300	100%
0.150	70%
0.075	2%
Particle Size (microns)	
78	1%
56	1%
39	1%
19	1%
10	1%
5	1%
1	1%

Samples analysed as received.

Median Particle Size (mm)*	0.128

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	20-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SHELL, VEG	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.71 g/cm3

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CLIENT:	Sally Leyland	**DATE REPORTED:**	26-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	6-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1502737-045 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB13 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
1.18	100%
0.600	100%
0.425	100%
0.300	100%
0.150	75%
0.075	2%
Particle Size (microns)	
78	2%
56	2%
39	2%
19	1%
10	1%
5	1%
1	1%

Median Particle Size (mm)*	0.124

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	20-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SHELL, VEG	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.7 g/cm3

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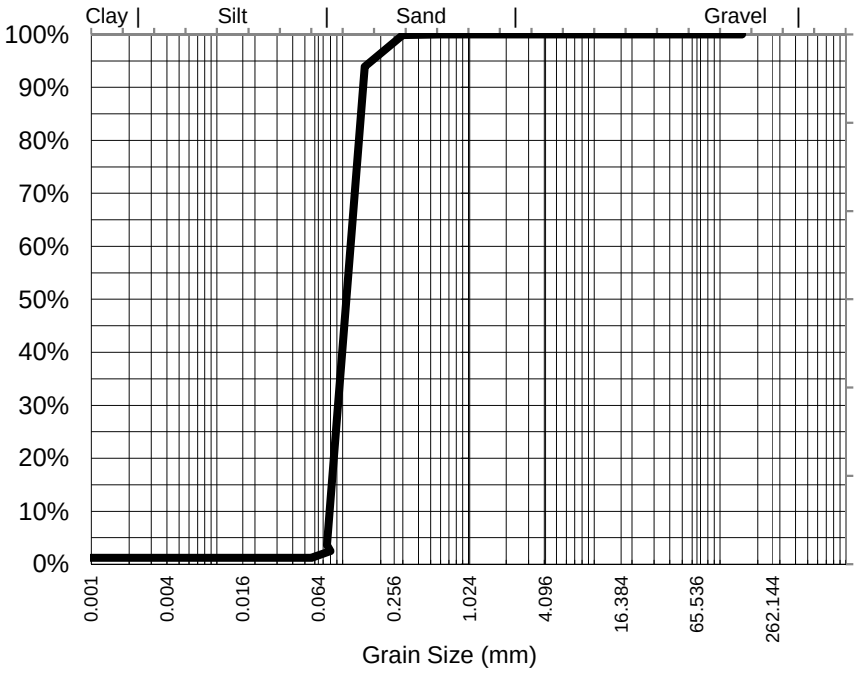
CLIENT:	Sally Leyland	**DATE REPORTED:**	26-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	6-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1502737-050 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB16 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
1.18	100%
0.600	100%
0.425	100%
0.300	100%
0.150	94%
0.075	4%
Particle Size (microns)	
80	2%
56	1%
40	1%
19	1%
10	1%
5	1%
1	1%

Samples analysed as received.

Median Particle Size (mm)*	0.114

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	20-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SHELL, VEG	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.66 g/cm3

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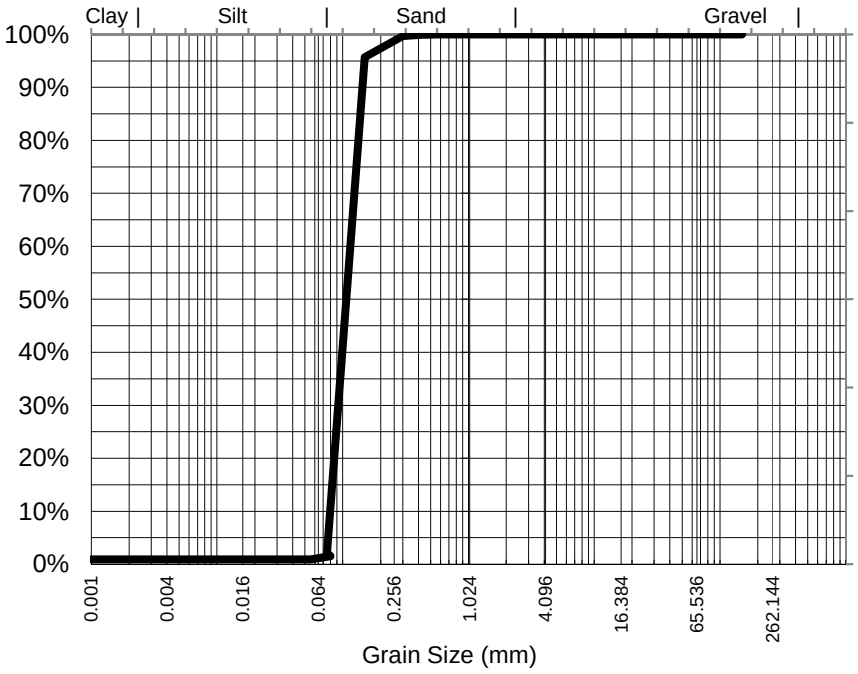
CLIENT:	Sally Leyland	**DATE REPORTED:**	26-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	6-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1502737-051 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB16 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
1.18	100%
0.600	100%
0.425	100%
0.300	100%
0.150	96%
0.075	2%
Particle Size (microns)	
80	2%
56	1%
40	1%
19	1%
10	1%
5	1%
1	1%

Samples analysed as received.

Median Particle Size (mm)*	0.113

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	20-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SHELL, VEG	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.69 g/cm3

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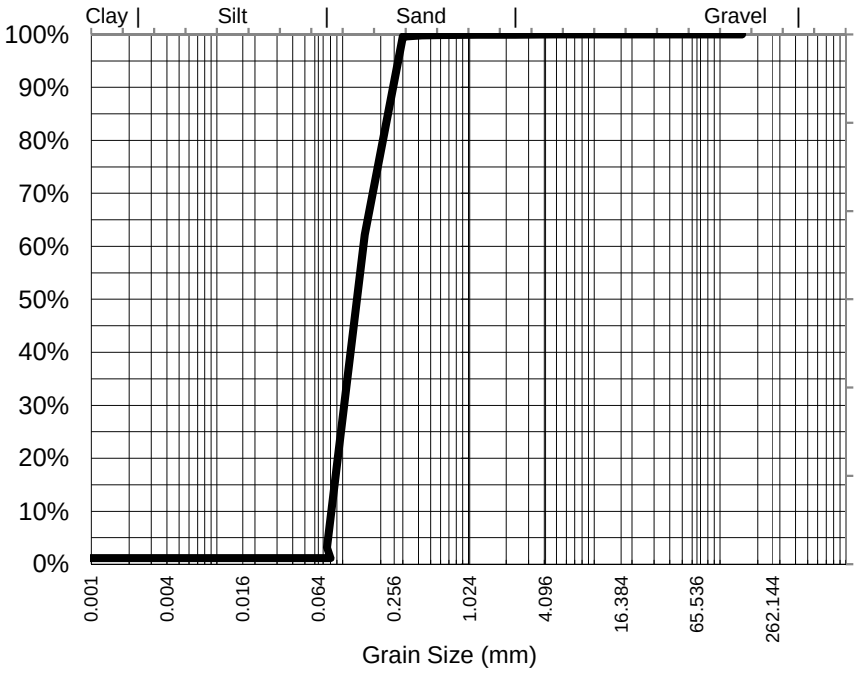
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	6-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1502737-056 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB18 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	100%
1.18	100%
0.600	100%
0.425	100%
0.300	100%
0.150	62%
0.075	3%
Particle Size (microns)	
80	1%
56	1%
40	1%
19	1%
10	1%
5	1%
1	1%

Samples analysed as received.

Median Particle Size (mm)*	0.135

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	20-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SHELL, VEG	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.66 g/cm3

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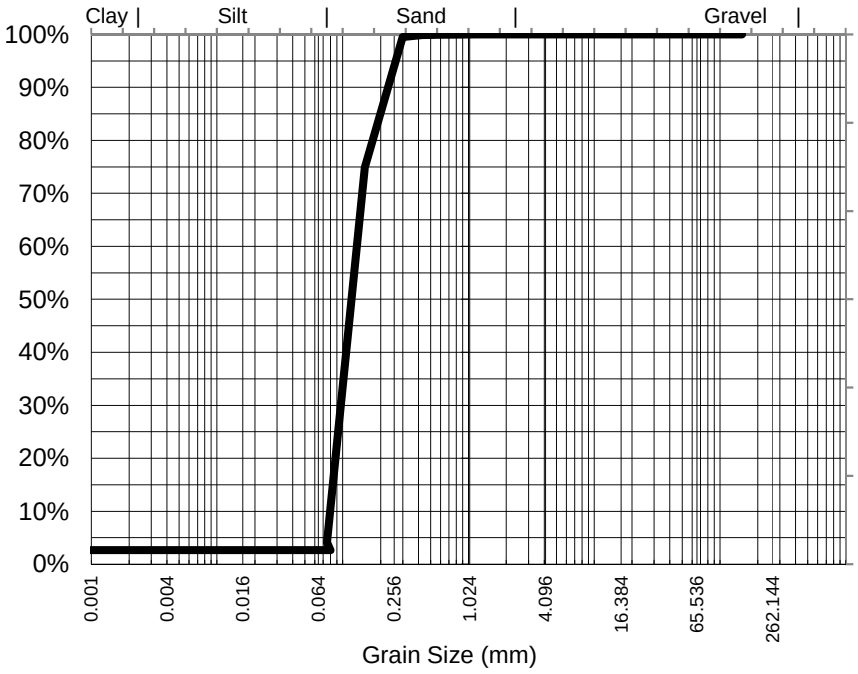
CLIENT:	Sally Leyland	**DATE REPORTED:**	26-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	6-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1502737-057 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB18 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
1.18	100%
0.600	100%
0.425	100%
0.300	100%
0.150	75%
0.075	4%
Particle Size (microns)	
80	3%
56	3%
40	3%
19	3%
10	3%
5	3%
1	3%

Samples analysed as received.

Median Particle Size (mm)*	0.124

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	20-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SHELL, VEG	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.67 g/cm3

NATA Accreditation: 825 Site: Newcastle
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Dianne Blane
Laboratory Co-ordinator, Newcastle
Authorised Signatory

Certificate of Analysis

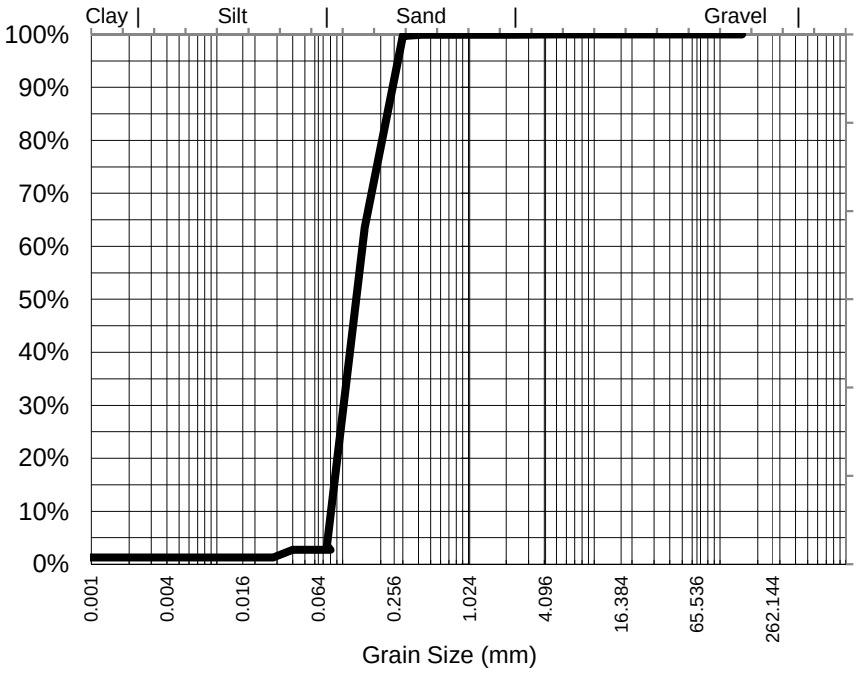
ALS Laboratory Group Pty Ltd
5/585 Maitland Road
Mayfield West, NSW 2304
pH 02 4014 2500
fax 02 4968 0349
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	26-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	6-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1502737-056DUP / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB18 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	100%
1.18	100%
0.600	100%
0.425	100%
0.300	100%
0.150	64%
0.075	4%
Particle Size (microns)	
80	3%
56	3%
40	3%
19	1%
10	1%
5	1%
1	1%

Median Particle Size (mm)*	0.133

Samples analysed as received.

** Soil Particle Density required for Hydrometer analysis according to AS 1289.3.5.1—2006 was not requested by the client . Typical sediment SPD values used for calculations and consequently, NATA endorsement does not apply to hydrometer results*

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	20-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SHELL, VEG	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) #N/A g/cm3

NATA Accreditation: 825 Site: Newcastle
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Dianne Blane
Laboratory Co-ordinator, Newcastle
Authorised Signatory

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
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NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
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PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☒ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: (1) 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: (1) 2 3 4 5 6 7	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 5 February 2015	DATE/TIME: 5 February 2015
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY:	RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 8/2/15 @16:00	DATE/TIME: 11:25 10/2/15

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).							Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	PC5 0.0-0.5A	5/02/2015	S	Glass Jars (250 ml & 150 ml)	2	1							ALL 150ml's sent to BRISBANE FOR TBT/TOC
2	PC5 0.5-1.0A	5/02/2015	S	Glass Jars (250 ml & 150 ml)	2	1							
3	PC5 0.0-0.5B	5/02/2015	S	Bag (White label)	1		1						
4	PC5 0.5-1.0B	5/02/2015	S	Bag (White label)	1		1						
5	PC5 0.3V	5/02/2015	S	Glass Jar (250 ml)	1			1					
6	PC5 0.7V	5/02/2015	S	Glass Jar (250 ml)	1			1					
7	Trip Blank 3	5/02/2015	S	Pre-filled glass jar	1	1							
				TOTAL	9	3	2	2					

Environmental Division Sydney

Work Order

ES1502902

Telephone : +61-2-8784 8555

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Pla...
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Certificate of Analysis

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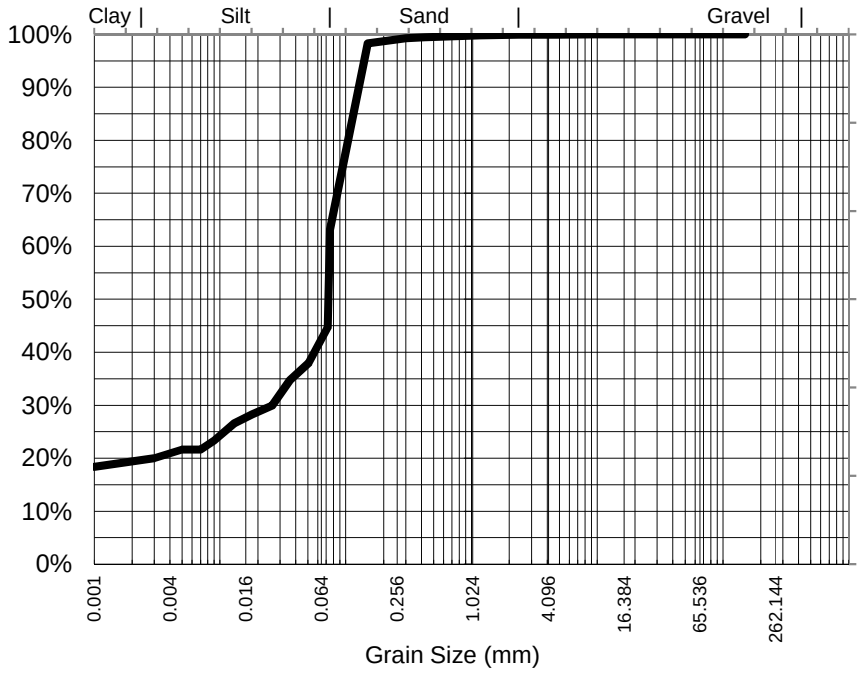
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	20-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	10-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1502902-003 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	PC5 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	100%
2.36	100%
1.18	100%
0.600	100%
0.425	99%
0.300	99%
0.150	98%
0.075	63%
Particle Size (microns)	
72	45%
51	38%
36	35%
18	28%
9	23%
5	22%
1	18%

Samples analysed as received.

Median Particle Size (mm)*	0.073

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SILT, SAND

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.68 g/cm3

Analysed: 18-Feb-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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Dianne Blane
Laboratory Co-ordinator, Newcastle
Authorised Signatory

Certificate of Analysis

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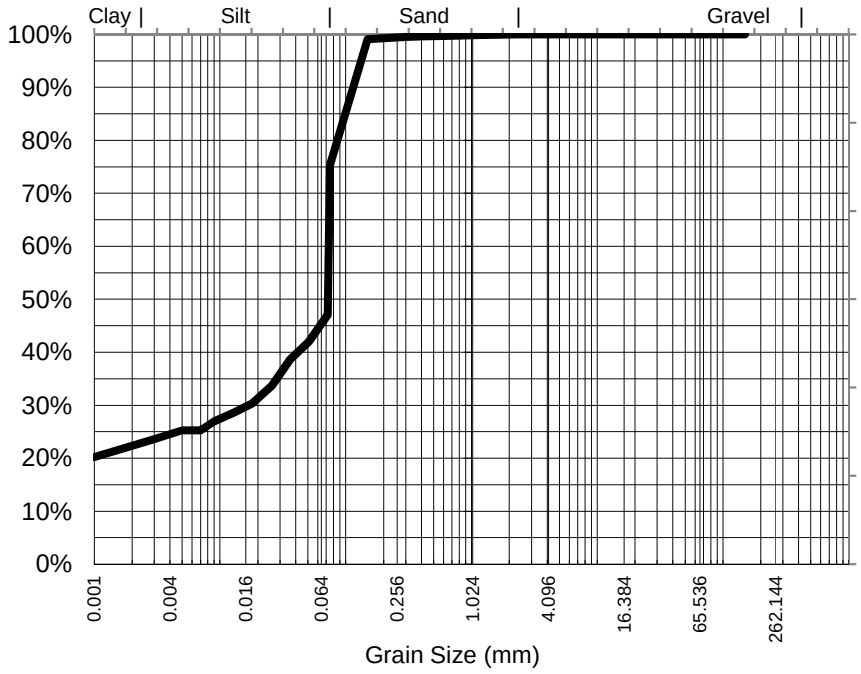
fax 02 4968 0349
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	20-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	10-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1502902-004 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	PC5 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	100%
0.600	100%
0.425	100%
0.300	100%
0.150	99%
0.075	75%
Particle Size (microns)	
72	47%
51	42%
36	39%
18	30%
9	27%
5	25%
1	20%

Samples analysed as received.

Median Particle Size (mm)*	0.072

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SILT, SAND

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.66 g/cm3

Analysed: 18-Feb-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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Dianne Blane
Laboratory Co-ordinator, Newcastle
Authorised Signatory

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☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: (1) 2 3 4 5 6 7	Random Sample Temperature on Receipt	°C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006 OF: 1 2 3 4 5 6 (7)	Other comment:	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 8 February 2015	DATE/TIME: 8 February 2015
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: kschafer	RECEIVED BY: Simon
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 9-2-15 1600	DATE/TIME: 10/2/15 900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	PC6 0.5-1.0A	8/02/2015	S	Glass Jar (250 ml)	2	1								
2	PC6 0.0-0.5A	8/02/2015	S	Glass Jar (250 ml)	2	1								
3	PC6 0.0-0.5B	8/02/2015	S	Bag (White label)	1		1							
4	PC6 0.5-1.0B	8/02/2015	S	Bag (White label)	1		1							
5	PC6 0.3V	8/02/2015	S	Glass Jar (250 ml)	1			1						
6	PC6 0.7V	8/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plast
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulf
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Environmental Division Sydney

Work Order

ES1503000

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Ph: 08 9209 7655 E: samples.perth@alsglobal.com
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Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A; Free ice / frozen ice bricks present upon receipt? Yes No N/A; Random Sample Temperature on Receipt °C; Other comments:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 (7)	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*		
DATE/TIME: 8 February 2015	DATE/TIME: 8 February 2015	DATE/TIME:	DATE/TIME: 10/2/15 900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
7	PC7 0.0-0.5A	8/02/2015	S	Glass Jar (250 ml)	2	1								
8	PC7 0.5-1.0A	8/02/2015	S	Glass Jar (250 ml)	2	1								
9	PC7 0.0-0.5B	8/02/2015	S	Bag (White label)	1		1							
10	PC7 0.5-1.0B	8/02/2015	S	Bag (White label)	1		1							
11	PC7 0.3V	8/02/2015	S	Glass Jar (250 ml)	1			1						
12	PC7 0.7V	8/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle):
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 (3) 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comment:
SAMPLER: Georgina Kerr SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO) EDD FORMAT (or default):	DATE/TIME: 8 February 2015	DATE/TIME: 8 February 2015
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com	RELINQUISHED BY:	RECEIVED BY: Steven
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com	DATE/TIME:	DATE/TIME: 10/2/15 900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH				Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
13	BE7 0.0-0.5 A	8/02/2015	S	Glass Jar (250 ml)	2	1									
14	BE7 0.5-1.0 A	8/02/2015	S	Glass Jar (250 ml)	2	1									
15	BE7 0.0-0.5 B	8/02/2015	S	Bag (White label)	1		1								
16	BE7 0.5-1.0 B	8/02/2015	S	Bag (White label)	1		1								
17	BE7 0.3V	8/02/2015	S	Glass Jar (250 ml)	1			1							
18	BE7 0.7V	8/02/2015	S	Glass Jar (250 ml)	1			1							
				TOTAL	8	2	2	2							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 07 7471 5600 E: gladstone@alsglobal.com
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Ph: 07 4944 0177 E: mackay@alsglobal.com
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NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7555 E: samples.perth@alsglobal.com
SYDNEY 277-280 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt	Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comment:	

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY: / RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME: / DATE/TIME: 10/2/15 900
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		8 February 2015	8 February 2015	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
19	BE10 0.0-0.5 A	8/02/2015	S	Glass Jar (250 ml)	2	1								
20	BE10 0.5-1.0 A	8/02/2015	S	Glass Jar (250 ml)	2	1								
21	BE10 0.0-0.5 B	8/02/2015	S	Bag (White label)	1		1							
22	BE10 0.5-1.0 B	8/02/2015	S	Bag (White label)	1		1							
23	BE10 0.3V	8/02/2015	S	Glass Jar (250 ml)	1			1						
24	BE10 0.7V	8/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLEVELAND 4 Caliemondah Drive Cleveland QLD 4163
Ph: 07 7471 5600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: melb.mail@alsglobal.com
SYDNEY 27 Sydney Road Fairlight NSW 2094
Ph: 02 8784 8555 E: mail.sydney@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
ORANGE 4/13 Geary Place North Nowra NSW 2541
Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
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Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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Ph: 07 4796 0600 E: samples.townsville@alsglobal.com
WOLLONGONG Unit 1, 16 Steel Road Unanderra NSW 2526
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Free ice / frozen ice bricks present upon receipt? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6	Other comments:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 6 February 2015	DATE/TIME: 6 February 2015
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY:	RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME: 6/2/15 900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
25	PC11 0.0-0.5A	8/02/2015	S	Glass Jar (250 ml)	2	1								
26	PC11 0.0-0.5B	8/02/2015	S	Bag (White label)	1		1							
27	PC11 0.3V	8/02/2015	S	Glass Jar (250 ml)	1			1						
28	PC11 0.7V	8/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	5	1	1	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Free ice / frozen ice bricks present upon receipt? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 11	Random Sample Temperature on Receipt: °C
ORDER NUMBER: 245553			Other comment:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr DATE/TIME: 8 February 2015	RECEIVED BY: Kelly Schafer DATE/TIME: 8 February 2015
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	RELINQUISHED BY: DATE/TIME:	RECEIVED BY: DATE/TIME: 10/2/15 9:00
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
29	BE14 0.0-0.5 A	8/02/2015	S	Glass Jar (250 ml)	2	1								
30	BE14 0.5-1.0 A	8/02/2015	S	Glass Jar (250 ml)	2	1								
31	BE14 0.0-0.5 B	8/02/2015	S	Bag (White label)	1		1							
32	BE14 0.5-1.0 B	8/02/2015	S	Bag (White label)	1		1							
33	BE14 0.3V	8/02/2015	S	Glass Jar (250 ml)	1			1						
34	BE14 0.7V	8/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY: (Circle) Custody Seal Intact? Yes No N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Free ice / frozen ice bricks present upon receipt? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Random Sample Temperature on Receipt: °C
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Other comments:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 18	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 8 February 2015	DATE/TIME: 8 February 2015
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY:	RECEIVED BY:
		DATE/TIME:	DATE/TIME: 10/2/15 900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
35	BE15 0.0-0.5 A	8/02/2015	S	Glass Jar (250 ml)	2	1								
36	BE15 0.5-1.0 A	8/02/2015	S	Glass Jar (250 ml)	2	1								
37	BE15 0.0-0.5 B	8/02/2015	S	Bag (White label)	1		1							
38	BE15 0.5-1.0 B	8/02/2015	S	Bag (White label)	1		1							
39	BE15 0.3V	8/02/2015	S	Glass Jar (250 ml)	1			1						
40	BE14 0.7V	8/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (8)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (12)	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		8 February 2015	8 February 2015

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME:	DATE/TIME: 10/2/15 900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
41	BE19 0.0-0.5 A	8/02/2015	S	Glass Jar (250 ml)	2	1								
42	BE19 0.0-0.5 B	8/02/2015	S	Bag (White label)	1		1							
43	BE19 0.3V	8/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (9)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (11)	Other comments:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*	DATE/TIME:
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		8 February 2015	8 February 2015	

RECEIVED BY:
DATE/TIME: 10/2/15 9:00

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
44	BE20 0.0-0.5A	8/02/2015	S	Glass Jar (250 ml)	2	1								
45	BE20 0.5-1.0A	8/02/2015	S	Glass Jar (250 ml)	2	1								
46	BE20 0.5-1.0B	8/02/2015	S	Bag (White label)	1		1							
47	BE20 0.0-0.5 B	8/02/2015	S	Bag (White label)	1		1							
48	BE20 0.3V	8/02/2015	S	Glass Jar (250 ml)	1			1						
49	BE20 0.7V	8/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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QBRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
QGLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
QMACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
QMELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
QTOOGEE 27 Sydney Road Toogee NSW 2680 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
QNEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
QNOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
QPERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
QSYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
QTOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
QWOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 248553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (15)	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006 OF: 1 2 3 4 5 6 (16)	Other comment:	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		8 February 2015	8 February 2015

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME:	DATE/TIME: 10/2/15 9:00

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
50	BE21 0.0-0.5A	8/02/2015	S	Glass Jar (250 ml)	2	1								
51	BE21 0.5-1.0A	8/02/2015	S	Glass Jar (250 ml)	2	1								
52	BE21 0.0-0.5B	8/02/2015	S	Bag (White label)	1		1							
53	BE21 0.5-1.0B	8/02/2015	S	Bag (White label)	1		1							
54	BE21 0.3V	8/02/2015	S	Glass Jar (250 ml)	1			1						
55	BE21 0.7V	8/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Environmental

ALS Laboratory: please tick →

☐ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
☐BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
☐GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
☐MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
☐MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
☐MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
☐NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 0433 E: samples.newcastle@alsglobal.com
☐NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
☐PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
☐SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
☐TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS: ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (11)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (12)	Other comments:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		8 February 2015	8 February 2015		10/2/15 900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
56	Triplicate 3A	8/02/2015	S	Glass Jar (250 ml)	2	1								
57	Triplicate 3B	8/02/2015	S	Glass Jar (250 ml)	2	1								
58	Trip Blank 4	8/02/2015	S	Pre-filled glass jar	1	1								
59	Rinsate 3	8/02/2015	w	Bottle	8	1								
				TOTAL	13	4								

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Certificate of Analysis

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pH 02 4014 2500
fax 02 4968 0349
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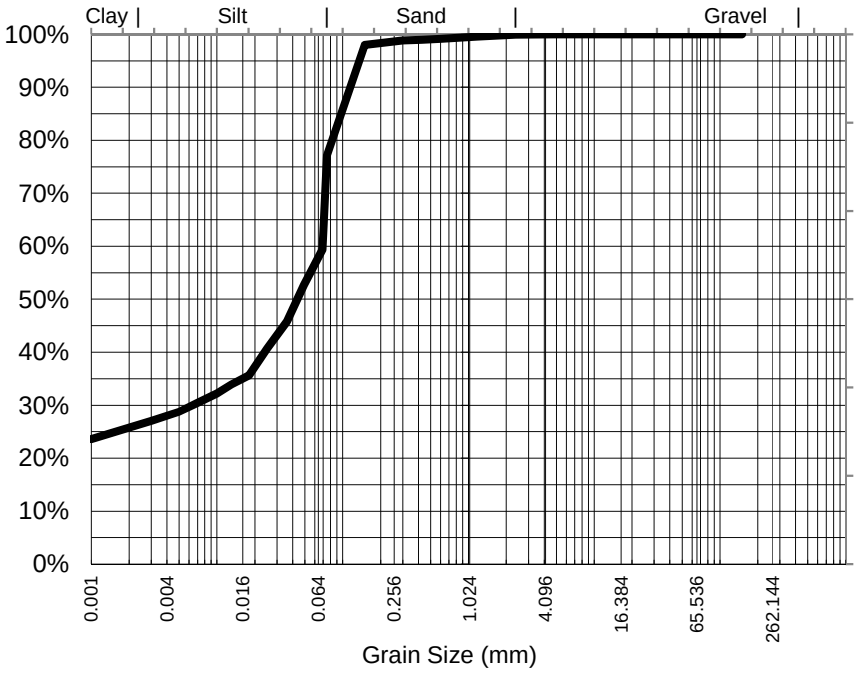
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	27-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	10-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503000-003 / PSD
PROJECT:	Gpc Geochemical Investigation	**SAMPLE ID:**	PC6 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	100%
1.18	100%
0.600	99%
0.425	99%
0.300	99%
0.150	98%
0.075	77%
Particle Size (microns)	
69	59%
49	53%
36	46%
18	36%
10	32%
5	29%
1	24%

Median Particle Size (mm)*	0.044

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 23-Feb-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: SAND, SILT, SHELL

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.67 g/cm3

NATA Accreditation: 825 Site: Newcastle
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Peter Keyte
Manager Newcastle
Authorised Signatory

Certificate of Analysis

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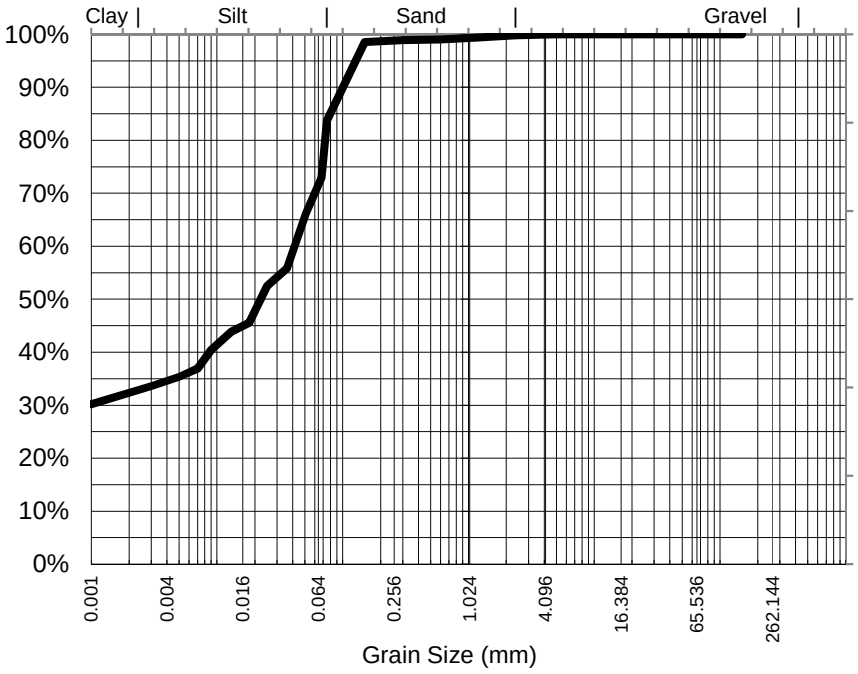
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	27-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	10-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503000-004 / PSD
PROJECT:	Gpc Geochemical Investigation	**SAMPLE ID:**	PC6 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	100%
1.18	99%
0.600	99%
0.425	99%
0.300	99%
0.150	99%
0.075	84%
Particle Size (microns)	
68	73%
51	66%
36	56%
18	46%
9	40%
5	35%
1	30%

Samples analysed as received.

Median Particle Size (mm)*	0.022

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SAND, SILT, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.59 g/cm3

Analysed: 23-Feb-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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ALS Environmental

Newcastle, NSW

CLIENT: Sally Leyland

COMPANY: Aurecon Australasia Pty Ltd

ADDRESS: Locked Bag 331
32 Turbot Street
Brisbane, Qld, Australia 4001

PROJECT: Gpc Geochemical Investigation

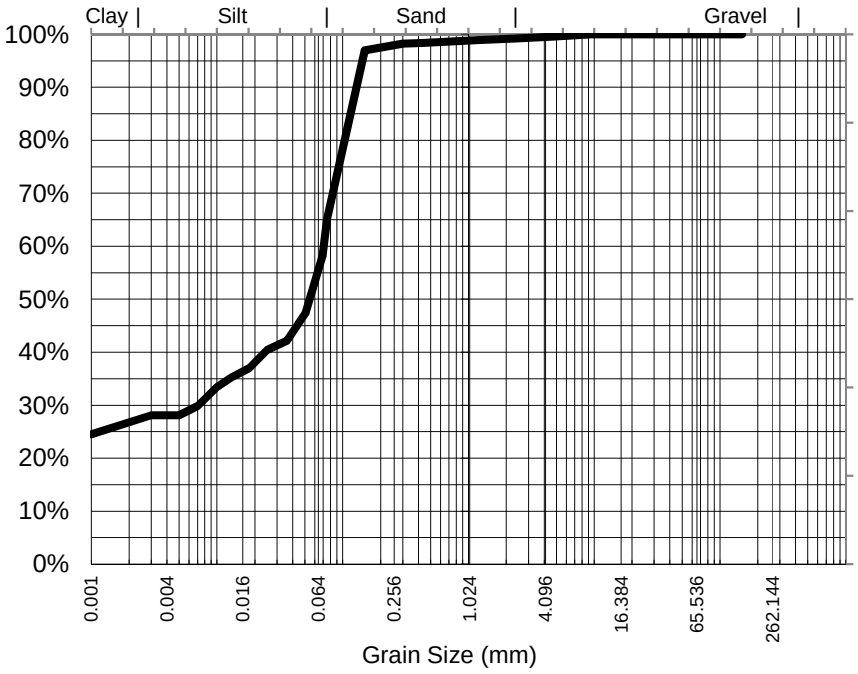
DATE REPORTED: 27-Feb-2015

DATE RECEIVED: 10-Feb-2015

REPORT NO: ES1503000-009 / PSD

SAMPLE ID: PC7 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	100%
2.36	99%
1.18	99%
0.600	99%
0.425	98%
0.300	98%
0.150	97%
0.075	65%
Particle Size (microns)	
69	58%
51	48%
36	42%
18	37%
10	33%
5	28%
1	25%

Median Particle Size (mm)*	0.055

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SAND, SILT

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.65 g/cm3

Analysed: 23-Feb-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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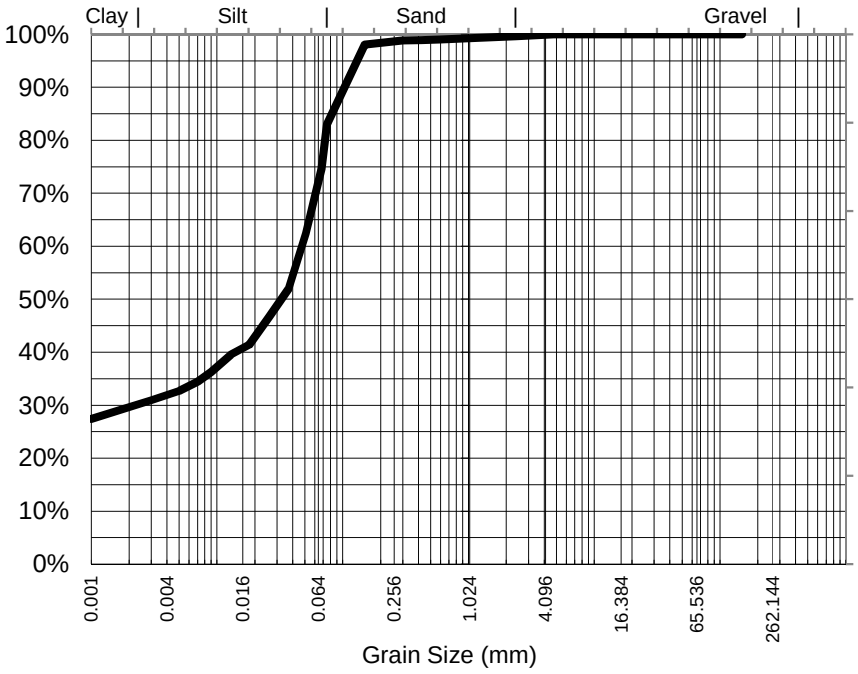
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	27-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	10-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503000-010 / PSD
PROJECT:	Gpc Geochemical Investigation	**SAMPLE ID:**	PC7 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	100%
1.18	99%
0.600	99%
0.425	99%
0.300	99%
0.150	98%
0.075	83%
Particle Size (microns)	
68	75%
51	62%
37	52%
18	41%
9	36%
5	33%
1	27%

Median Particle Size (mm)*	0.033

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SAND, SILT, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.57 g/cm3

Analysed: 23-Feb-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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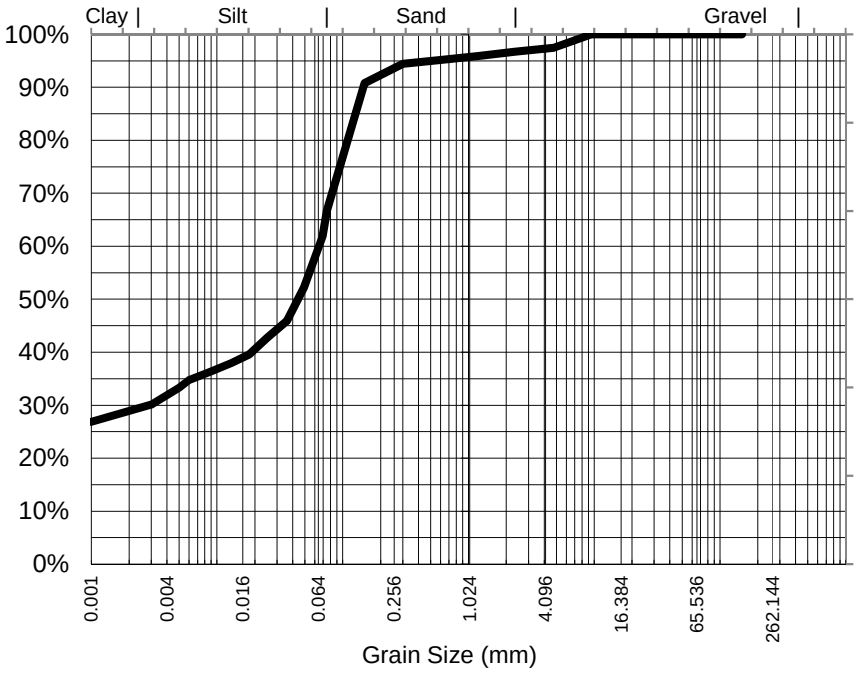
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	27-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	10-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503000-015 / PSD
PROJECT:	Gpc Geochemical Investigation	**SAMPLE ID:**	BE7 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	97%
2.36	97%
1.18	96%
0.600	95%
0.425	95%
0.300	94%
0.150	91%
0.075	67%
Particle Size (microns)	
69	62%
49	52%
36	46%
18	40%
9	36%
5	33%
1	27%

Samples analysed as received.

Median Particle Size (mm)*	0.044

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SAND, SILT, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.65 g/cm3

Analysed: 23-Feb-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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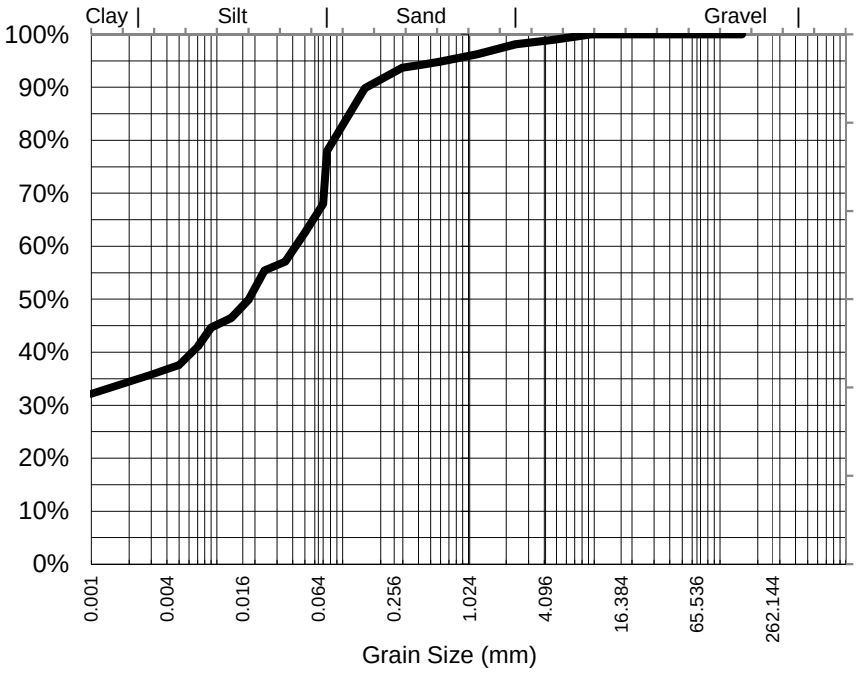
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	27-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	10-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503000-016 / PSD
PROJECT:	Gpc Geochemical Investigation	**SAMPLE ID:**	BE7 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	99%
2.36	98%
1.18	96%
0.600	95%
0.425	94%
0.300	94%
0.150	90%
0.075	78%
Particle Size (microns)	
70	68%
50	63%
35	57%
18	50%
9	45%
5	38%
1	32%

Median Particle Size (mm)*	0.018

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY, SILT, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.64 g/cm3

Analysed: 23-Feb-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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Manager Newcastle
Authorised Signatory

Certificate of Analysis

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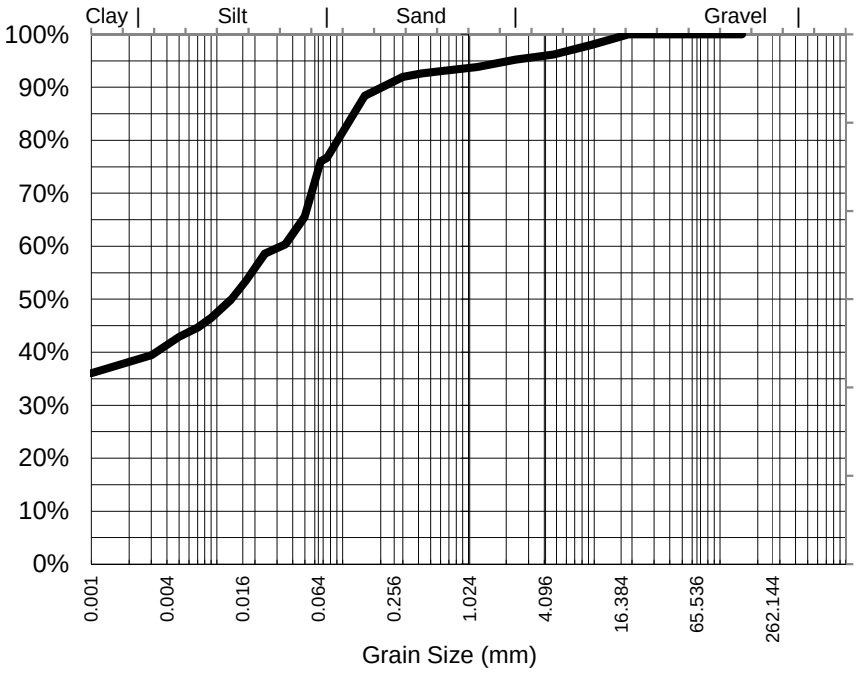
fax 02 4968 0349
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	27-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	10-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503000-021 / PSD
PROJECT:	Gpc Geochemical Investigation	**SAMPLE ID:**	BE10 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	98%
4.75	96%
2.36	95%
1.18	94%
0.600	93%
0.425	93%
0.300	92%
0.150	88%
0.075	77%
Particle Size (microns)	
67	76%
50	66%
35	60%
17	53%
9	46%
5	43%
1	36%

Samples analysed as received.

Median Particle Size (mm)*	0.013

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY, SILT, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.62 g/cm3

Analysed: 23-Feb-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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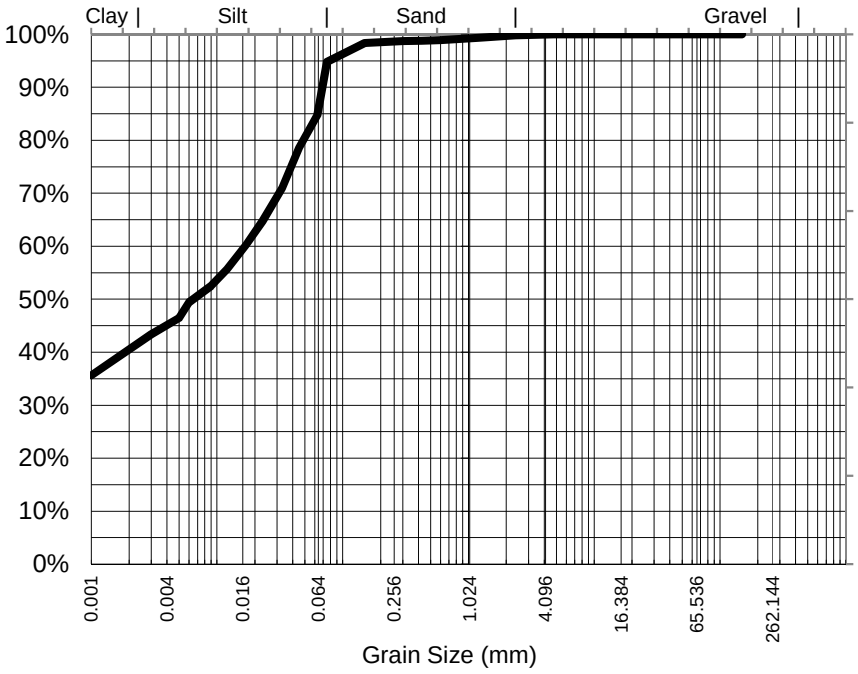
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	27-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	10-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503000-022 / PSD
PROJECT:	Gpc Geochemical Investigation	**SAMPLE ID:**	BE10 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	100%
1.18	99%
0.600	99%
0.425	99%
0.300	99%
0.150	98%
0.075	95%
Particle Size (microns)	
63	85%
45	79%
33	71%
17	60%
9	53%
5	46%
1	36%

Median Particle Size (mm)*	0.007

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY, SILT, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.62 g/cm3

Analysed: 23-Feb-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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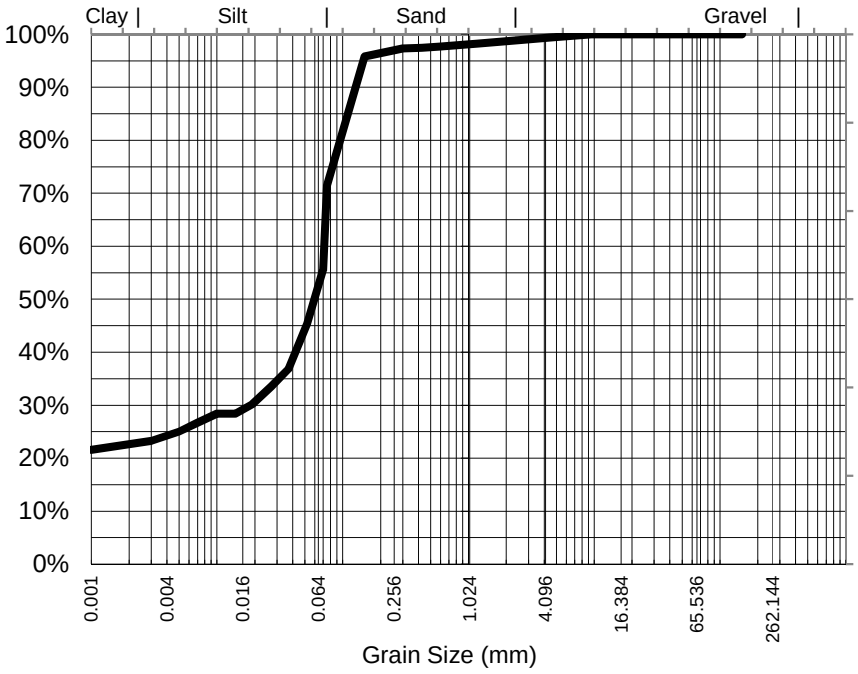
CLIENT:	Sally Leyland	**DATE REPORTED:**	27-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	10-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503000-026 / PSD
PROJECT:	Gpc Geochemical Investigation	**SAMPLE ID:**	PC11 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	99%
2.36	99%
1.18	98%
0.600	98%
0.425	97%
0.300	97%
0.150	96%
0.075	71%
Particle Size (microns)	
70	56%
52	45%
37	37%
19	30%
10	28%
5	25%
1	22%

Samples analysed as received.

Median Particle Size (mm)*	0.060

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SAND, SILT

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.62 g/cm3

Analysed: 23-Feb-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

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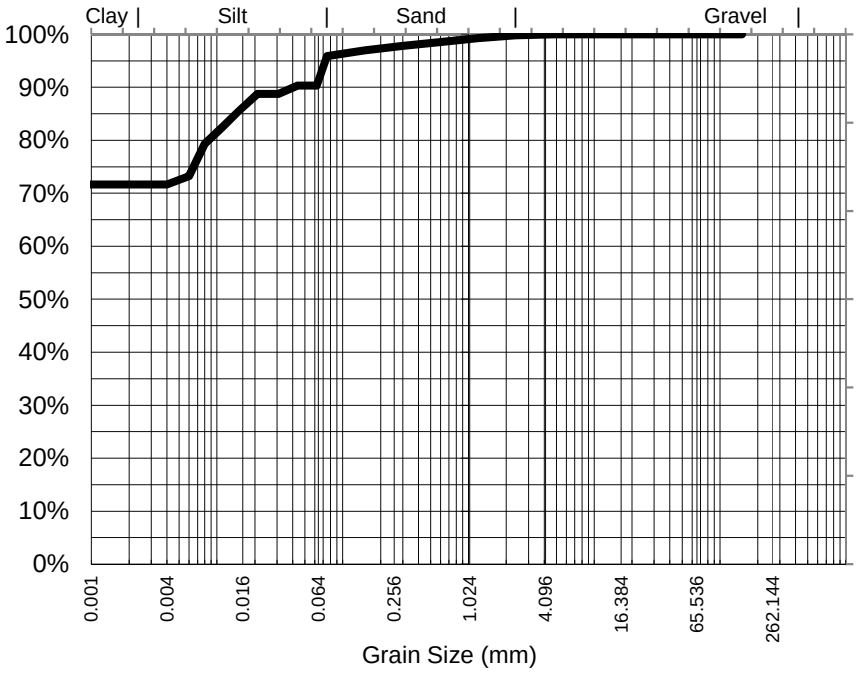
CLIENT:	Sally Leyland	**DATE REPORTED:**	27-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	10-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503000-031 / PSD
PROJECT:	Gpc Geochemical Investigation	**SAMPLE ID:**	BE14 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	100%
1.18	99%
0.600	99%
0.425	98%
0.300	98%
0.150	97%
0.075	96%
Particle Size (microns)	
62	90%
44	90%
31	89%
15	86%
8	79%
4	72%
1	72%

Median Particle Size (mm)*	<0.001

Samples analysed as received.

** Soil Particle Density required for Hydrometer analysis according to AS 1289.3.5.1—2006 was unable to be performed as insufficient sample was supplied by the client . Typical sediment SPD values used for calculations and consequently, NATA endorsement does not apply to hydrometer ..*

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 23-Feb-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: CLAY, SILT, SHELL

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) g/cm3

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COMPANY: Aurecon Australasia Pty Ltd

ADDRESS: Locked Bag 331
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PROJECT: Gpc Geochemical Investigation

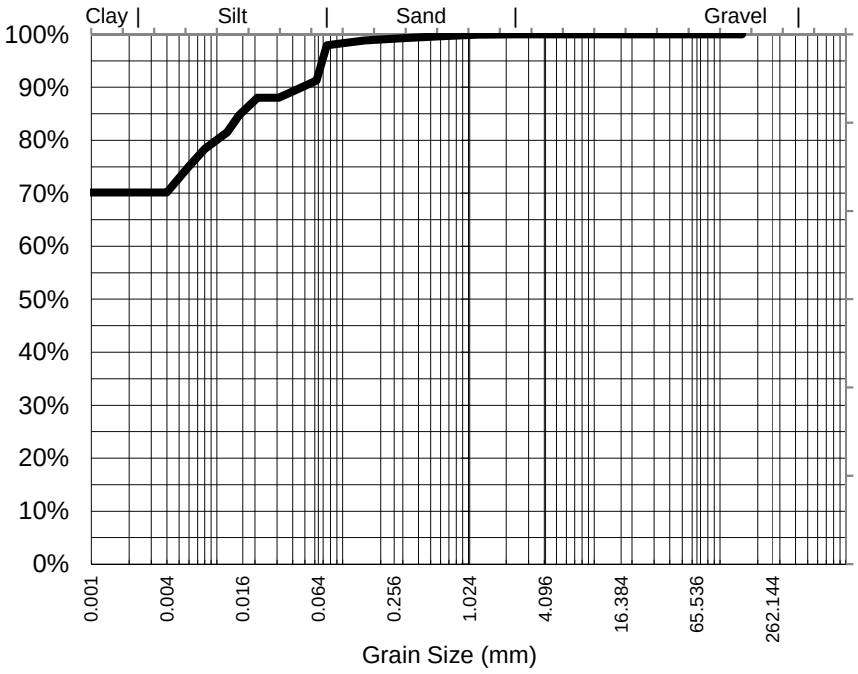
DATE REPORTED: 27-Feb-2015

DATE RECEIVED: 10-Feb-2015

REPORT NO: ES1503000-032 / PSD

SAMPLE ID: BE14 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	100%
0.600	100%
0.425	99%
0.300	99%
0.150	99%
0.075	98%
Particle Size (microns)	
62	91%
44	90%
31	88%
15	85%
8	78%
4	70%
1	70%

Median Particle Size (mm)*	<0.001

Samples analysed as received.

** Soil Particle Density required for Hydrometer analysis according to AS 1289.3.5.1—2006 was unable to be performed as insufficient sample was supplied by the client . Typical sediment SPD values used for calculations and consequently, NATA endorsement does not apply to hydrometer ..*

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 23-Feb-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: CLAY

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) g/cm3

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PROJECT: Gpc Geochemical Investigation

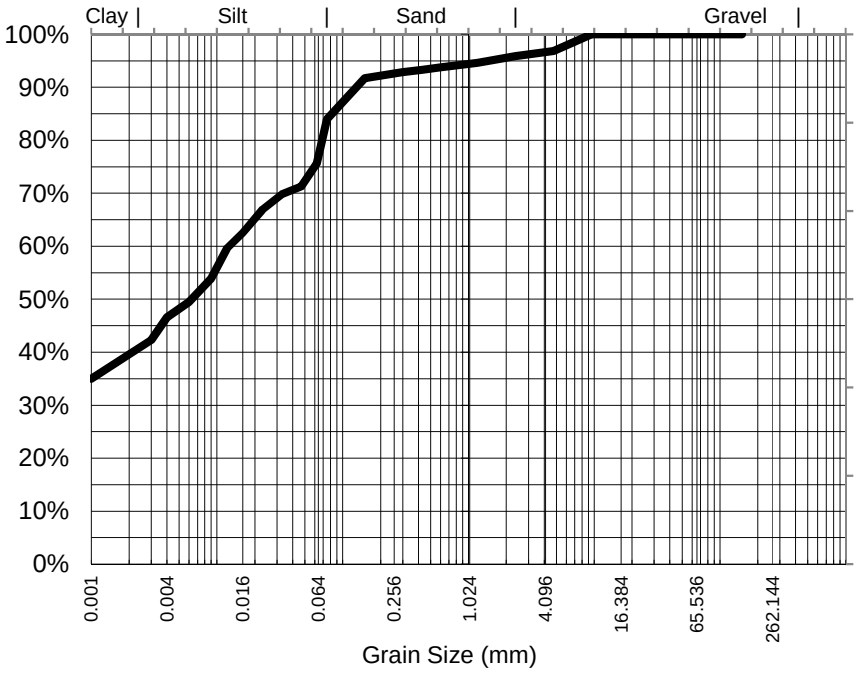
DATE REPORTED: 27-Feb-2015

DATE RECEIVED: 10-Feb-2015

REPORT NO: ES1503000-037 / PSD

SAMPLE ID: BE15 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	97%
2.36	96%
1.18	95%
0.600	94%
0.425	93%
0.300	93%
0.150	92%
0.075	84%
Particle Size (microns)	
62	76%
47	71%
33	70%
16	63%
9	54%
4	47%
1	35%

Median Particle Size (mm)*	0.006

Samples analysed as received.

** Soil Particle Density required for Hydrometer analysis according to AS 1289.3.5.1—2006 was unable to be performed as insufficient sample was supplied by the client . Typical sediment SPD values used for calculations and consequently, NATA endorsement does not apply to hydrometer ..*

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY, SILT, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) g/cm3

Analysed: 23-Feb-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

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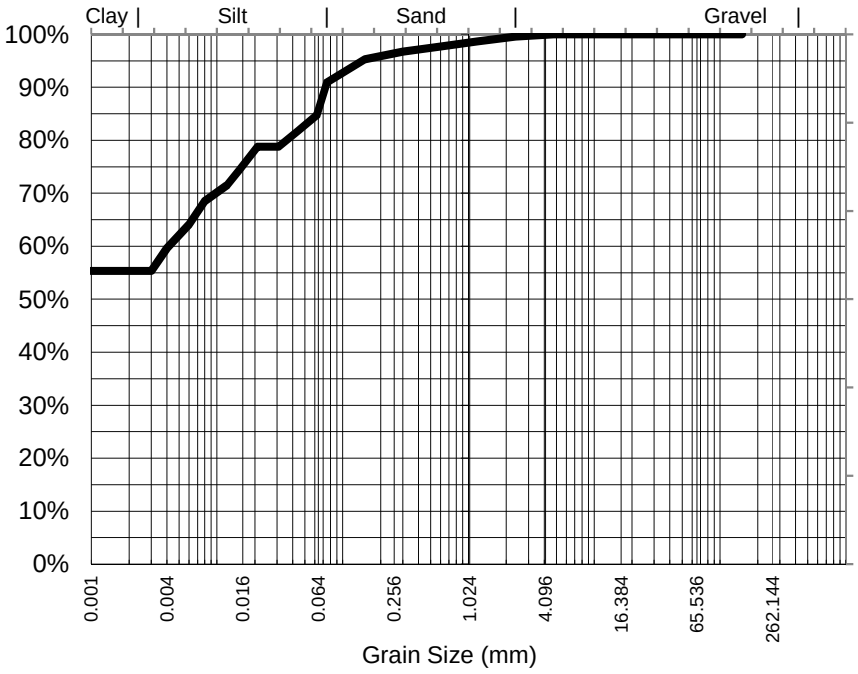
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	10-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503000-038 / PSD
PROJECT:	Gpc Geochemical Investigation	**SAMPLE ID:**	BE15 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	100%
1.18	99%
0.600	98%
0.425	97%
0.300	97%
0.150	95%
0.075	91%
Particle Size (microns)	
62	85%
44	82%
31	79%
15	74%
8	69%
4	60%
1	55%

Median Particle Size (mm)*	<0.001

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY, SILT, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.65 g/cm3

Analysed: 23-Feb-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

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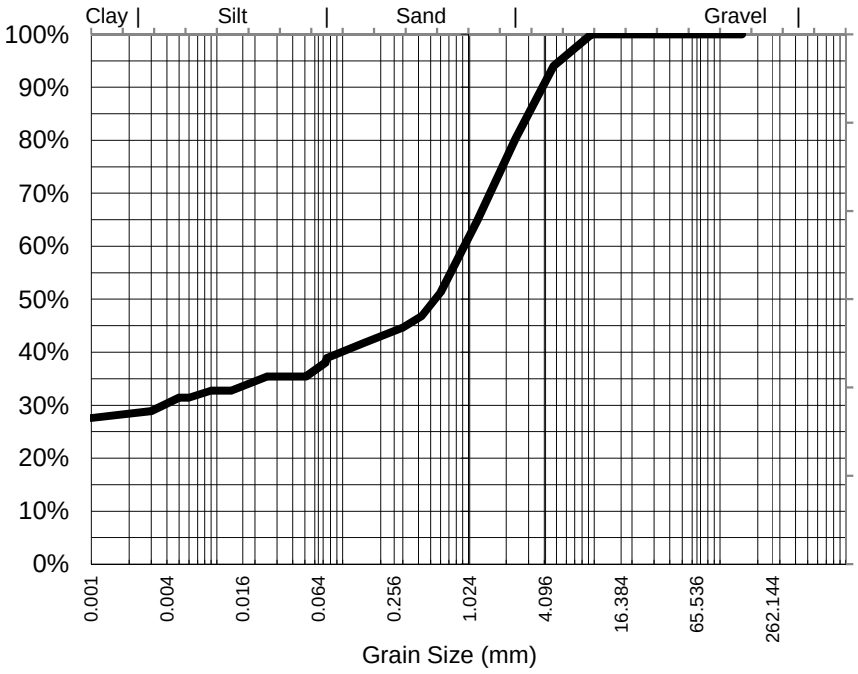
CLIENT:	Sally Leyland	**DATE REPORTED:**	27-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	10-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503000-042 / PSD
PROJECT:	Gpc Geochemical Investigation	**SAMPLE ID:**	BE19 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	94%
2.36	80%
1.18	65%
0.600	51%
0.425	47%
0.300	45%
0.150	42%
0.075	39%
Particle Size (microns)	
73	38%
51	35%
36	35%
18	34%
9	33%
5	31%
1	28%

Samples analysed as received.

Median Particle Size (mm)*	0.549

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY, GRAVEL, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.68 g/cm3

Analysed: 23-Feb-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

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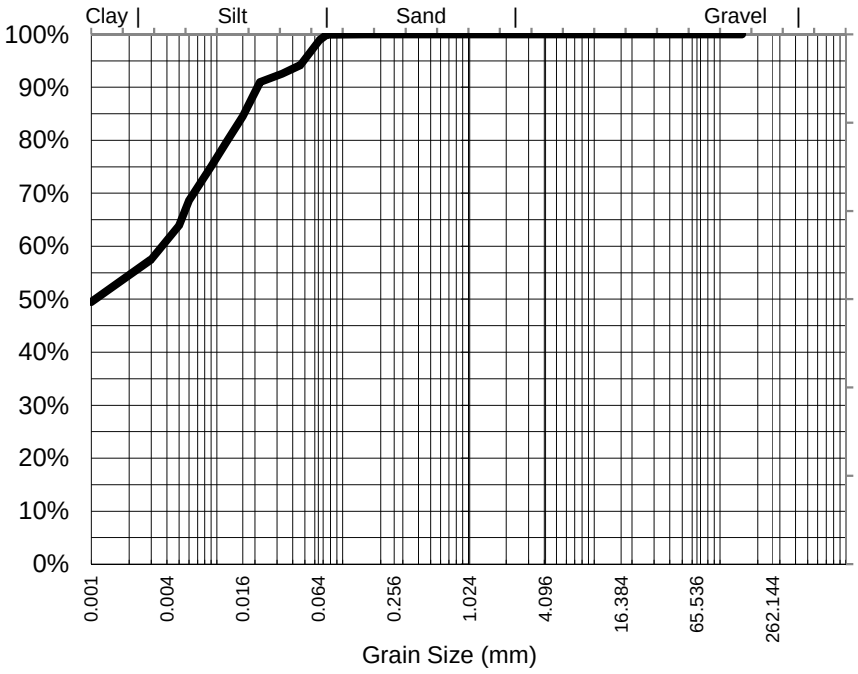
CLIENT:	Sally Leyland	**DATE REPORTED:**	27-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	10-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503000-046 / PSD
PROJECT:	Gpc Geochemical Investigation	**SAMPLE ID:**	BE20 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
0.150	100%
0.075	100%
Particle Size (microns)	
65	99%
46	94%
33	93%
16	85%
9	75%
5	64%
1	49%

Median Particle Size (mm)*	0.001

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 23-Feb-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: CLAY

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.52 g/cm3

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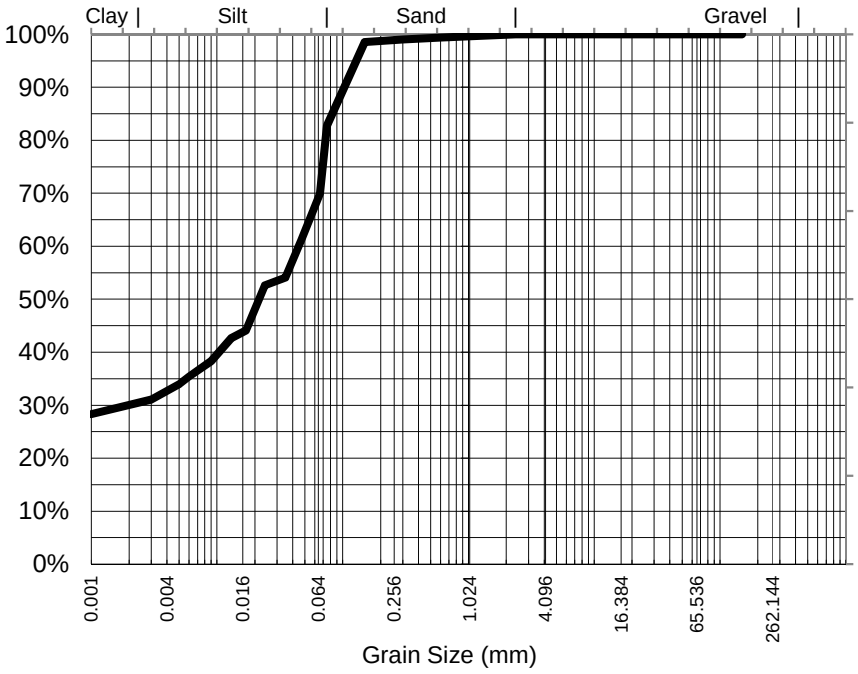
CLIENT:	Sally Leyland	**DATE REPORTED:**	27-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	10-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503000-004DUP / PSD
PROJECT:	Gpc Geochemical Investigation	**SAMPLE ID:**	

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	100%
0.600	99%
0.425	99%
0.300	99%
0.150	99%
0.075	83%
Particle Size (microns)	
66	70%
47	61%
35	54%
17	44%
9	38%
5	34%
1	28%

Median Particle Size (mm)*	0.022

Samples analysed as received.

** Soil Particle Density required for Hydrometer analysis according to AS 1289.3.5.1—2006 was unable to be performed as insufficient sample was supplied by the client . Typical sediment SPD values used for calculations and consequently, NATA endorsement does not apply to hydrometer ..*

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 23-Feb-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: SAND, SILT, SHELL

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) g/cm3

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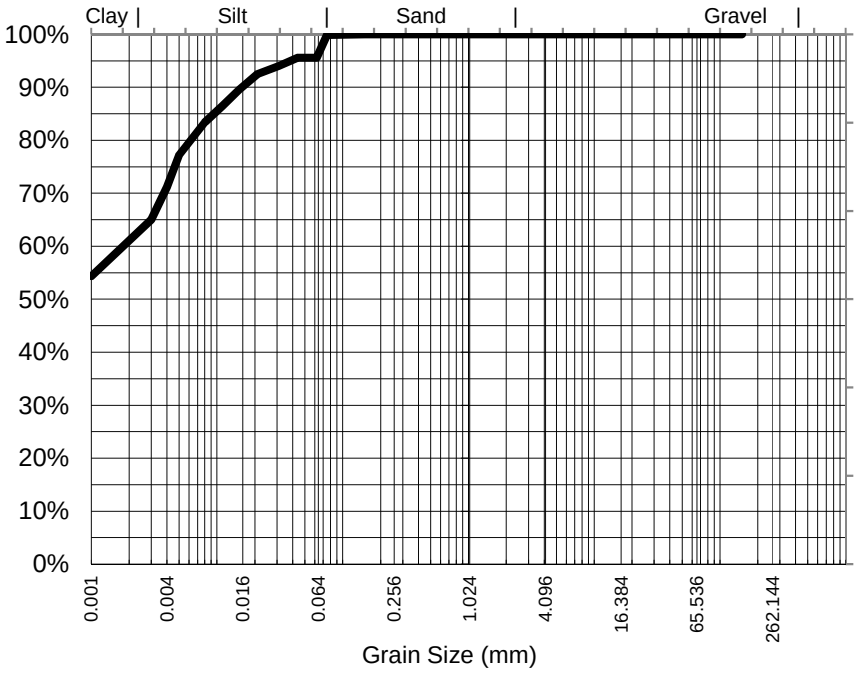
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	10-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503000-047 / PSD
PROJECT:	Gpc Geochemical Investigation	**SAMPLE ID:**	BE20 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
0.150	100%
0.075	100%
Particle Size (microns)	
62	96%
44	96%
31	94%
15	90%
8	83%
4	71%
1	54%

Median Particle Size (mm)*	<0.001

Samples analysed as received.

** Soil Particle Density required for Hydrometer analysis according to AS 1289.3.5.1—2006 was unable to be performed as insufficient sample was supplied by the client . Typical sediment SPD values used for calculations and consequently, NATA endorsement does not apply to hydrometer ..*

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 23-Feb-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: CLAY

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) g/cm3

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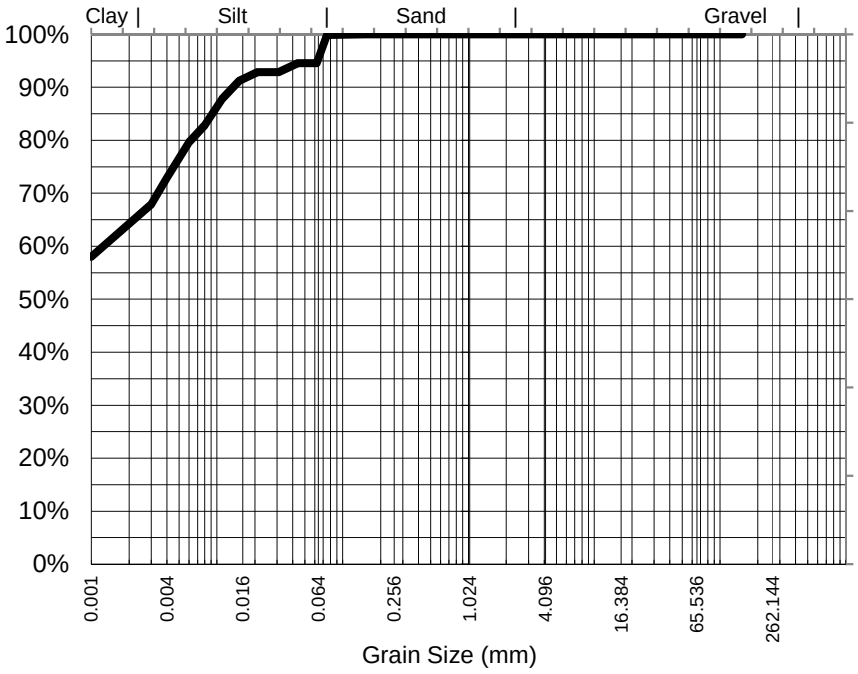
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	10-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503000-052 / PSD
PROJECT:	Gpc Geochemical Investigation	**SAMPLE ID:**	BE21 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
0.150	100%
0.075	100%
Particle Size (microns)	
62	95%
44	95%
31	93%
15	91%
8	83%
4	73%
1	58%

Median Particle Size (mm)*	<0.001

Samples analysed as received.

** Soil Particle Density required for Hydrometer analysis according to AS 1289.3.5.1—2006 was unable to be performed as insufficient sample was supplied by the client . Typical sediment SPD values used for calculations and consequently, NATA endorsement does not apply to hydrometer ..*

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 23-Feb-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: CLAY, SILT, SHELL

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) g/cm3

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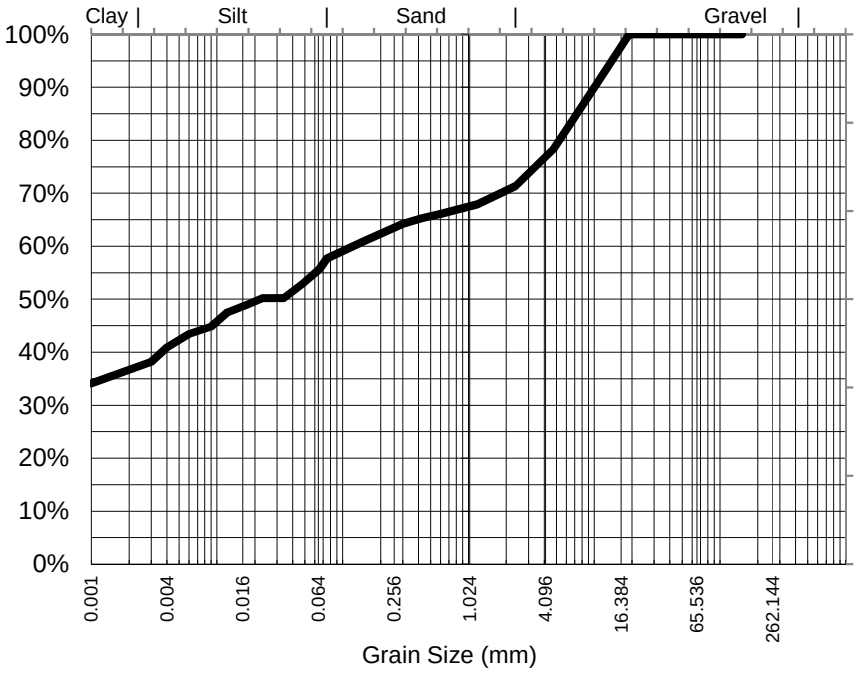
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	10-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503000-053 / PSD
PROJECT:	Gpc Geochemical Investigation	**SAMPLE ID:**	BE21 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	89%
4.75	78%
2.36	71%
1.18	68%
0.600	66%
0.425	65%
0.300	64%
0.150	61%
0.075	58%
Particle Size (microns)	
65	56%
48	53%
34	50%
17	49%
9	45%
4	41%
1	34%

Median Particle Size (mm)*	0.022

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY, GRAVEL, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.7 g/cm3

Analysed: 23-Feb-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
This document is issued in accordance with NATA's accreditation requirements. Accredited for compliance with ISO/IEC 17025. This document shall not be reproduced, except in full.

Peter Keyte
Manager Newcastle
Authorised Signatory

ALS Environmental

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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 8	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	RELINQUISHED BY: Georgina Kerr DATE/TIME: 9 February 2015	RECEIVED BY: Kelly Schafer DATE/TIME: 9 February 2015 1845
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: KSchafer DATE/TIME: 10-2-15 1600	RECEIVED BY: Dan DATE/TIME: 11/2 am
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:			

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	WB6 0.0-0.5 A	9/02/2015	S	Glass Jar (250 ml)	2	1								
2	WB6 0.5-1.0 A	9/02/2015	S	Glass Jar (250 ml)	2	1								
3	WB6 0.0-0.5 B	9/02/2015	S	Bag (White label)	1		1							
4	WB6 0.5-1.0 B	9/02/2015	S	Bag (White label)	1		1							
5	WB6 0.3V	9/02/2015	S	Glass Jar (250 ml)	1			1						
6	WB6 0.7V	9/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	8	2	2	2						

All 150ml Jars sent direct to Brisbane for TOC/TBT

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Subcon / Forward Lab / Split WO
Lab / Analysis: Brisbane / TBT ---- melb/metals
Organised By / Date: ----
Relinquished By / Date: Newcastle / DSD
Connote / Courier: 3 4 9 10 15 16 21 22
WO No: 27 28 13 14 11 12
Attach By PO / Internal Sheet: ----

Environmental Division
Sydney
Work Order
ES1503080

Telephone : +61-2-8784 8555

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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice brick present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 8	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		9 February 2015	9 February 2015

RELINQUISHED BY:	RECEIVED BY:
KSchafer	Dan J
DATE/TIME: 10-2-15 1600	DATE/TIME: 11/2 0944

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH				Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
7	WB7 0.0-0.5 A	9/02/2015	S	Glass Jar (250 ml)	2	1									
8	WB7 0.5-1.0 A	9/02/2015	S	Glass Jar (250 ml)	2	1									
9	WB7 0.0-0.5 B	9/02/2015	S	Bag (White label)	1		1								
10	WB7 0.5-1.0 B	9/02/2015	S	Bag (White label)	1		1								
11	WB7 0.3V	9/02/2015	S	Glass Jar (250 ml)	1			1							
12	WB7 0.7V	9/02/2015	S	Glass Jar (250 ml)	1			1							
				TOTAL	8	2	2	2							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Environmental

ALS Laboratory: please tick →

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☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) **Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround		Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 (3) 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (8)	Other comments:

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*	Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		9 February 2015	9 February 2015	10-2-15 1600

RECEIVED BY:	**COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:**
DATE/TIME: 11/2 0900	

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
13	WB10 0.5-1.0A	9/02/2015	S	Glass Jar (250 ml)	2	1								
14	WB10 0.0-0.5A	9/02/2015	S	Glass Jar (250 ml)	2	1								
15	WB10 0.0-0.5B	9/02/2015	S	Bag (White label)	1		1							
16	WB10 0.5-1.0B	9/02/2015	S	Bag (White label)	1		1							
17	WB10 0.3V	9/02/2015	S	Glass Jar (250 ml)	1			1						
18	WB10 0.7V	9/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 8	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		9 February 2015	9 February 2015

RELINQUISHED BY:	RECEIVED BY:
Kschafer	Dan
DATE/TIME: 10-2-15 1600	DATE/TIME: 11/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOIL (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
19	WB11 0.0-0.5A	9/02/2015	S	Glass Jar (250 ml)	2	1								
20	WB11 0.5-1.0A	9/02/2015	S	Glass Jar (250 ml)	2	1								
21	WB11 0.0-0.5B	9/02/2015	S	Bag (White label)	1		1							
22	WB11 0.5-1.0B	9/02/2015	S	Bag (White label)	1		1							
23	WB11 0.3V	9/02/2015	S	Glass Jar (250 ml)	1			1						
24	WB11 0.7V	9/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: WOLLONGONG Unit 1, 16 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS: (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes / No / N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 8	Random Sample Temperature on Receipt: °C
ORDER NUMBER: 245553			Other comment:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	Kelly Schafer	Schafer	Dan
DATE/TIME: 9 February 2015	DATE/TIME: 9 February 2015	DATE/TIME: 10-2-15 1600	DATE/TIME: 11/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION	ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
25	WB14 0.0-0.5A	9/02/2015	S	Glass Jar (250 ml)	2	1								
26	WB14 0.5-1.0A	9/02/2015	S	Glass Jar (250 ml)	2	1								
27	WB14 0.0-0.5B	9/02/2015	S	Bag (White label)	1		1							
28	WB14 0.5-1.0B	9/02/2015	S	Bag (White label)	1		1							
29	WB14 0.3V	9/02/2015	S	Glass Jar (250 ml)	1			1						
30	WB14 0.7V	9/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	8	2	2	2						

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 245553	**COC SEQUENCE NUMBER (Circle)** COC: 1 2 3 4 5 (6) 7	Random Sample Temperature on Receipt	°C
PROJECT MANAGER: Sally Leyland — **CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (8)	Other comment:	

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*	KSchafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME: 10.2.15 1600
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		9 February 2015	9 February 2015	

RECEIVED BY:	
Dan J	
DATE/TIME: 11/2 0944	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION	ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
31	WB15 0.0-0.5 A	9/02/2015	S	Glass Jar (250 ml)	2	1								
32	WB15 0.5-1.0 A	9/02/2015	S	Glass Jar (250 ml)	2	1								
33	WB15 0.0-0.5 B	9/02/2015	S	Bag (White label)	1		1							
34	WB15 0.5-1.0 B	9/02/2015	S	Bag (White label)	1		1							
35	WB15 0.3V	9/02/2015	S	Glass Jar (250 ml)	1			1						
36	WB15 0.7V	9/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 46 Callemondah Drive Clinton QLD 4680
Ph: 07 7471 5600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 24-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
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Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 02/4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Very Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-280 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6	Random Sample Temperature on Receipt? °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	DATE/TIME: 9 February 2015	DATE/TIME: 9 February 2015
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: Kschafer	RECEIVED BY: Dan
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 10.2.15 1600	DATE/TIME: 11/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
37	PC9 0.0-0.3 A	9/02/2015	S	Glass Jar (250 ml)	2	1								
38	PC9 0.3V	9/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	3	1		1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
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MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 6 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS: ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6	Random Sample Temperature on Receipt	°C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006 OF: 1 2 3 4 5 6	Other comments:	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	Kelly Schafer	KSchafer	Dan
DATE/TIME: 9 February 2015	DATE/TIME: 9 February 2015	DATE/TIME: 10-2-15 1600	DATE/TIME: 11/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
39	Triplicate 4A	9/02/2015	S	Glass Jar (250 ml)	2	1								
40	Triplicate 4B	9/02/2015	S	Glass Jar (250 ml)	2	1								
41	Triplicate 4A, B	9/02/2015	S	Bag (White label)	1		1							
42	Triplicate 4B, B	9/02/2015	S	Bag (White label)	1		1							
43	Trip Blank 5	9/02/2015	S	Pre-filled glass jar	1	1								
44	Rinsate 4	9/02/2015	W	Bottle	8	1								
				TOTAL	15	4	2							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Certificate of Analysis

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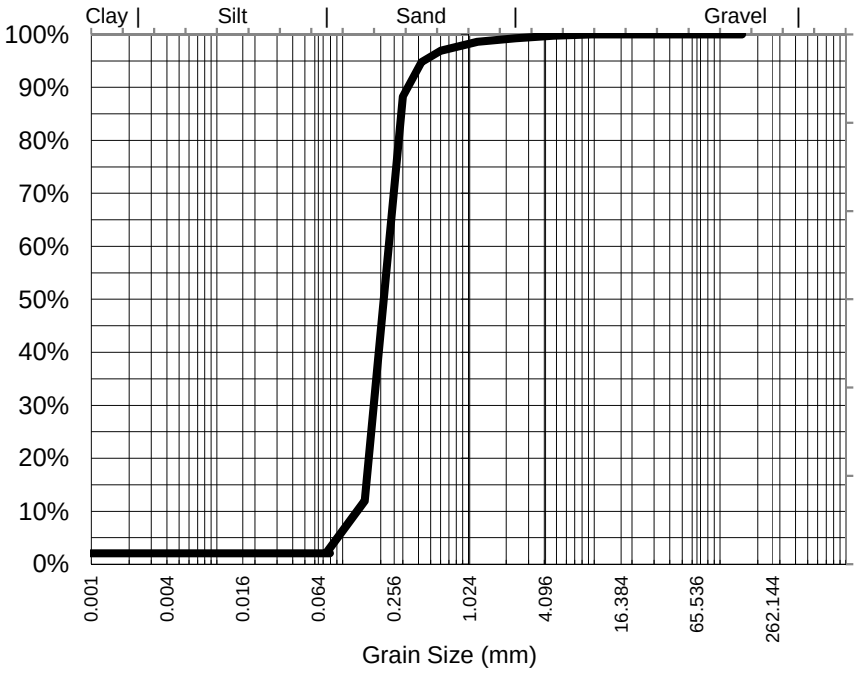
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	27-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	11-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503080-003 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB6 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	100%
2.36	99%
1.18	99%
0.600	97%
0.425	95%
0.300	88%
0.150	12%
0.075	2%
Particle Size (microns)	
79	2%
56	2%
39	2%
19	2%
10	2%
5	2%
1	2%

Median Particle Size (mm)*	0.225

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	24-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.66 g/cm3

NATA Accreditation: 825 Site: Newcastle
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Dianne Blane
Laboratory Co-ordinator, Newcastle
Authorised Signatory

Certificate of Analysis

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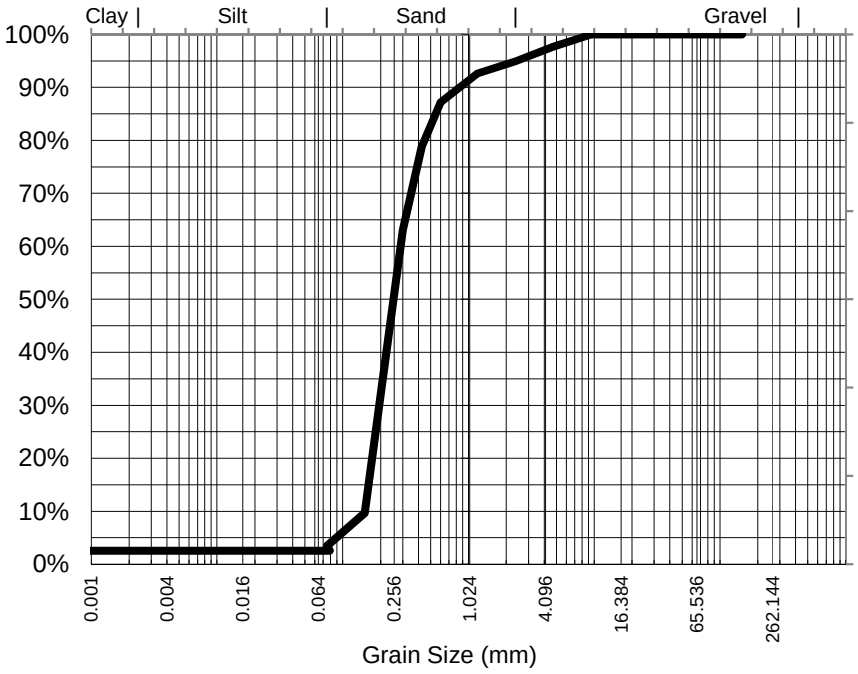
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	27-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	11-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503080-004 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB6 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	98%
2.36	95%
1.18	93%
0.600	87%
0.425	79%
0.300	63%
0.150	10%
0.075	3%
Particle Size (microns)	
79	3%
56	3%
39	3%
19	3%
10	3%
5	3%
1	3%

Median Particle Size (mm)*	0.263

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	24-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SHELL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.66 g/cm3

NATA Accreditation: 825 Site: Newcastle
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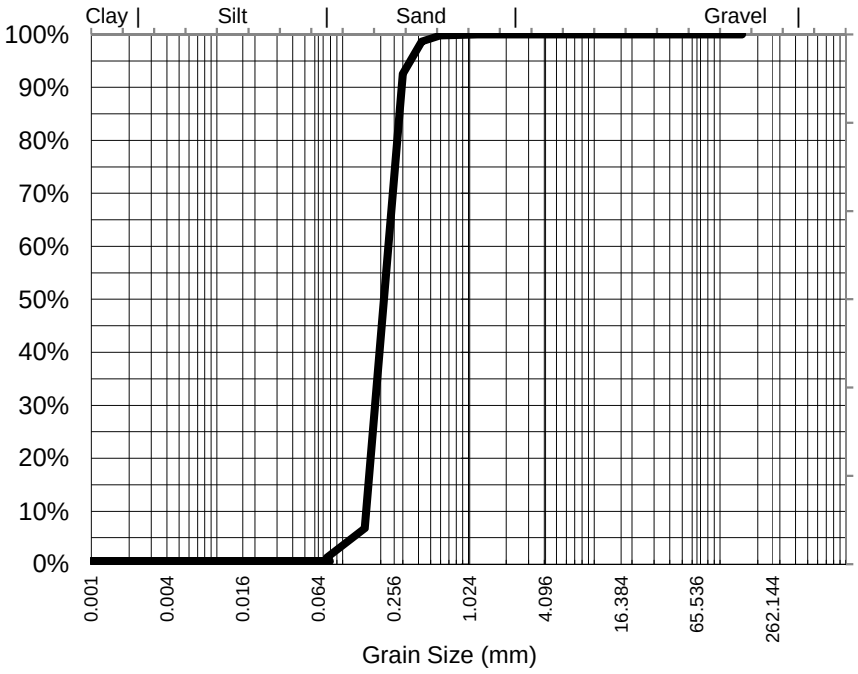
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	27-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	11-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503080-009 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB7 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	100%
0.600	100%
0.425	99%
0.300	93%
0.150	7%
0.075	1%
Particle Size (microns)	
79	1%
56	1%
39	1%
19	1%
10	1%
5	1%
1	1%

Median Particle Size (mm)*	0.226

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	24-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.68 g/cm3

NATA Accreditation: 825 Site: Newcastle
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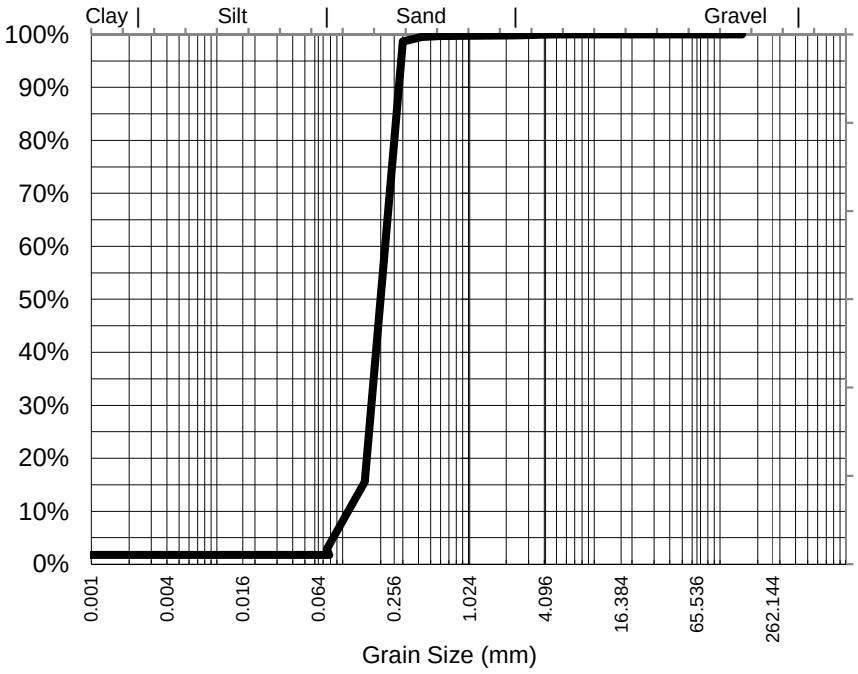
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	27-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	11-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503080-010 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB7 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	100%
1.18	100%
0.600	100%
0.425	100%
0.300	99%
0.150	16%
0.075	3%
Particle Size (microns)	
78	2%
55	2%
39	2%
19	2%
10	2%
5	2%
1	2%

Samples analysed as received.

Median Particle Size (mm)*	0.212

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	24-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.7 g/cm3

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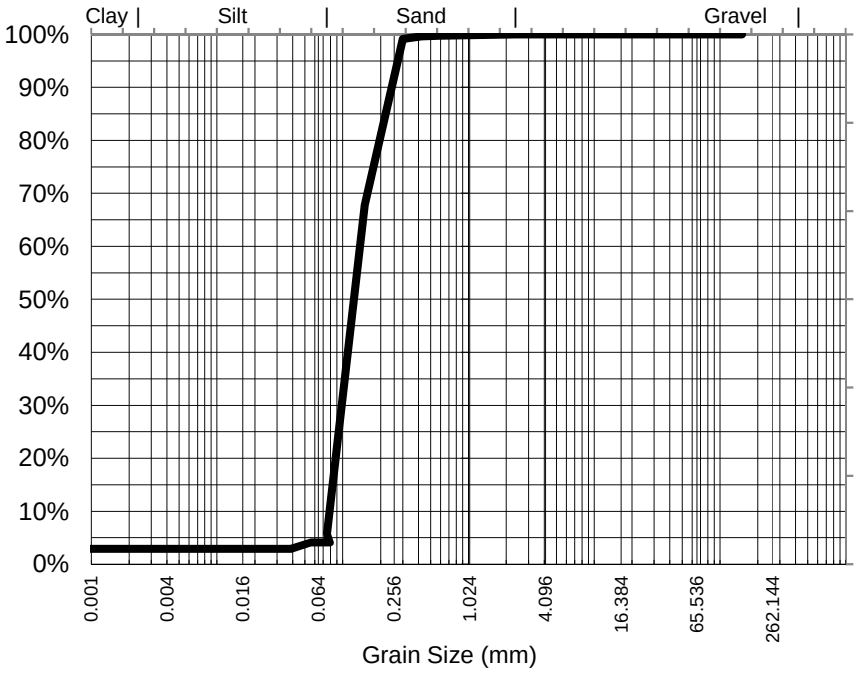
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	27-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	11-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503080-015 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB10 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	100%
1.18	100%
0.600	100%
0.425	100%
0.300	99%
0.150	68%
0.075	6%
Particle Size (microns)	
79	4%
56	4%
39	3%
19	3%
10	3%
5	3%
1	3%

Samples analysed as received.

Median Particle Size (mm)*	0.129

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	24-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.68 g/cm3

NATA Accreditation: 825 Site: Newcastle
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Dianne Blane
Laboratory Co-ordinator, Newcastle
Authorised Signatory

Certificate of Analysis

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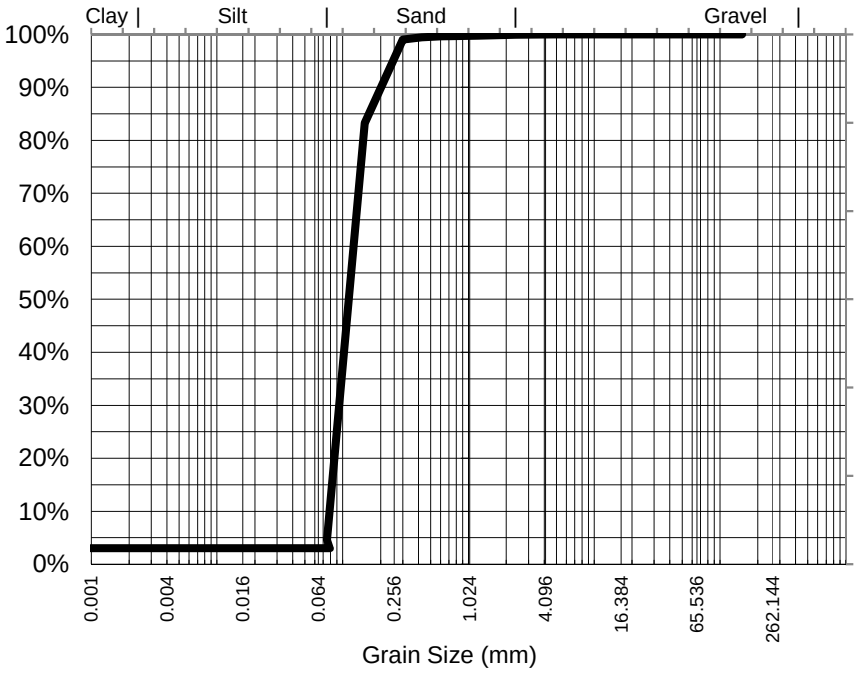
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	27-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	11-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503080-016 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB10 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	100%
1.18	100%
0.600	100%
0.425	99%
0.300	99%
0.150	83%
0.075	5%
Particle Size (microns)	
79	3%
56	3%
39	3%
19	3%
10	3%
5	3%
1	3%

Samples analysed as received.

Median Particle Size (mm)*	0.118

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	24-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.68 g/cm3

NATA Accreditation: 825 Site: Newcastle
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Dianne Blane
Laboratory Co-ordinator, Newcastle
Authorised Signatory

Certificate of Analysis

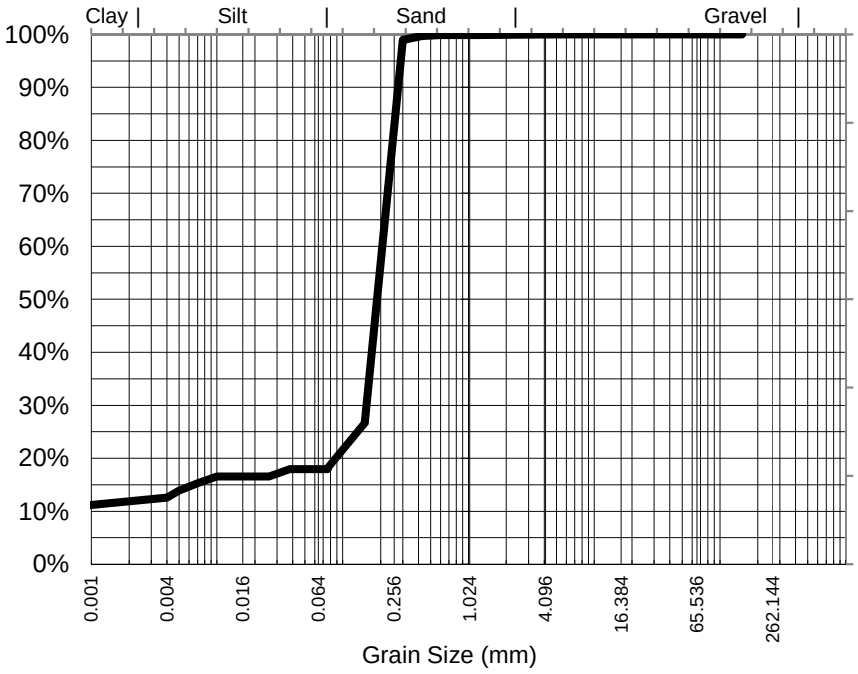
ALS Laboratory Group Pty Ltd
5/585 Maitland Road
Mayfield West, NSW 2304
pH 02 4014 2500
fax 02 4968 0349
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	27-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	11-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503080-021 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB11 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	100%
1.18	100%
0.600	100%
0.425	100%
0.300	99%
0.150	27%
0.075	18%
Particle Size (microns)	
76	18%
53	18%
38	18%
18	17%
10	17%
5	14%
1	11%

Median Particle Size (mm)*	0.198

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SAND, CLAY

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.68 g/cm3

Analysed: 24-Feb-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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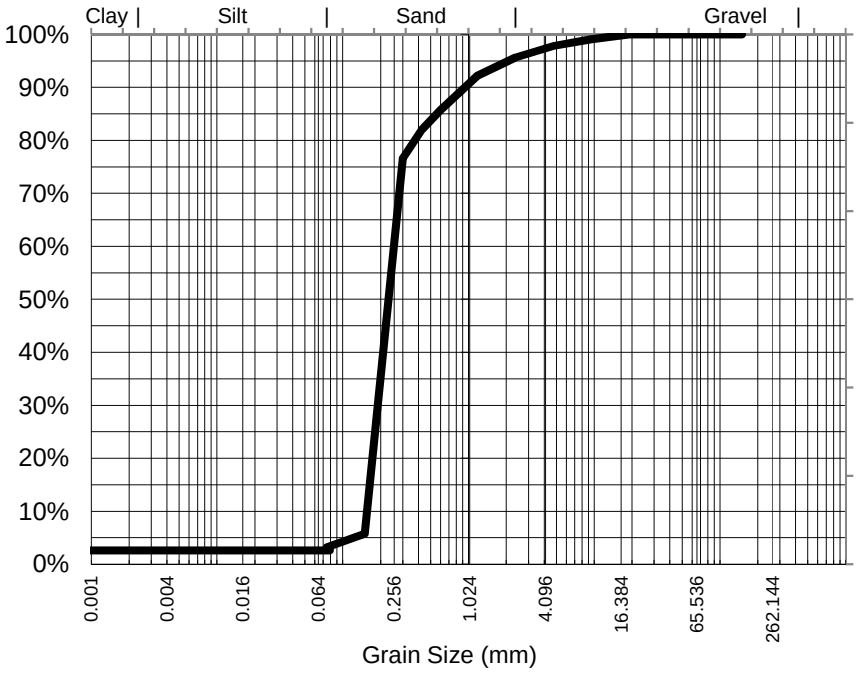
Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	27-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	11-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503080-022 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB11 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	99%
4.75	98%
2.36	96%
1.18	92%
0.600	86%
0.425	82%
0.300	77%
0.150	6%
0.075	3%
Particle Size (microns)	
79	3%
56	3%
39	3%
19	3%
10	3%
5	3%
1	3%

Samples analysed as received.

Median Particle Size (mm)*	0.244

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	24-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SHELL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.69 g/cm3

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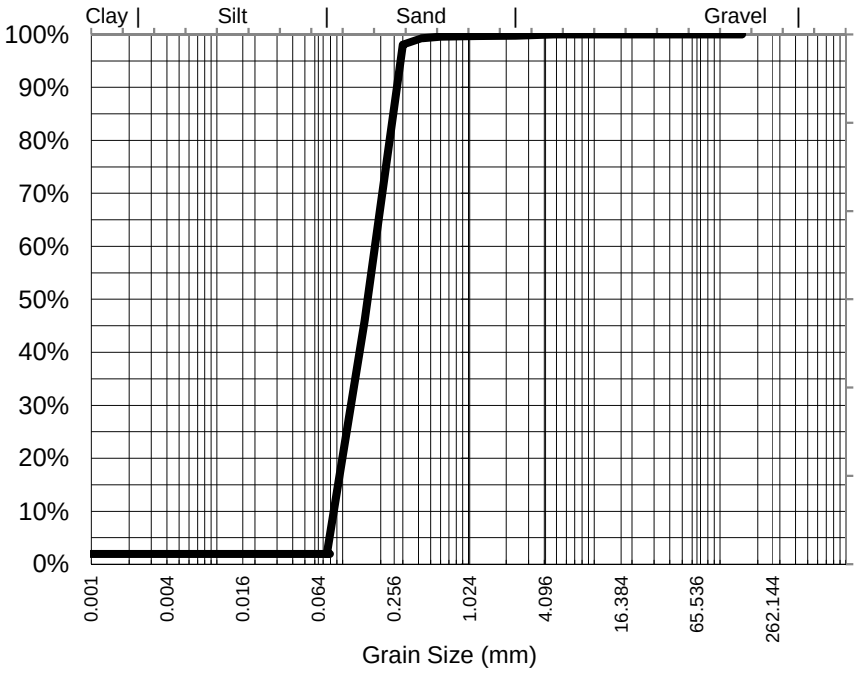
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	27-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	11-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503080-027 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB14 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	100%
1.18	100%
0.600	100%
0.425	99%
0.300	98%
0.150	46%
0.075	2%
Particle Size (microns)	
79	2%
56	2%
39	2%
19	2%
10	2%
5	2%
1	2%

Samples analysed as received.

Median Particle Size (mm)*	0.161

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	24-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.69 g/cm3

NATA Accreditation: 825 Site: Newcastle
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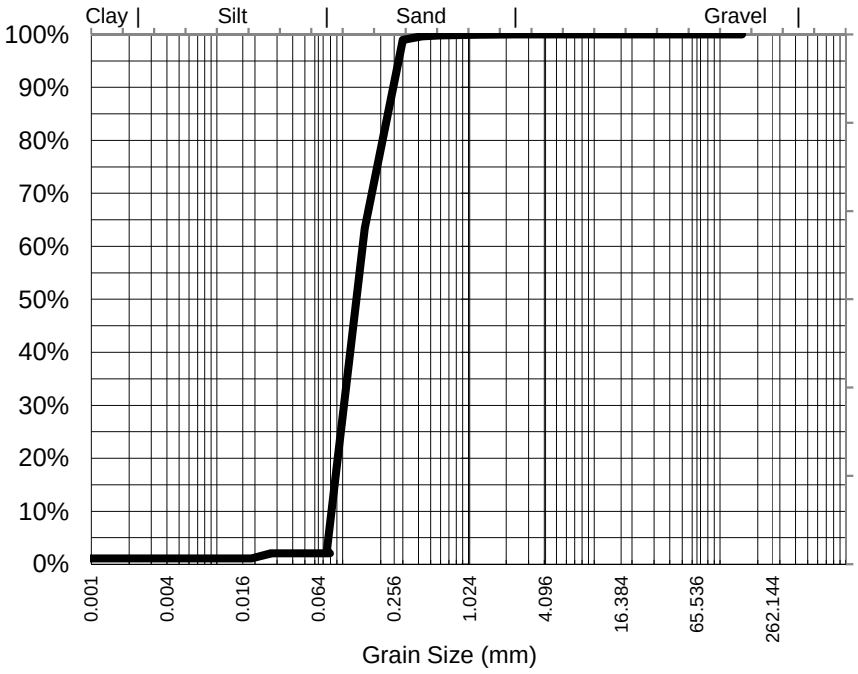
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	27-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	11-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503080-028 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB14 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	100%
0.600	100%
0.425	100%
0.300	99%
0.150	63%
0.075	3%
Particle Size (microns)	
79	2%
56	2%
39	2%
19	1%
10	1%
5	1%
1	1%

Median Particle Size (mm)*	0.133

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	24-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.68 g/cm3

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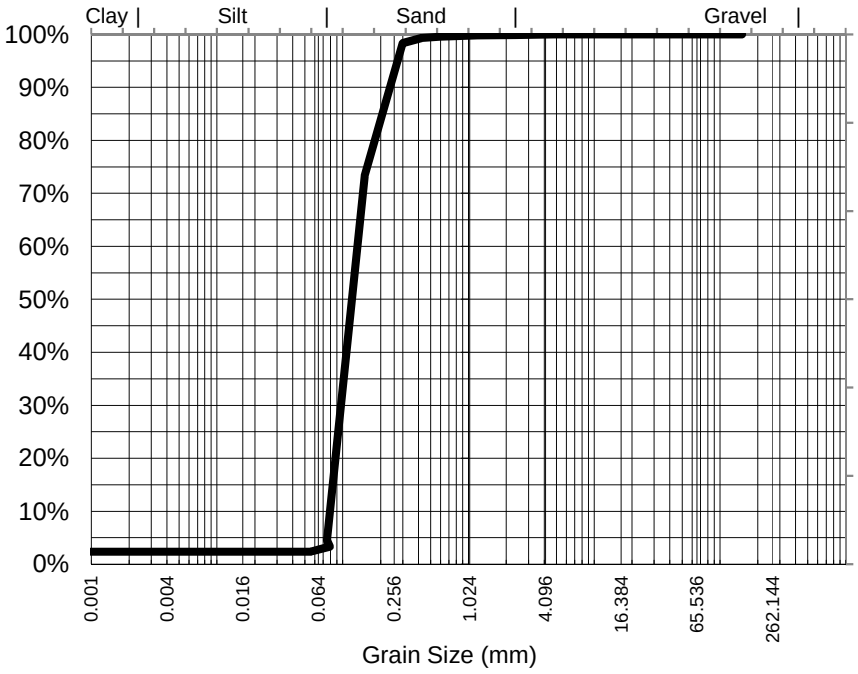
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	27-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	11-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503080-033 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB15 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	100%
1.18	100%
0.600	100%
0.425	99%
0.300	98%
0.150	73%
0.075	5%
Particle Size (microns)	
79	3%
56	2%
39	2%
19	2%
10	2%
5	2%
1	2%

Samples analysed as received.

Median Particle Size (mm)*	0.125

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	24-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.68 g/cm3

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ALS Environmental

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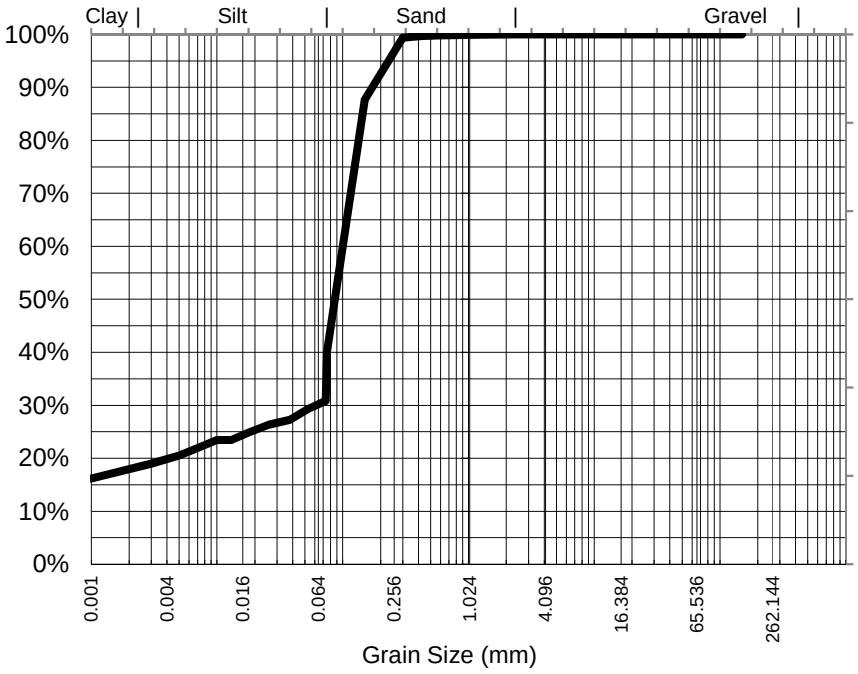
CLIENT:	Sally Leyland	**DATE REPORTED:**	27-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	11-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503080-034 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB15 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	100%
0.600	100%
0.425	100%
0.300	99%
0.150	88%
0.075	40%
Particle Size (microns)	
73	31%
53	29%
38	27%
18	25%
10	23%
5	20%
1	16%

Samples analysed as received.

Median Particle Size (mm)*	0.091

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 24-Feb-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: SAND, SILT, CLAY

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.69 g/cm3

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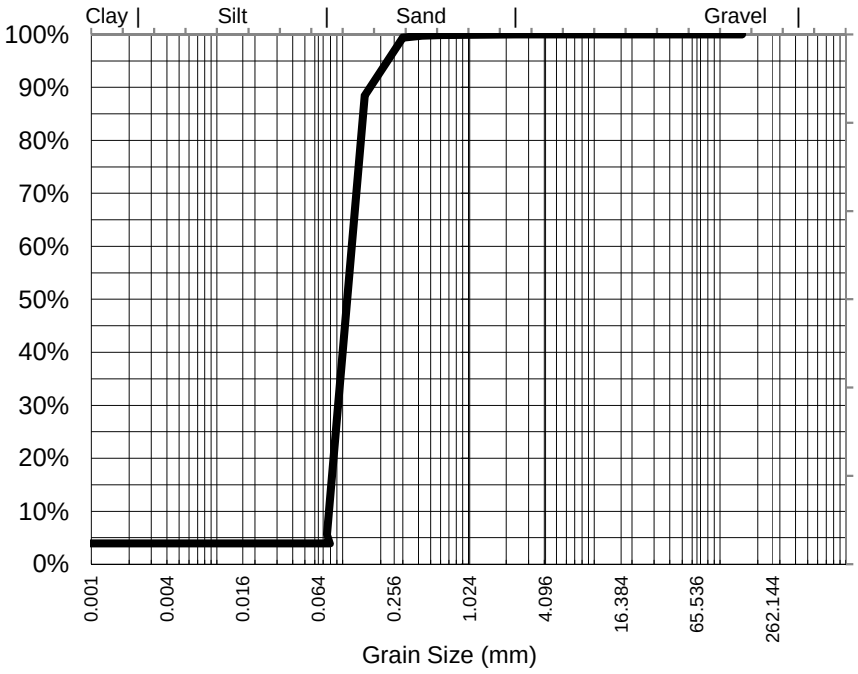
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	27-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	11-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503080-041 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	TRIPLICATE 4A, B

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	100%
0.600	100%
0.425	100%
0.300	99%
0.150	88%
0.075	6%
Particle Size (microns)	
79	4%
56	4%
39	4%
19	4%
10	4%
5	4%
1	4%

Samples analysed as received.

Median Particle Size (mm)*	0.115

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	24-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SILT	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.68 g/cm3

NATA Accreditation: 825 Site: Newcastle
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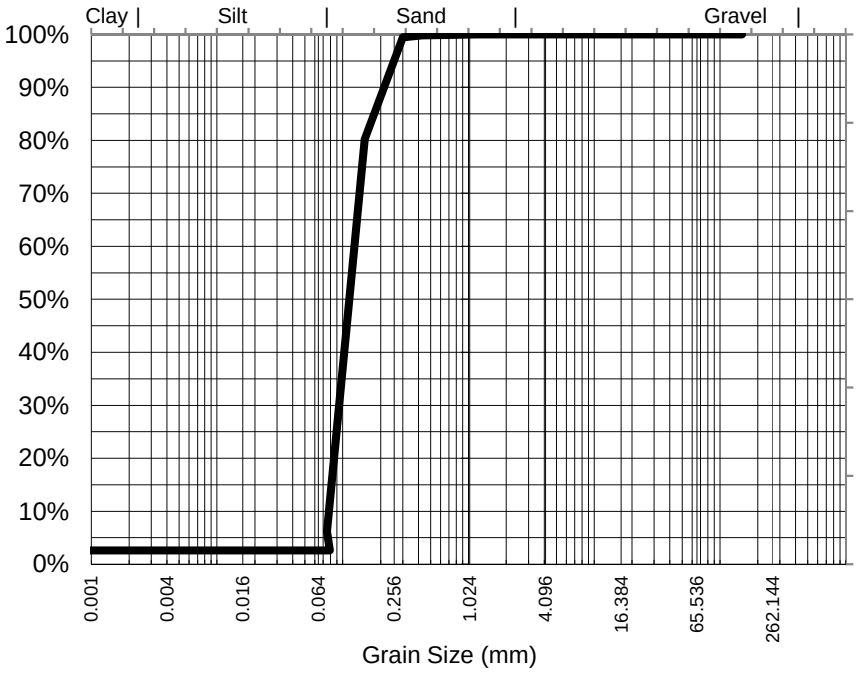
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	27-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	11-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503080-042 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	TRIPLICATE 4B, B

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	100%
0.600	100%
0.425	100%
0.300	99%
0.150	80%
0.075	6%
Particle Size (microns)	
79	3%
56	3%
39	3%
19	3%
10	3%
5	3%
1	3%

Samples analysed as received.

Median Particle Size (mm)*	0.119

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	24-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SILT	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.69 g/cm3

NATA Accreditation: 825 Site: Newcastle
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes / No / N/A; Free ice / frozen ice bricks present upon receipt? Yes / No / N/A; Random Sample Temperature on Receipt: °C; Other comments:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: (1) 2 3 4 5 6 7	
ORDER NUMBER: 245553		OF: 1 2 3 4 (5) 6 7	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	Kelly Schafer	KSchafer	Dan
DATE/TIME: 10 February 2015	DATE/TIME: 10 February 2015 1730	DATE/TIME: 11-2-15 1600	DATE/TIME: 12/2 0940

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	BH9 0.0-0.45 A	10/02/2015	S	Glass Jar (250 ml)	2	1								
2	BH9 0.0-0.45 B	10/02/2015	S	Bag (White label)	1		1							
3	BH9 0.3V	10/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

150ml Jars sent direct to Brisbane for TOC/TBT

~~Subcon~~ / Forward Lab / Split WO
~~Lab~~ / Analysis: Brisbane / TBT
Organised By / Date: (20)
Relinquished By / Date: Newcastle / PSD
Connote / Courier: 2 5 8 6 2 - 1 3
WO No:
Attach By PO / Internal Sheet:

Environmental Division
Sydney
Work Order
ES1503240

Telephone : +61-2-8784 8555

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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 245553	**COC SEQUENCE NUMBER (Circle)** COC: 1 (2) 3 4 5 6 7	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland — **CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 (5) 6 7	Other comment:	

SAMPLER: Georgina Kerr — **SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:** Georgina Kerr	**RECEIVED BY:** Kelly Schafer	**RELINQUISHED BY:** KSchafer	**RECEIVED BY:** Dan
COC emailed to ALS? (YES / NO) — **EDD FORMAT (or default):**	DATE/TIME: 10 February 2015	DATE/TIME: 10 February 2015 1730	DATE/TIME: 11.2.15 1600	DATE/TIME: 12/2 0900
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com				
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com				

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
4	BH11 0.0-0.05 A	10/02/2015	S	Glass Jar (250 ml)	2	1								
5	BH11 0.0-0.05 B	10/02/2015	S	Bag (White label)	1		1							
6	BH11 0.0V	10/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Environmental

ALS Laboratory: please tick →

☐ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
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☐MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
☐MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
☐MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
☐NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
☐NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
☐PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
☐SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
☐TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townesville.environmental@alsglobal.com
☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround		Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 (3) 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 (5) 6 7	Other comments:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*	KSchafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		10 February 2015	10 February 2015 1730	11-2-15 1600

RECEIVED BY:
Paul
DATE/TIME: 12/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
7	BH20 0.0-0.4A	10/02/2015	S	Glass Jar (250 ml)	2	1								
8	BH20 0.0-0.4B	10/02/2015	S	Bag (White label)	1		1							
9	BH20 0.3V	10/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171
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Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
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Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY: (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 (4) 5 6 7	Random Sample Temperature on Receipt: C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 (5) 6 7	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 10 February 2015	DATE/TIME: 10 February 2015 1730
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: KSchafer	RECEIVED BY: Dan
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:		DATE/TIME: 11-2-15 1600	DATE/TIME: 12/2 0900

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
10	PC8 0.0-0.5A	10/02/2015	S	Glass Jar (250 ml)	2	1								
11	PC8 0.5-1.0A	10/02/2015	S	Glass Jar (250 ml)	2	1								
12	PC8 0.0-0.5B	10/02/2015	S	Bag (White label)	1		1							
13	PC8 0.5-1.0B	10/02/2015	S	Bag (White label)	1		1							
14	PC8 0.3V	10/02/2015	S	Glass Jar (250 ml)	1			1						
15	PC8 0.7V	10/02/2015	S	Glass Jar (250 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS: ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround		Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free Ice / Frozen Ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		10 February 2015	10 February 2015 1730

RELINQUISHED BY:	RECEIVED BY:
K Schafer	Dan
DATE/TIME: 11.2.15 1600	DATE/TIME: 12/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
16	Triplicate 5A	10/02/2015	S	Glass Jar (250 ml)	2	1								
17	Triplicate 5B	10/02/2015	S	Glass Jar (250 ml)	2	1								
18	Duplicate 3A	10/02/2015	S	Glass Jar (250 ml)	2	1								
	~~Duplicate 3B~~	~~10/02/2015~~	~~S~~	~~Glass Jar (250 ml)~~	~~2~~	~~1~~								~~Held at Eurofins for analysis~~
19	Trip Blank 6	10/02/2015	S	Pre-filled glass jar	1	1								
20	Rinsate 5	10/02/2015	w	Bottle	8	1								
				TOTAL	17	6								

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Certificate of Analysis

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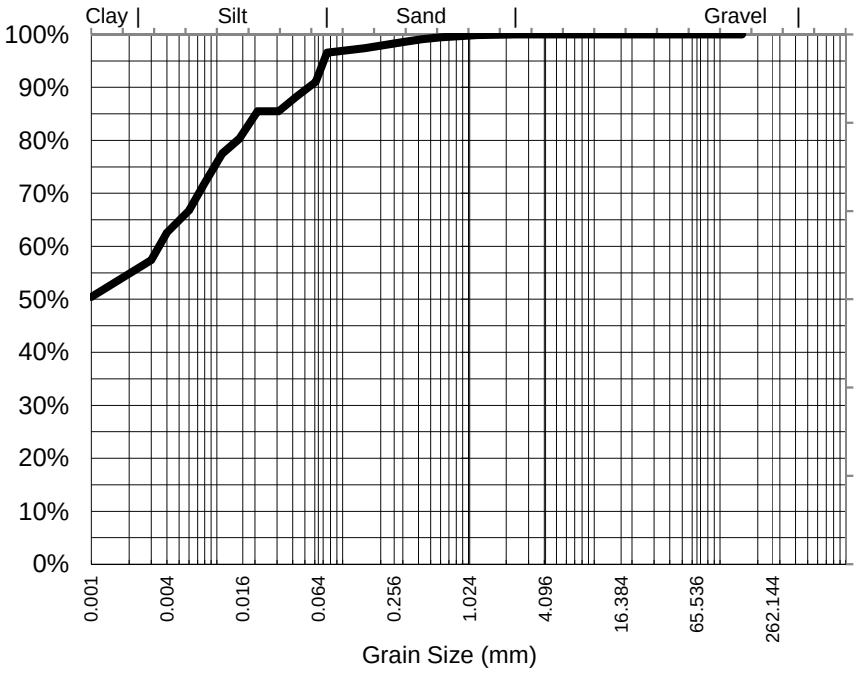
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	27-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	12-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503240-002 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH9 0.0-0.45 B

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	100%
0.600	99%
0.425	99%
0.300	99%
0.150	97%
0.075	97%
Particle Size (microns)	
61	91%
43	88%
31	86%
15	80%
8	72%
4	63%
1	50%

Median Particle Size (mm)*	<0.001

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 25-Feb-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: CLAY

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.73 g/cm3

NATA Accreditation: 825 Site: Newcastle
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Dianne Blane
Laboratory Co-ordinator, Newcastle
Authorised Signatory

Certificate of Analysis

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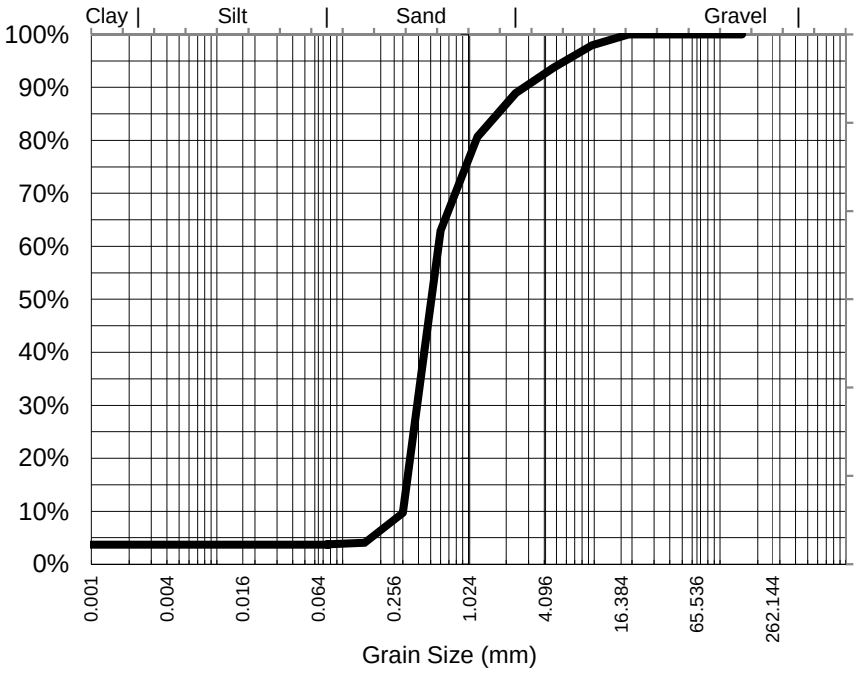
fax 02 4968 0349
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	27-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	12-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503240-005 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH11 0.0-0.5 B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	98%
4.75	94%
2.36	89%
1.18	81%
0.600	63%
0.425	36%
0.300	10%
0.150	4%
0.075	4%
Particle Size (microns)	
78	4%
55	4%
39	4%
19	4%
10	4%
5	4%
1	4%

Samples analysed as received.

Median Particle Size (mm)*	0.514

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	25-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SHELL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.68 g/cm3

NATA Accreditation: 825 Site: Newcastle
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Dianne Blane
Laboratory Co-ordinator, Newcastle
Authorised Signatory

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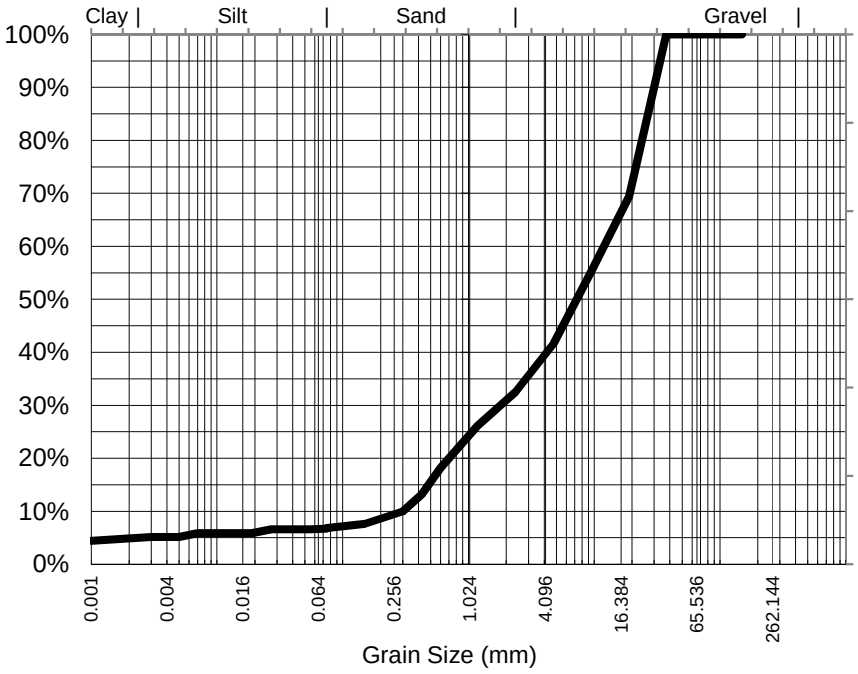
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	27-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	12-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503240-008 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH20 0.0-0.4 B

Particle Size Distribution



Particle Size (mm)	Percent Passing
37.5	100%
19.0	69%
9.50	55%
4.75	42%
2.36	33%
1.18	26%
0.600	18%
0.425	13%
0.300	10%
0.150	8%
0.075	7%
Particle Size (microns)	
74	7%
55	7%
39	7%
19	6%
10	6%
5	5%
1	4%

Samples analysed as received.

Median Particle Size (mm)*	7.661

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	25-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, FINES, GRAVEL, SHELL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.72 g/cm3

NATA Accreditation: 825 Site: Newcastle
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Dianne Blane
Laboratory Co-ordinator, Newcastle
Authorised Signatory

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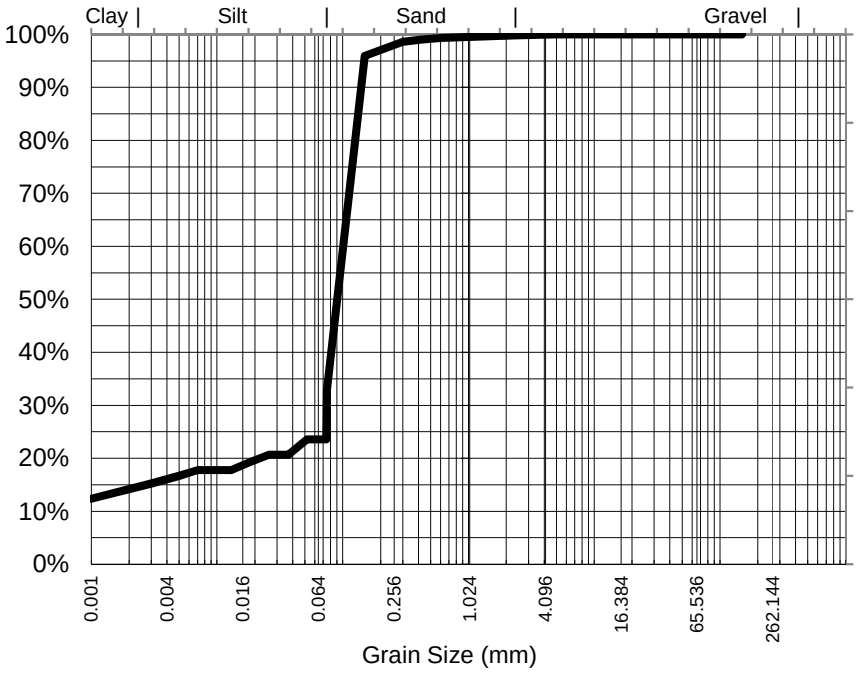
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	27-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	12-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503240-012 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	PC8 0.0-0.5 B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	100%
1.18	100%
0.600	99%
0.425	99%
0.300	99%
0.150	96%
0.075	33%
Particle Size (microns)	
74	24%
52	24%
37	21%
18	19%
9	18%
5	17%
1	12%

Samples analysed as received.

Median Particle Size (mm)*	0.095

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SAND, SILT, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.71 g/cm3

Analysed: 25-Feb-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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Authorised Signatory

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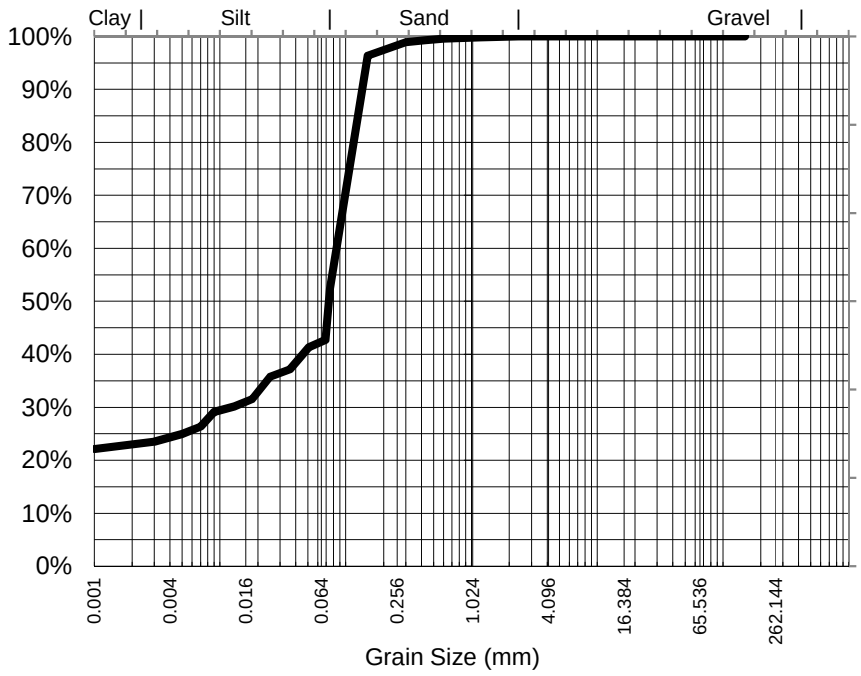
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	27-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	12-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503240-013 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	PC8 0.5-1.0 B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	100%
1.18	100%
0.600	100%
0.425	99%
0.300	99%
0.150	96%
0.075	52%
Particle Size (microns)	
69	43%
51	41%
36	37%
18	32%
9	29%
5	25%
1	22%

Median Particle Size (mm)*	0.074

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 25-Feb-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: SAND, SILT, SHELL

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.69 g/cm3

NATA Accreditation: 825 Site: Newcastle
This document is issued in accordance with NATA's accreditation requirements. Accredited for compliance with ISO/IEC 17025. This document shall not be reproduced, except in full.

Dianne Blane
Laboratory Co-ordinator, Newcastle
Authorised Signatory

ALS Environmental

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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A; Free ice / frozen ice bricks present upon receipt? Yes No N/A; Random Sample Temperature on Receipt: °C; Other comment:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 12	
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr DATE/TIME: 11 February 2015	RECEIVED BY: Kelly Schafer DATE/TIME: 11 February 2015 1730
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		RELINQUISHED BY: KSchafer DATE/TIME: 12-2-15 1600
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			RECEIVED BY: DanJ DATE/TIME: 12/2 0900
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	WB19 0.0-0.5 A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
2	WB19 0.5-1.0 A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
3	WB19 0.0-0.5 B	11/02/2015	S	Bag (White label)	1		1							
4	WB19 0.5-1.0 B	11/02/2015	S	Bag (White label)	1		1							
5	WB6 0.3V	11/02/2015	S	Glass Jar (150 ml)	1			1						
6	WB19 0.7V	11/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

150ml Jars sent direct to Brisbane for TOC/TBT

500ml Amber sent direct to Brisbane for TBT

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Subcon / Forward Lab / Split WO
Lab / Analysis: Newcastle / PSP
Organised By / Date:
Relinquished By / Date:
Connote / Courier:
WO No:
Attach By PO / Internal Sheet:

Environmental Division Sydney

Work Order

ES1503461

Telephone : +61-2-8784 8555

ALS Environmental

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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 (2) 3 4 5 6 7	Random Sample Temperature on Receipt: 0
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		11 February 2015	11 February 2015 17:30

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 12-2-15 1600	DATE/TIME: 13/2 0400

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
7	WB20 0.0-0.5 A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
8	WB20 0.5-1.0 A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
9	WB20 0.0-0.5 B	11/02/2015	S	Bag (White label)	1		1							
10	WB20 0.5-1.0 B	11/02/2015	S	Bag (White label)	1		1							
11	WB20 0.3V	11/02/2015	S	Glass Jar (150 ml)	1			1						
12	WB20 0.7V	11/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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☐MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
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☐NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
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☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS: ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 (3) 4 5 6 7	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comment:	

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		11 February 2015	11 February 2015 1730	12-2-15 1600	13/2 09cm

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
13	WB23 0.0-0.5A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
14	WB23 0.5-1.0A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
15	WB23 0.0-0.5B	11/02/2015	S	Bag (White label)	1		1							
16	WB23 0.5-1.0B	11/02/2015	S	Bag (White label)	1		1							
17	WB23 0.3V	11/02/2015	S	Glass Jar (150 ml)	1			1						
18	WB23 0.7V	11/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	6	1	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle): Custody Seal Intact? Yes No N/A; Free ice / frozen ice bricks present upon receipt? Yes No N/A; Random Sample Temperature on Receipt: °C; Other comment:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 (4) 5 6 7	
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 (7)	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	Kelly Schafer	AS	D--1
DATE/TIME: 11 February 2015	DATE/TIME: 11 February 2015 1730	DATE/TIME: 12-2-15 1600	DATE/TIME: 13/2 0904

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION	ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
19	BE4 0.0-0.5A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
20	BE4 0.5-1.0A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
21	BE4 0.0-0.5B	11/02/2015	S	Bag (White label)	1		1							
22	BE4 0.5-1.0B	11/02/2015	S	Bag (White label)	1		1							
23	BE4 0.3V	11/02/2015	S	Glass Jar (150 ml)	1			1						
24	BE4 0.7V	11/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 (5) 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		11 February 2015	11 February 2015 1730

RELINQUISHED BY:	RECEIVED BY:
KS	Dan
DATE/TIME: 12-2-15 1600	DATE/TIME: 13/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
25	BE5 0.0-0.5A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
26	BE5 0.5-1.0A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
27	BE5 0.0-0.5B	11/02/2015	S	Bag (White label)	1		1							
28	BE5 0.5-1.0B	11/02/2015	S	Bag (White label)	1		1							
29	BE5 0.3V	11/02/2015	S	Glass Jar (150 ml)	1			1						
30	BE5 0.7V	11/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ENVIRONMENTAL

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NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph. 02 4423 2063 E. nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph. 08 9209 7655 E. samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph. 02 8784 8555 E. samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph. 07 4796 0600 E. townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph. 02 4225 3125 E. portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 12	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		11 February 2015	11 February 2015 1730

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 12-2-15 1600	DATE/TIME: 13/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
31	BE6 0.0-0.5 A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
32	BE6 0.5-1.0 A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
33	BE6 0.0-0.5 B	11/02/2015	S	Bag (White label)	1		1							
34	BE6 0.5-1.0 B	11/02/2015	S	Bag (White label)	1		1							
35	BE6 0.3V	11/02/2015	S	Glass Jar (150 ml)	1			1						
36	BE6 0.7V	11/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 6735 E: mudgeemail@alsglobal.com
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Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
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Ph: 024423 2063 E: nowra@alsglobal.com
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Ph: 08 9209 7655 E: samples.perth@alsglobal.com
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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Eves Ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7Z	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		11 February 2015	11 February 2015 1730

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 12-2-15 1600	DATE/TIME: 13/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
37	BE8 0.0-0.5 A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
38	BE8 0.5-1.0 A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
39	BE8 0.0-0.5 B	11/02/2015	S	Bag (White label)	1		1							
40	BE8 0.5-1.0 B	11/02/2015	S	Bag (White label)	1		1							
41	BE8 0.3V	11/02/2015	S	Glass Jar (150 ml)	1			1						
42	BE8 0.7V	11/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 6735 E: mudgee mail@alsglobal.com

NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
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NOWRA 4/13 Geary Place North Nowra NSW 2541
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (8)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (12)	Other comment:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		11 February 2015	11 February 2015 1730

RELINQUISHED BY:	**RECEIVED BY:**
DATE/TIME: 12.2.15 1600	DATE/TIME: 13/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
43	BE11 0.0-0.5 A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
44	BE11 0.5-1.0 A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
45	BE11 0.0-0.5 B	11/02/2015	S	Bag (White label)	1		1							
46	BE11 0.5-1.0 B	11/02/2015	S	Bag (White label)	1		1							
47	BE11 0.3V	11/02/2015	S	Glass Jar (150 ml)	1			1						
48	BE11 0.7V	11/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date):	5 day turnaround
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (9)	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (12)	

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comment:			

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		11 February 2015	11 February 2015 1730	12.2.15 1600	13/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
49	BE12 0.0-0.5 A	11/02/2015	S	Glass Jar (250 ml and 250 ml)	2	1								
50	BE12 0.5-1.0 A	11/02/2015	S	Glass Jar (250 ml and 250 ml)	2	1								
51	BE12 0.0-0.5 B	11/02/2015	S	Bag (White label)	1		1							
52	BE12 0.5-1.0 B	11/02/2015	S	Bag (White label)	1		1							
53	BE12 0.3V	11/02/2015	S	Glass Jar (150 ml)	1			1						
54	BE12 0.7V	11/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		11 February 2015	11 February 2015 1730

RELINQUISHED BY:	RECEIVED BY:
	Dan
DATE/TIME:	DATE/TIME:
12-2-15 1600	17/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
55	BE13 0.0-0.5 A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
56	BE13 0.5-1.0 A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
57	BE13 0.0-0.5 B	11/02/2015	S	Bag (White label)	1		1							
58	BE13 0.5-1.0 B	11/02/2015	S	Bag (White label)	1		1							
59	BE13 0.3V	11/02/2015	S	Glass Jar (150 ml)	1			1						
60	BE13 0.7V	11/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (11)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (12)	Other comment:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		11 February 2015	11 February 2015 1730

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 12-2-15 1600	DATE/TIME: 13/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION	ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
61	WB17 0.0-0.5 A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
62	WB17 0.5-1.0 A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
63	WB17 0.0-0.5 B	11/02/2015	S	Bag (White label)	1		1							
64	WB17 0.5-1.0 B	11/02/2015	S	Bag (White label)	1		1							
65	WB17 0.3V	11/02/2015	S	Glass Jar (150 ml)	1			1						
66	WB17 0.7V	11/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5800 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
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PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice/ frozen ice bricks present upon receipt?	Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6	Other comment:	

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		11 February 2015	11 February 2015 1730	12.2.15 1600	13/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	Rinsate Suite		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
67	Triplicate 6A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
68	Triplicate 6B	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
69	Triplicate 7A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
70	Triplicate 7B	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
71	Triplicate 8A	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
72	Triplicate 8B	11/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
73	Trip Blank 8	11/02/2015	S	Pre-filled glass jar	1	1								
74	Rinsate 7	11/02/2015	w	Bottle	8	4						1		
				TOTAL	21	8								

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Certificate of Analysis

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ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	2-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	13-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503461-003 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB19 0.5-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	100%
0.600	100%
0.425	100%
0.300	100%
0.150	76%
0.075	5%
Particle Size (microns)	
78	2%
55	1%
39	1%
19	1%
10	1%
5	1%
1	1%

Samples analysed as received.

Median Particle Size (mm)*	0.122

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	25-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.65 g/cm3

NATA Accreditation: 825 Site: Newcastle
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Dianne Blane
Laboratory Co-ordinator, Newcastle
Authorised Signatory

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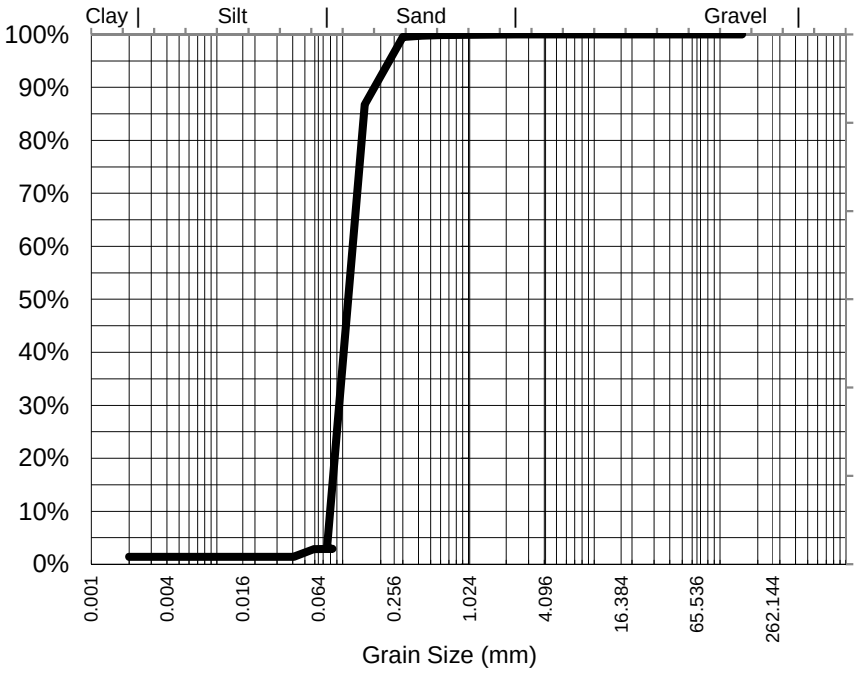
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	2-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	13-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503461-004 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB19 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	100%
0.600	100%
0.425	100%
0.300	99%
0.150	87%
0.075	3%
Particle Size (microns)	
83	3%
59	3%
41	1%
20	1%
10	1%
5	1%
2	1%

Samples analysed as received.

Median Particle Size (mm)*	0.117

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	25-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SILT	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.49 g/cm3

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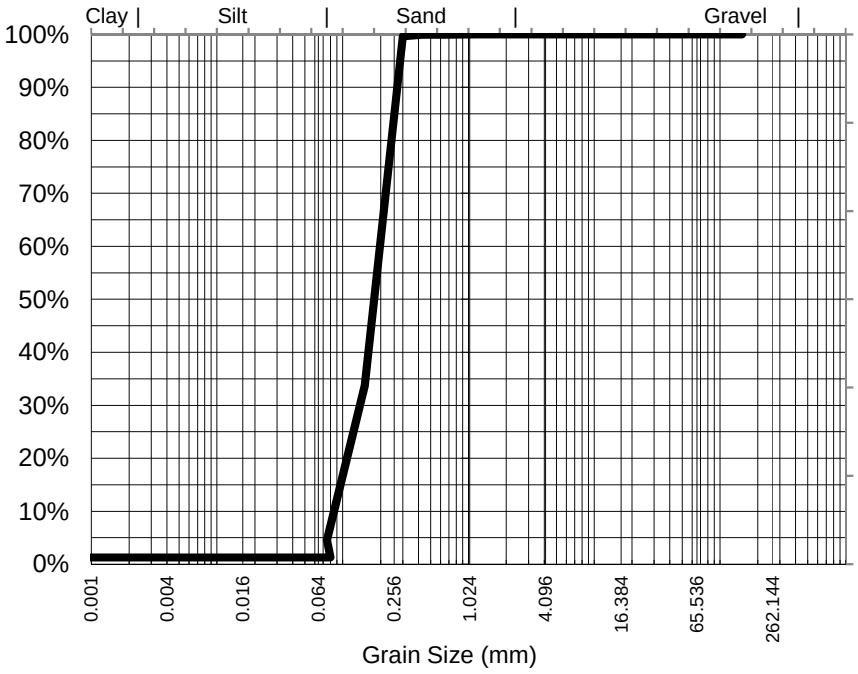
Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	2-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	13-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503461-009 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB20 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	100%
0.600	100%
0.425	100%
0.300	100%
0.150	34%
0.075	5%
Particle Size (microns)	
80	1%
57	1%
40	1%
20	1%
10	1%
5	1%
1	1%

Samples analysed as received.

Median Particle Size (mm)*	0.187

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	25-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.58 g/cm3

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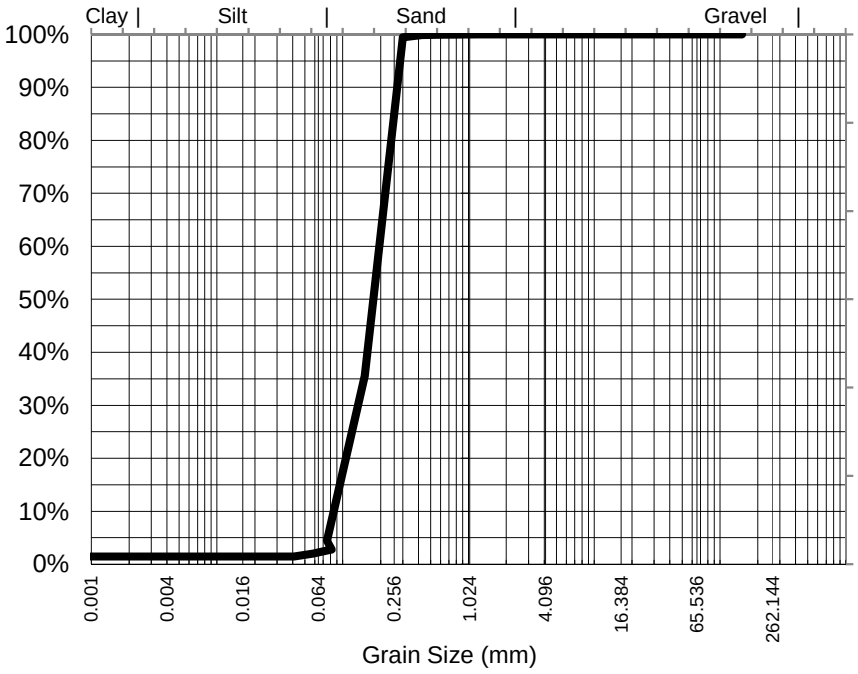
CLIENT:	Sally Leyland	**DATE REPORTED:**	2-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	13-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503461-010 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB20 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	100%
0.600	100%
0.425	100%
0.300	99%
0.150	36%
0.075	4%
Particle Size (microns)	
82	3%
58	2%
41	1%
20	1%
10	1%
5	1%
1	1%

Samples analysed as received.

Median Particle Size (mm)*	0.184

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	25-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.51 g/cm3

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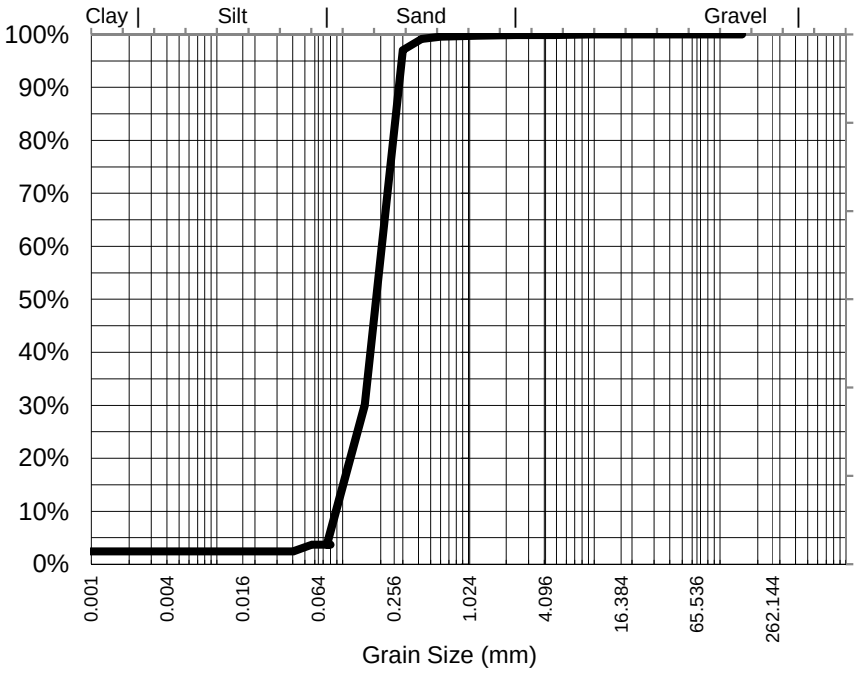
CLIENT:	Sally Leyland	**DATE REPORTED:**	2-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	13-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503461-015 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB23 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	100%
2.36	100%
1.18	100%
0.600	100%
0.425	99%
0.300	97%
0.150	30%
0.075	4%
Particle Size (microns)	
80	4%
57	4%
40	2%
20	2%
10	2%
5	2%
1	2%

Samples analysed as received.

Median Particle Size (mm)*	0.195

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	25-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SHELL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.57 g/cm3

NATA Accreditation: 825 Site: Newcastle
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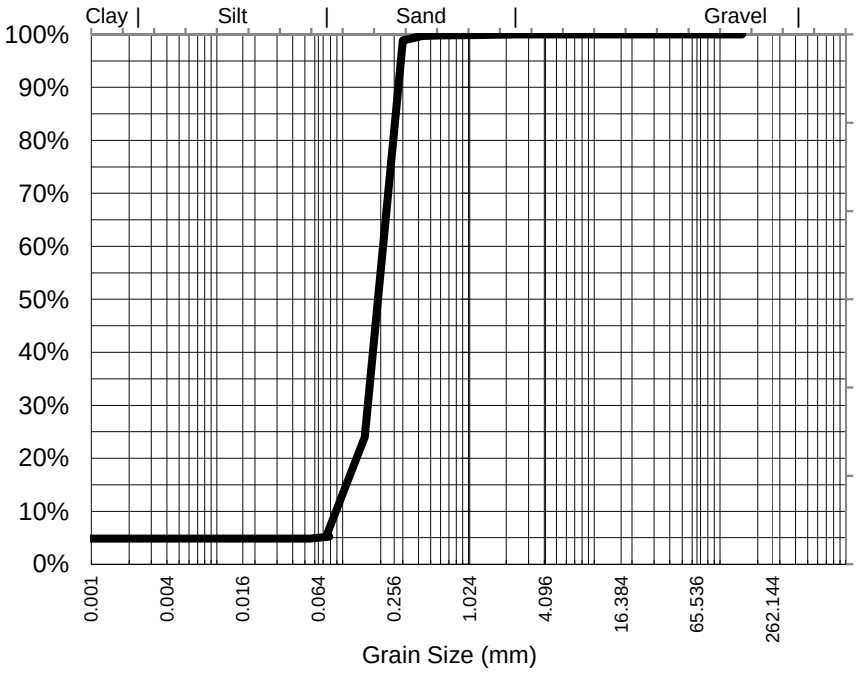
CLIENT:	Sally Leyland	**DATE REPORTED:**	2-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	13-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503461-016 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB23 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	100%
0.600	100%
0.425	100%
0.300	99%
0.150	24%
0.075	6%
Particle Size (microns)	
78	5%
55	5%
39	5%
19	5%
10	5%
5	5%
1	5%

Median Particle Size (mm)*	0.202

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	25-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SILT	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.65 g/cm3

NATA Accreditation: 825 Site: Newcastle
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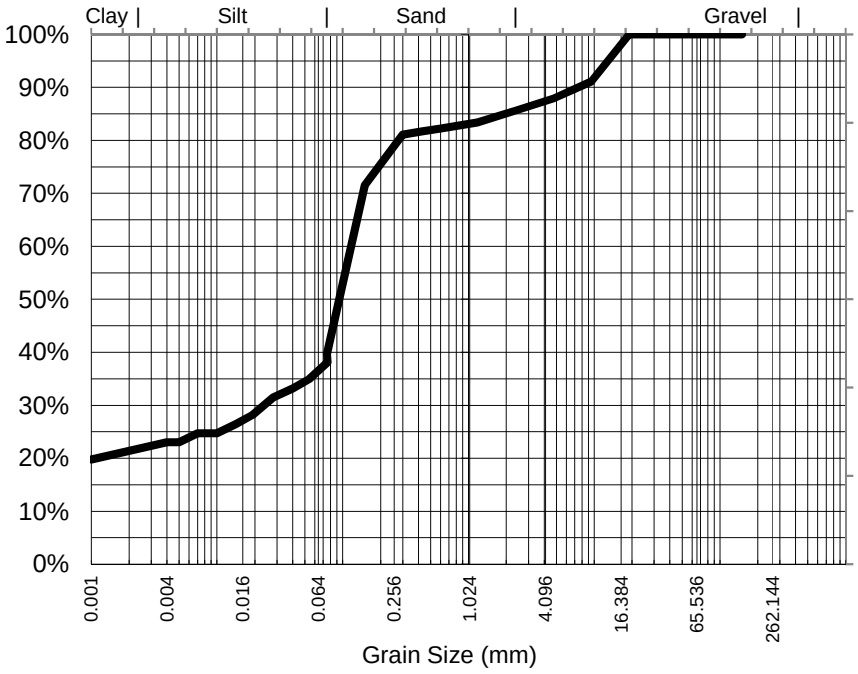
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	2-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	13-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503461-021 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BE4 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	91%
4.75	88%
2.36	86%
1.18	83%
0.600	82%
0.425	82%
0.300	81%
0.150	71%
0.075	40%
Particle Size (microns)	
76	38%
54	35%
40	33%
19	28%
10	25%
5	23%
1	20%

Median Particle Size (mm)*	0.099

Samples analysed as received.

** Soil Particle Density results fell outside the scope of AS 1289.3.6.3. Typical sediment SPD values used for calculations and consequently, NATA endorsement does not apply to hydrometer results*

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 25-Feb-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: SAND, SILT, SHELL

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.42 (2.45)* g/cm3

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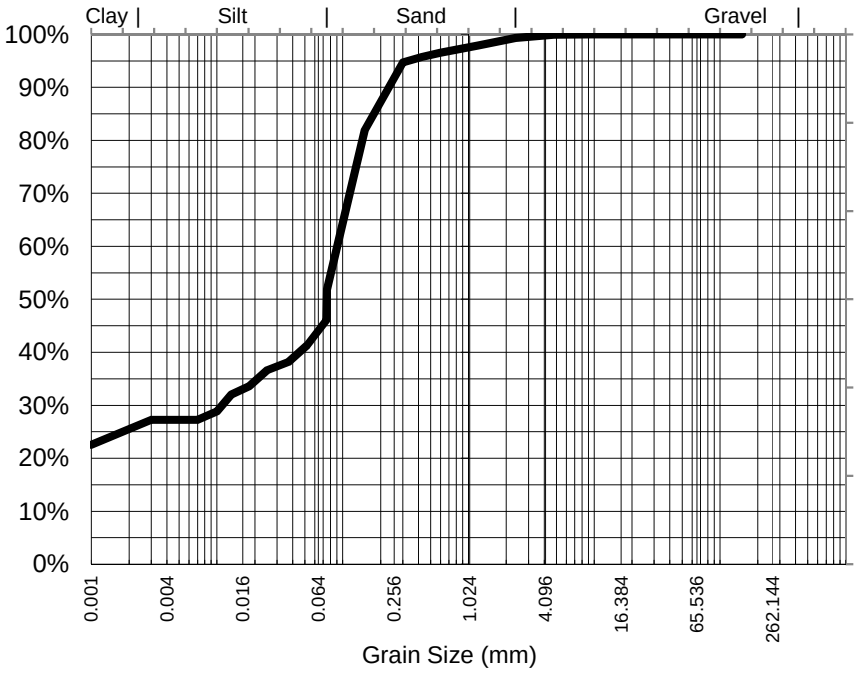
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	2-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	13-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503461-022 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BE4 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	100%
2.36	99%
1.18	98%
0.600	97%
0.425	96%
0.300	95%
0.150	82%
0.075	52%
Particle Size (microns)	
74	46%
52	41%
37	38%
18	34%
10	29%
5	27%
1	23%

Median Particle Size (mm)*	0.075

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 25-Feb-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: SAND, SILT, SHELL, CLAY

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.57 g/cm3

NATA Accreditation: 825 Site: Newcastle
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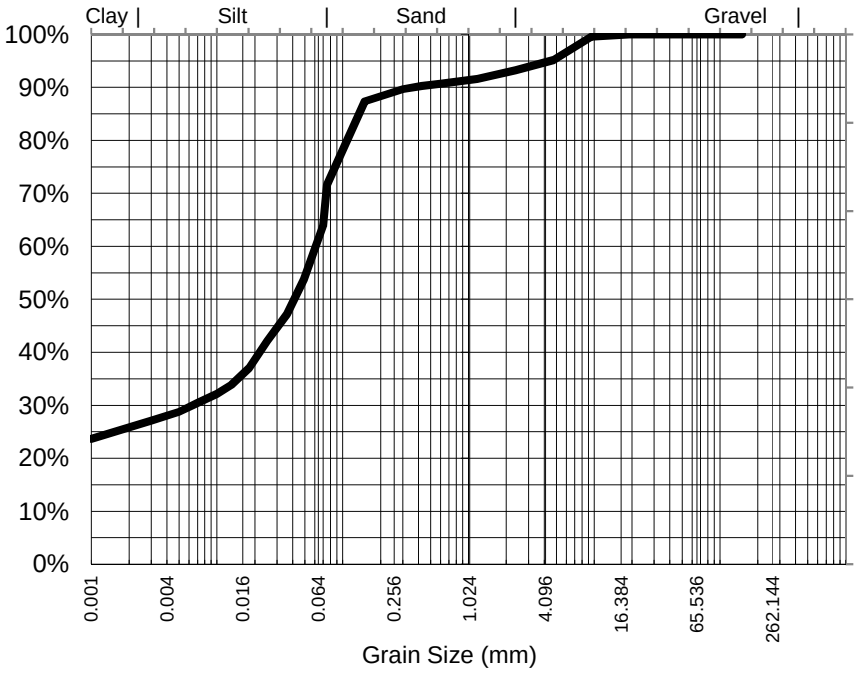
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	2-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	13-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503461-027 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BE5 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	100%
4.75	95%
2.36	93%
1.18	92%
0.600	91%
0.425	90%
0.300	90%
0.150	87%
0.075	72%
Particle Size (microns)	
70	64%
49	54%
36	47%
18	37%
10	32%
5	29%
1	24%

Samples analysed as received.

Median Particle Size (mm)*	0.042

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SAND, SILT, SHELL, CLAY

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.6 g/cm3

Analysed: 25-Feb-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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Authorised Signatory

Certificate of Analysis

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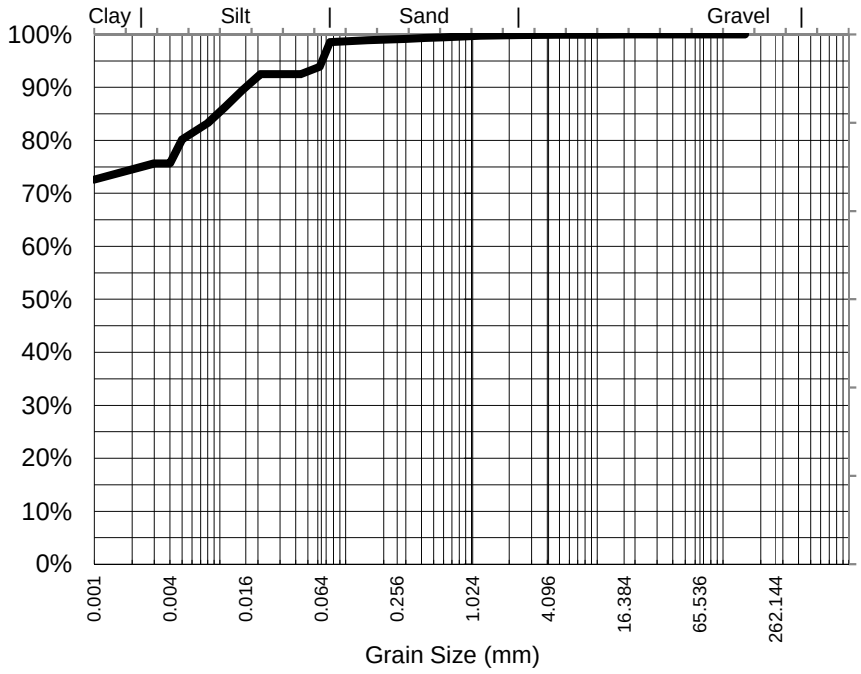
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	2-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	13-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503461-028 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BE5 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	100%
4.75	100%
2.36	100%
1.18	100%
0.600	99%
0.425	99%
0.300	99%
0.150	99%
0.075	99%
Particle Size (microns)	
62	94%
44	93%
31	93%
15	89%
8	83%
4	76%
1	73%

Median Particle Size (mm)*	<0.001

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 25-Feb-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: SAND, SILT

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.67 g/cm3

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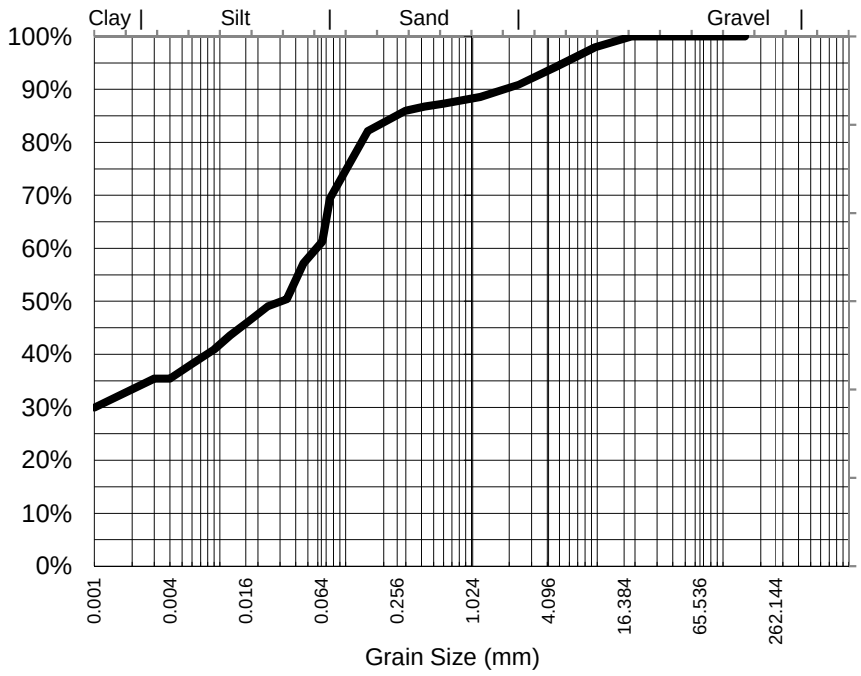
CLIENT:	Sally Leyland	**DATE REPORTED:**	2-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	13-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503461-033 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BE6 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	98%
4.75	94%
2.36	91%
1.18	89%
0.600	87%
0.425	87%
0.300	86%
0.150	82%
0.075	69%
Particle Size (microns)	
65	61%
46	57%
34	50%
17	46%
9	41%
4	35%
1	30%

Median Particle Size (mm)*	0.031

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 25-Feb-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: SAND, SILT, SHELL

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.68 g/cm3

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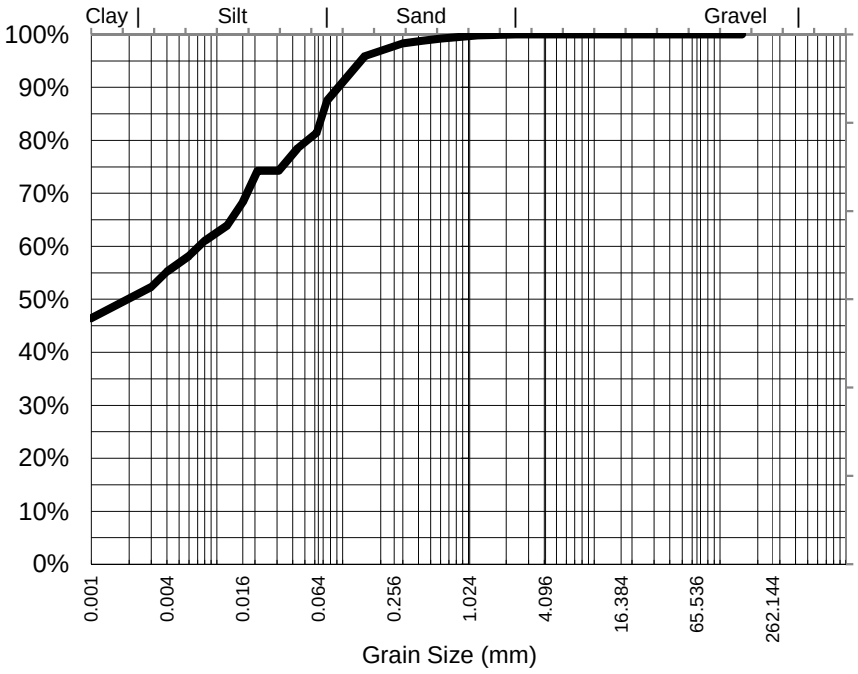
CLIENT:	Sally Leyland	**DATE REPORTED:**	2-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	13-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503461-034 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BE6 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	100%
0.600	99%
0.425	99%
0.300	98%
0.150	96%
0.075	88%
Particle Size (microns)	
62	81%
44	79%
31	74%
16	68%
8	61%
4	55%
1	46%

Median Particle Size (mm)*	0.002

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 25-Feb-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: SAND, SILT

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.69 g/cm3

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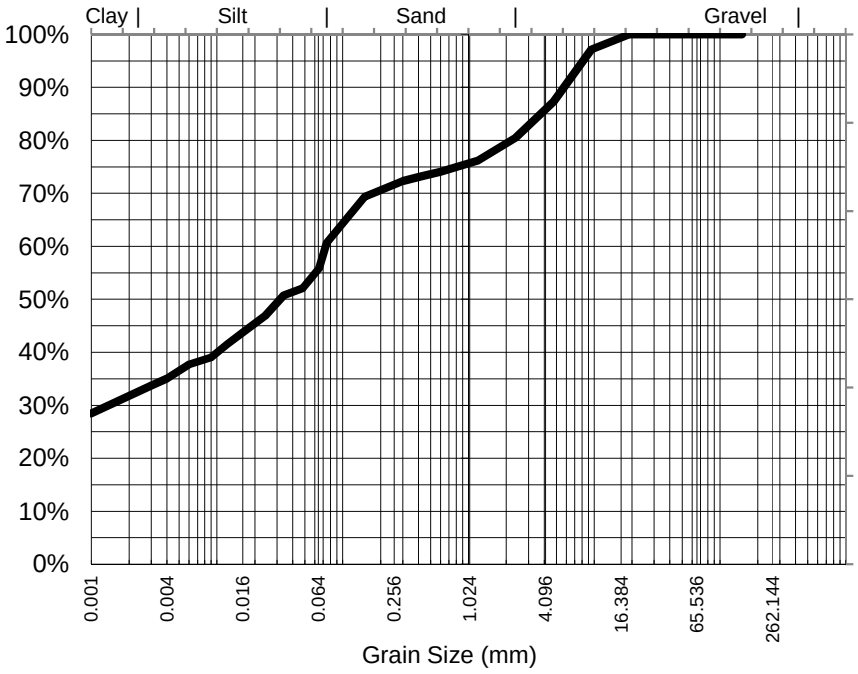
CLIENT:	Sally Leyland	**DATE REPORTED:**	2-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	13-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503461-039 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BE8 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	97%
4.75	87%
2.36	80%
1.18	76%
0.600	74%
0.425	73%
0.300	72%
0.150	69%
0.075	61%
Particle Size (microns)	
65	56%
48	52%
34	51%
17	44%
9	39%
4	35%
1	28%

Samples analysed as received.

Median Particle Size (mm)*	0.032

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SAND, SILT, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.67 g/cm3

Analysed: 25-Feb-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

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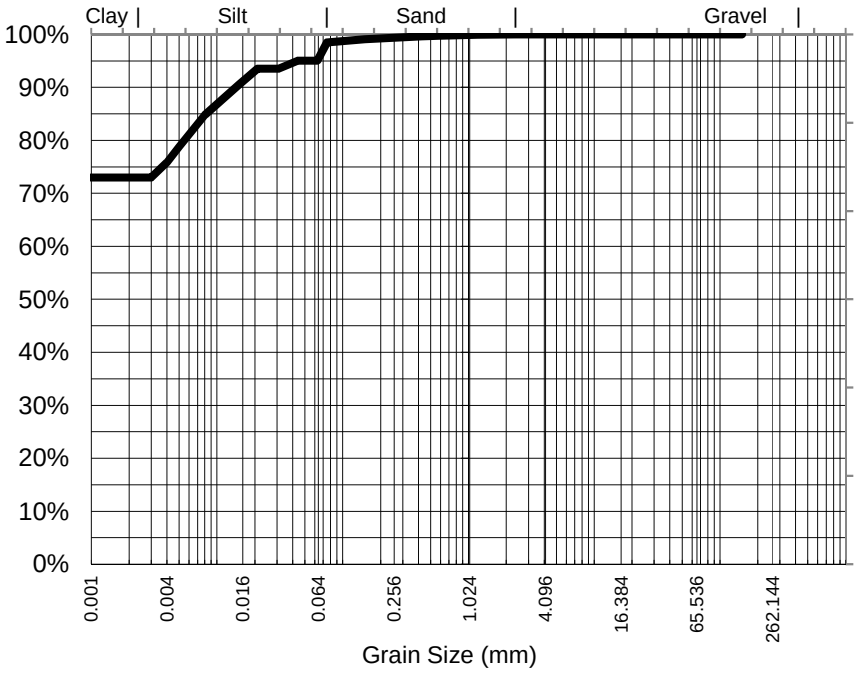
CLIENT:	Sally Leyland	**DATE REPORTED:**	2-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	13-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503461-040 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BE8 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	100%
1.18	100%
0.600	100%
0.425	100%
0.300	99%
0.150	99%
0.075	98%
Particle Size (microns)	
63	95%
44	95%
31	94%
15	91%
8	85%
4	76%
1	73%

Median Particle Size (mm)*	<0.001

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SAND, SILT

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.63 g/cm3

Analysed: 25-Feb-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

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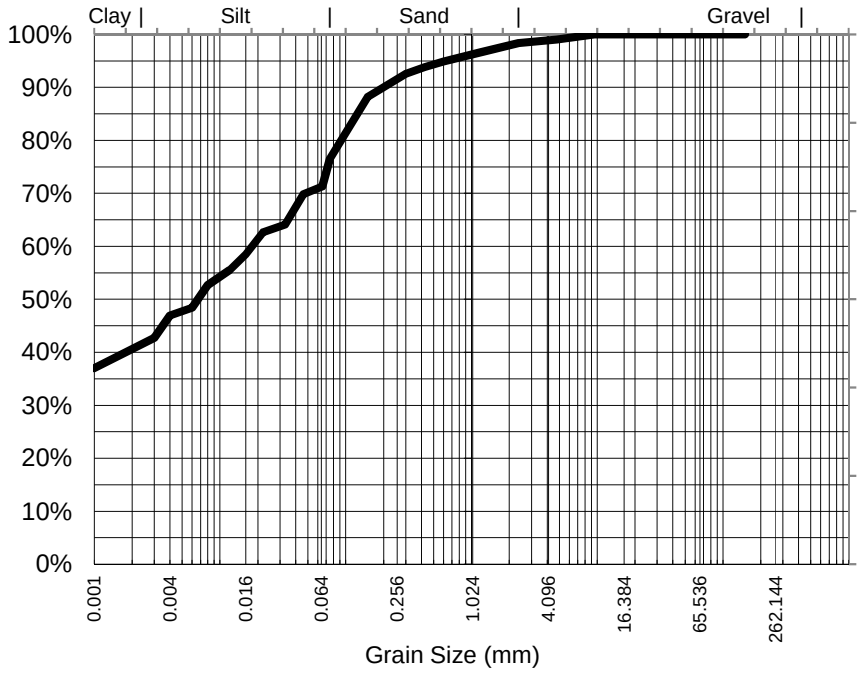
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	13-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503461-045 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BE11 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	99%
2.36	98%
1.18	97%
0.600	95%
0.425	94%
0.300	93%
0.150	88%
0.075	77%
Particle Size (microns)	
65	71%
46	70%
33	64%
16	58%
8	53%
4	47%
1	37%

Median Particle Size (mm)*	0.007

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 25-Feb-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: SAND, SILT, SHELL

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.66 g/cm3

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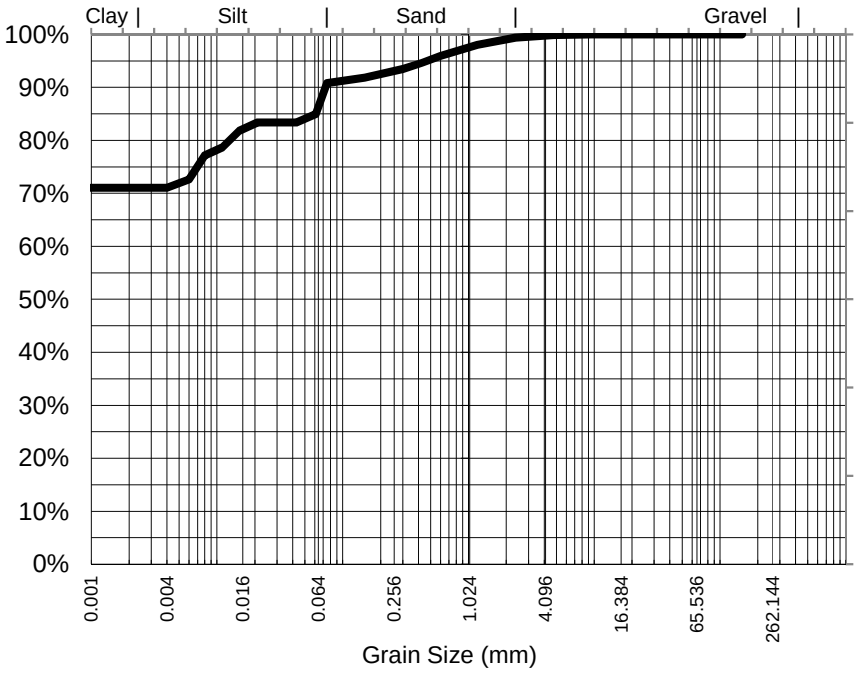
CLIENT:	Sally Leyland	**DATE REPORTED:**	2-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	13-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503461-046 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BE11 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	100%
2.36	99%
1.18	98%
0.600	96%
0.425	95%
0.300	93%
0.150	92%
0.075	91%
Particle Size (microns)	
61	85%
43	83%
30	83%
15	82%
8	77%
4	71%
1	71%

Median Particle Size (mm)*	<0.001

Samples analysed as received.

** Soil Particle Density required for Hydrometer analysis according to AS 1289.3.5.1—2006 was unable to be performed as insufficient sample was supplied by the client . Typical sediment SPD values used for calculations and consequently, NATA endorsement does not apply to hydrometer ..*

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 25-Feb-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: SAND, SILT

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) g/cm3

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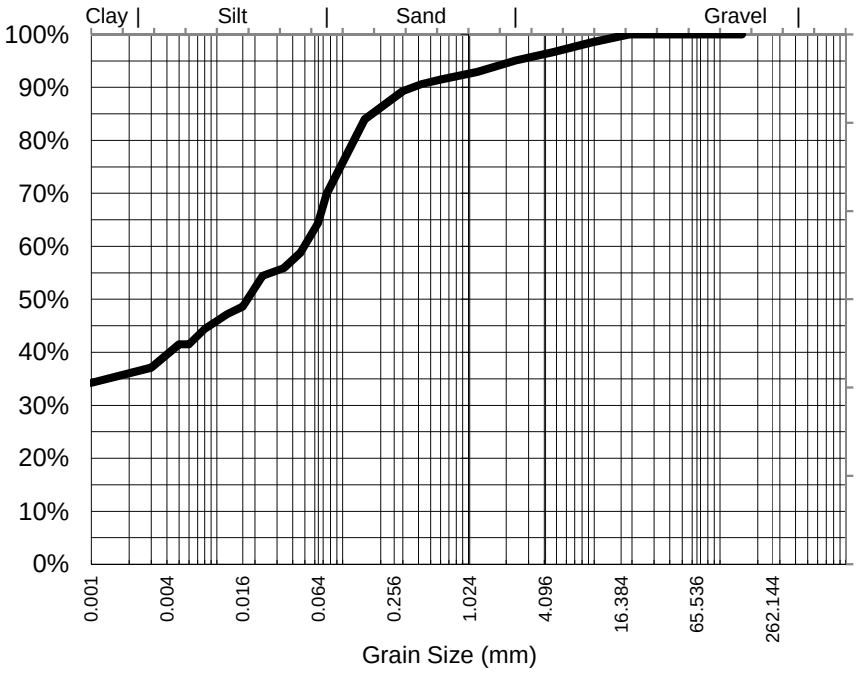
CLIENT:	Sally Leyland	**DATE REPORTED:**	2-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	13-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503461-051 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BE12 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	99%
4.75	97%
2.36	95%
1.18	93%
0.600	91%
0.425	91%
0.300	89%
0.150	84%
0.075	70%
Particle Size (microns)	
64	64%
46	59%
34	56%
16	49%
8	44%
5	41%
1	34%

Median Particle Size (mm)*	0.018

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 25-Feb-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: SAND, SILT, SHELL

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.69 g/cm3

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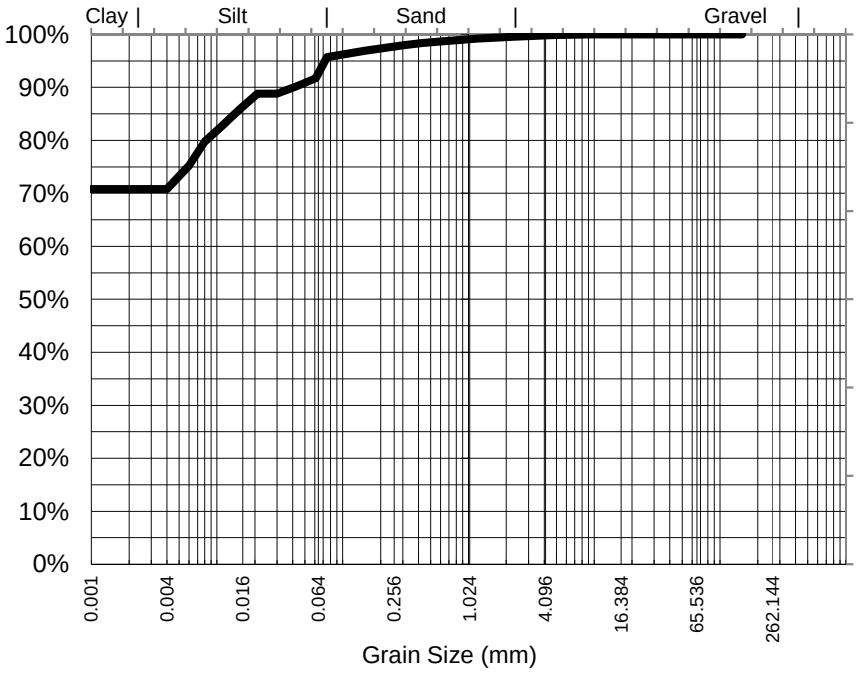
CLIENT:	Sally Leyland	**DATE REPORTED:**	2-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	13-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503461-052 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BE12 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	100%
2.36	100%
1.18	99%
0.600	99%
0.425	98%
0.300	98%
0.150	97%
0.075	96%
Particle Size (microns)	
61	92%
43	90%
30	89%
15	86%
8	80%
4	71%
1	71%

Median Particle Size (mm)*	<0.001

Samples analysed as received.

** Soil Particle Density required for Hydrometer analysis according to AS 1289.3.5.1—2006 was unable to be performed as insufficient sample was supplied by the client . Typical sediment SPD values used for calculations and consequently, NATA endorsement does not apply to hydrometer .*

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 25-Feb-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: SAND, SILT, SHELL

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) g/cm3

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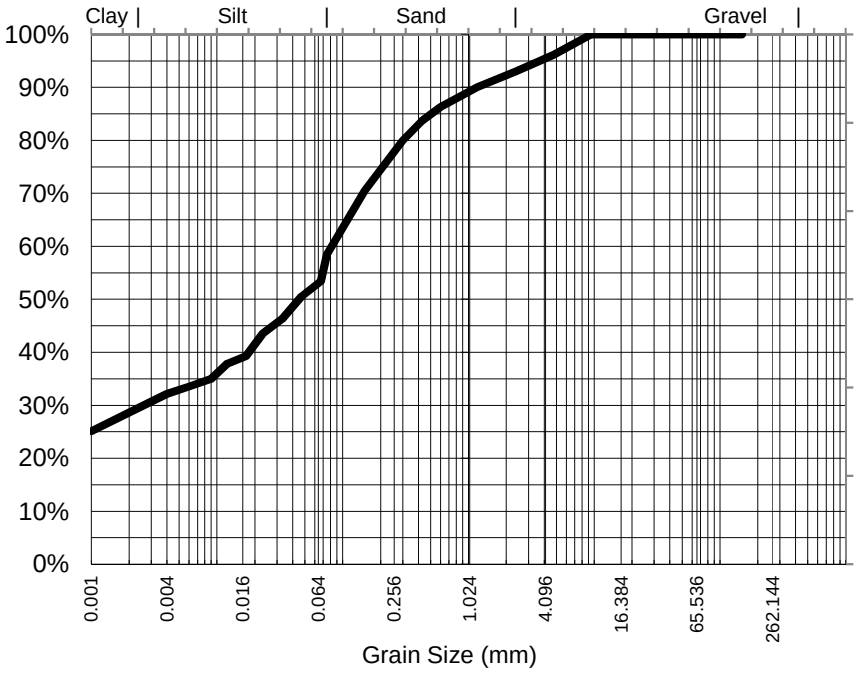
CLIENT:	Sally Leyland	**DATE REPORTED:**	2-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	13-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503461-057 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BE13 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	96%
2.36	93%
1.18	90%
0.600	86%
0.425	84%
0.300	80%
0.150	71%
0.075	58%
Particle Size (microns)	
67	53%
47	51%
33	46%
17	39%
9	35%
4	32%
1	25%

Samples analysed as received.

Median Particle Size (mm)*	0.045

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SAND, SILT, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.71 g/cm3

Analysed: 25-Feb-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

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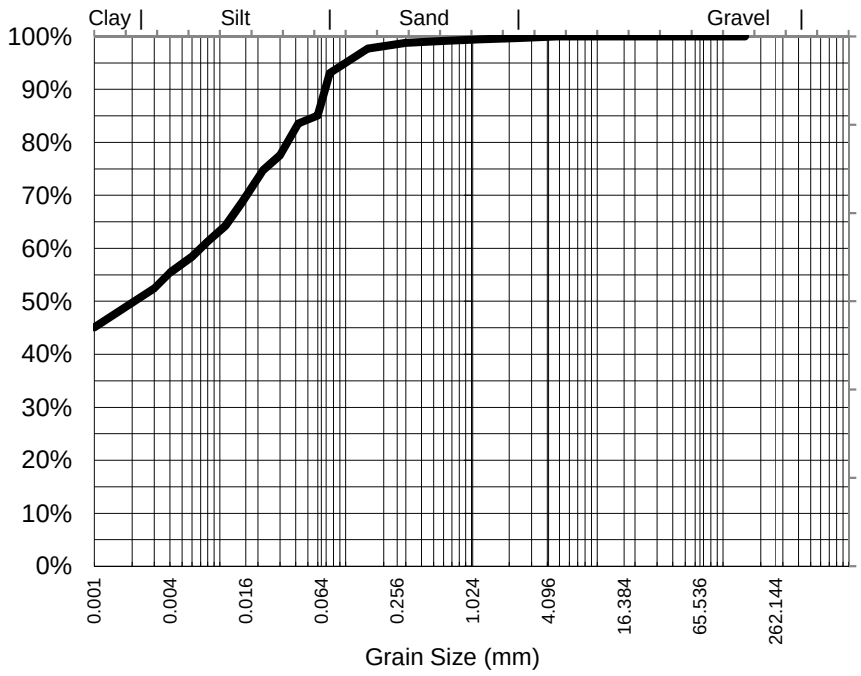
CLIENT:	Sally Leyland	**DATE REPORTED:**	2-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	13-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503461-058 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BE13 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	100%
1.18	99%
0.600	99%
0.425	99%
0.300	99%
0.150	98%
0.075	93%
Particle Size (microns)	
60	85%
42	84%
30	78%
15	69%
8	61%
4	55%
1	45%

Median Particle Size (mm)*	0.002

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SAND, SILT

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.71 g/cm3

Analysed: 25-Feb-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

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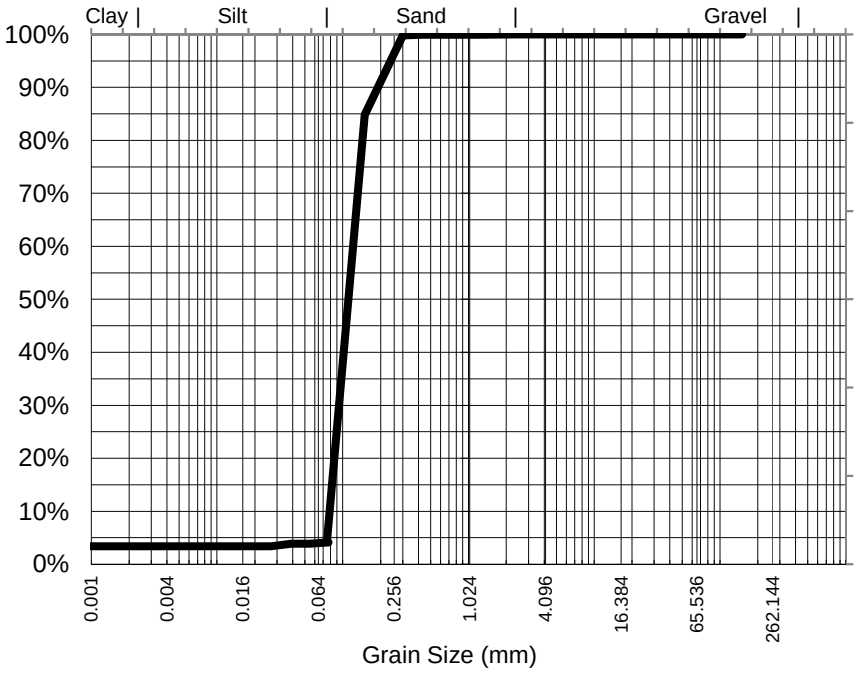
CLIENT:	Sally Leyland	**DATE REPORTED:**	2-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	13-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503461-063 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB17 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	100%
4.75	100%
2.36	100%
1.18	100%
0.600	100%
0.425	100%
0.300	100%
0.150	85%
0.075	4%
Particle Size (microns)	
77	4%
55	4%
39	4%
19	3%
10	3%
5	3%
1	3%

Samples analysed as received.

Median Particle Size (mm)*	0.118

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	25-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.69 g/cm3

NATA Accreditation: 825 Site: Newcastle
This document is issued in accordance with NATA's accreditation requirements. Accredited for compliance with ISO/IEC 17025. This document shall not be reproduced, except in full.

Dianne Blane
Laboratory Co-ordinator, Newcastle
Authorised Signatory

Certificate of Analysis

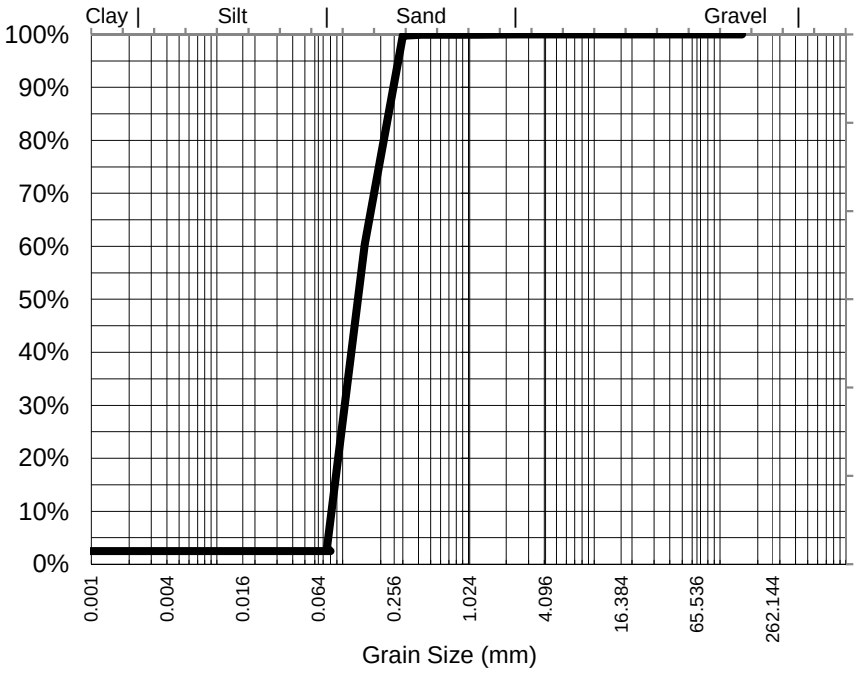
ALS Laboratory Group Pty Ltd
5/585 Maitland Road
Mayfield West, NSW 2304
pH 02 4014 2500
fax 02 4968 0349
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	2-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	13-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503461-064 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB17 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	100%
1.18	100%
0.600	100%
0.425	100%
0.300	100%
0.150	60%
0.075	3%
Particle Size (microns)	
80	2%
57	2%
40	2%
20	2%
10	2%
5	2%
1	2%

Median Particle Size (mm)*	0.136

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	25-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.56 g/cm3

NATA Accreditation: 825 Site: Newcastle
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Dianne Blane
Laboratory Co-ordinator, Newcastle
Authorised Signatory

Dolly Elias

From: Saman Taeidi
Sent: Wednesday, 18 February 2015 8:00 AM
To: Dolly Elias
Cc: Wael Saleh
Subject: FW: Analysis Confirmation ES1503599

Hi Dolly,

For the metal elements on sample BH14 0.0-0.05 E from ES1503599 please add the following:

SD-3 Suite Metals by ICP/MS (15 metals incl. Sb, As, Cd, Cr, Cu, Pb, Mn, Ni, Ag, Zn + low level Hg)

Kind Regards

Saman Taeidi

Client Services Officer
ALS | Environmental Division

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Smithfield NSW 2164 Australia

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F +61 2 8784 8500

www.alsglobal.com

We are keen for your feedback! Please click here for your 1 question survey

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Environmental Division
Sydney
Work Order
ES1503599
Telephone : +61-2-8784 8555

From: Sally Leyland [mailto:Sally.Leyland@aurecongroup.com]
Sent: Tuesday, 17 February 2015 7:27 PM
To: Saman Taeidi
Subject: RE: Analysis Confirmation ES1503599

Hi Saman,
Please use the usual suite of metals that is included in Aurecon Suite 1.
Regards,
Sally

Sally Leyland
Senior Environmental Scientist, Aurecon
T +61 7 3173 8006 **F** +61 7 3173 8001 **M** +61 477 736 809
E sally.leyland@aurecongroup.com
Level 14, 32 Turbot Street, Brisbane | QLD 4000 | Australia
Locked Bag 331, Brisbane I QLD 4001 | Australia
aurecongroup.com

From: Saman Taeidi [mailto:Saman.Taeidi@alsglobal.com]
Sent: Tuesday, 17 February 2015 7:12 AM
To: Sally Leyland

ALS Environmental

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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: (1) 2 3 4 5 6 7	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comment:	
SAMPLER: Georgina Kerr SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO) EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer	KSchafer	Ravi
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com	DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com	12 February 2015	12 February 2015 1730	16.2.15 1600	17/2/15 1430

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	BH14 0.0-0.5 A	12/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
2	BH14 0.4-0.7 A	12/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
3	BH14 0.0-0.5 B	12/02/2015	S	Bag (White label)	1		1								
4	BH14 0.4-0.7 B	12/02/2015	S	Bag (White label)	1		1								
5	BH14 0.3V	12/02/2015	S	Glass Jar (150 ml)	1			1							
6	BH14 0.7V	12/02/2015	S	Glass Jar (150 ml)	1			1							
7	BH14 0.0 - 0.05 E	12/02/2015	S	Glass Jar (150 ml)	1			1				1			
				TOTAL	7	2	2	1				1			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

* 150ml jar from sample #1 missing Sydney – Can you please split after Volatiles and send to EB for TBT/TOC

150ml Jars sent direct to Brisbane for TOC/TBT

500ml Amber sent direct to Brisbane for TBT

Environmental Division Sydney

Work Order

ES1503599

Telephone : +61-2-8784 8555

ALS Environmental

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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 (2) 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (8)	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		12 February 2015	12 February 2015 1730

RELINQUISHED BY:	RECEIVED BY:
GS	
DATE/TIME: 16.2.15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
8	BH23 0.4-0.9 A	12/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
9	BH23 0.4-0.9 B	12/02/2015	S	Bag (White label)	1		1							
10	BH23 0.3V	12/02/2015	S	Glass Jar (150 ml)	1			1						
11	BH23 0.7V	12/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	5	1	1	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Environmental

ALS Laboratory: please tick →

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☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 (3) 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (8)	Other comments:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*	KS	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		12 February 2015	12 February 2015 1730	16.2.15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
12	BH25 0.0-0.5A	12/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
13	BH25 0.5-1.0A	12/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
14	BH25 0.0-0.5B	12/02/2015	S	Bag (White label)	1		1							
15	BH25 0.5-1.0B	12/02/2015	S	Bag (White label)	1		1							
16	BH25 0.3V	12/02/2015	S	Glass Jar (150 ml)	1			1						
17	BH25 0.7V	12/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	6	1	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 (4) 5 6 7	Random Sample Temperature on Receipt	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (8)	Other comment:	

SAMPLER: Georgina Kerr SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO) EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*	KS	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com	DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com	12 February 2015	12 February 2015 1730	16-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
18	WB26 0.0-0.5A	12/02/2015	S	Glass Jar (250 ml and 160 ml)	2	1								
19	WB26 0.5-1.0A	12/02/2015	S	Glass Jar (250 ml and 160 ml)	2	1								
20	WB26 0.0-0.5B	12/02/2015	S	Bag (White label)	1		1							
21	WB26 0.5-1.0B	12/02/2015	S	Bag (White label)	1		1							
22	WB26 0.3V	12/02/2015	S	Glass Jar (150 ml)	1			1						
23	WB26 0.7V	12/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 8	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		12 February 2015	12 February 2015 1730

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 16.2.15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH				
24	BH28 0.2-0.7A	12/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
25	BH28 0.3V	12/02/2015	S	Glass Jar (150 ml)	1			1							
26	BH28 0.7V	12/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	4	1		2							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171
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NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 0433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 8	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		12 February 2015	12 February 2015 1730

RELINQUISHED BY:	RECEIVED BY:
KS	
DATE/TIME: 16-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
27	WB25 0.0-0.5 A	12/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
28	WB25 0.5-1.0 A	12/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
29	WB25 0.0-0.5 B	12/02/2015	S	Bag (White label)	1		1							
30	WB25 0.5-1.0 B	12/02/2015	S	Bag (White label)	1		1							
31	WB25 0.3V	12/02/2015	S	Glass Jar (150 ml)	1			1						
32	WB25 0.7V	12/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245563		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 8	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		12 February 2015	12 February 2015 1730

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME:	DATE/TIME:
16-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
33	WB257 0.0-0.5 A	12/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
34	WB27 0.5-1.0 A	12/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
35	WB27 0.0-0.5 B	12/02/2015	S	Bag (White label)	1		1							
36	WB27 0.5-1.0 B	12/02/2015	S	Bag (White label)	1		1							
37	WB27 0.3V	12/02/2015	S	Glass Jar (150 ml)	1			1						
38	WB27 0.7V	12/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Environmental

ALS Laboratory: please tick →

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Freeze / Frozen Ice bricks present upon receipt?	Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6	Other comment:	

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		12 February 2015	12 February 2015 1730	16.2.15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	Rinsate Suite	Trip blank suite	
39	Triplicate 9A	12/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
40	Triplicate 9B	12/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
41	Trip Blank 9	12/02/2015	S	Pre-filled glass jar	1									
42	Rinsate 8	12/02/2015	W	Bottle	8							1	1	
				TOTAL	13	2						1	1	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

SAMPLE RECEIPT INFORMATION & BOTTLE TYPE

CONWAG

WORKORDER No: ES1503599

To be completed by Sample Receipt						Samples checked, labelled and put in trays by:	Analysis creation by: (Starlims only)
Sorting Times *(Only record for BP, Mobil & URS)*	**Temperature Details** (record if NOT on COC)		**Packaging**		**Courier Details** (Mandatory for Quarantine)		
Time Sorting Commenced:	Sample Temp	'C	Seal Intact - Y / N / NA		Con Note: TNT 980164001160	Initial:	Initial:
Time Placed in Fridge:	Chilling Method - Circle If sample temp is less than 6'C it is not necessary to complete this section		**Type**	**No.**			
Sorting to Fridge Target Time <1 Hour			Esky		*Cells shaded grey don't need to be completed on this form if they are entered directly into LIMS/ANGEL by Sample Receipt staff.*		
	Ice / Ice Bricks / No Chilling		Other				

Sample Receipt Advice Comments - To be completed by Sorting Staff

VOC analysis may be compromised as sample containers contained **headspace** *(list):*

Details of any samples damaged during transit:

Other Information (eg. Were bottles received that weren't completely filled) (eg. If sample temperature is above 6'C add further detail here - *Internal use only - Not for SRN*):

Samples oiginally received at ALS Gladstone - Date 12-2-15 **- Temp** **and forward to ALS Sydney for Analysis.**

BOTTLES LOGGED AND LABELLED ○

150ml jars & 500ml Amber sent direct to Brisbane for TOC/TBT

* **150ml jar from sample #1 missing Sydney- Can you please split after Volatiles and send to EB for TBT/TOC**

Metals Bottles: F = Field filtered. T = Total. N/S = Not Specified.
Cyanide Bottles: Tr = Treated, meaning the client has ticked the pre-treated box on the bottle. Un = Untreated, meaning the box is not ticked.
Ferrous Iron, Hexavalent Chromium & Geosmin and MIB: F = Field filtered. N/S = Not Specified.
Soil Bags: S = Small. M = Medium (~500mL asbestos or PSD bag). L = Large (~6kg FMT bag)

Lab No.	S-						SV-					V(Vial)-					T(Vial)-			W-				P-		OG-	M-													IN-										Micro			UTW-		Crypto Lab	
	Soil Jar	Sediment Jar	SOIL BAG CIRCE Plastic / Paper Frozen / Not Frozen			Potential ACM Board	Glass Orange (SVOC)		Grey HDPE - No PTFE (PFOS & PFOA etc)		Red Glass (AOX)	Purple (VOC)	Dark Blue / White (Halo Acetic Acids)	Grey (Acrylamide Acrolein)	Green (Geosmin & MIB)		Purple		Black on White EDA pres'vd (ED013)	Natural Plastic Green			White Plastic Green (Chlor a)	Plastic Purple (Nutrien, Total Phenols & COD)		Purple Glass (O&G)	Standard Metal Bottle			ORC Metal Bottle			Maroon on White Plastic (As / Se Special'n)	Blue White Plastic (CN)		Yellow Plastic (Sulfide)	Light Blue Plastic (UHS)	Light Orange Plastic (Sulfide)	Maroon Plastic (Ferrous Iron)		Blue Plastic (Cr VI)		Brown/ Green Stripe Glass (Surf't or Alkyl Ethox's)	Sterile Micro Jar		Dark Green White Plastic (Algae)	Light Green & White Plastic (UT Nutrients - Unfiltered)	Turquoise & White Plastic (UT Nutrients - Filtered)	Plastic Carboy (Crypto & Giardia)	Other
																	TOC	DOC									CIRCLE Red OR Red / Green			CIRCLE Red OR Red / Green																		Black	Grey					
	150	250	S	M	L	Bag	100	500	60	125	500	40	40	40	F	N/S	40	40	40mL	1L	500	250	1L	60	125	250mL	F	T	N/S	F	T	N/S	60	Tr	Un	125	250	250	F	N/S	F	N/S	500	120	250	500mL	60	60	10L	
	This line allows for an initial indication of bottle types received without specifying the exact number for each sample. When using this function tick the boxes matching the containers received for this work order.																																																		
1																																																				
2																																																				
3																																																				
4																																																				
5																																																				
6																																																				
7																																																				
8																																																				
9																																																				
10																																																				

Certificate of Analysis

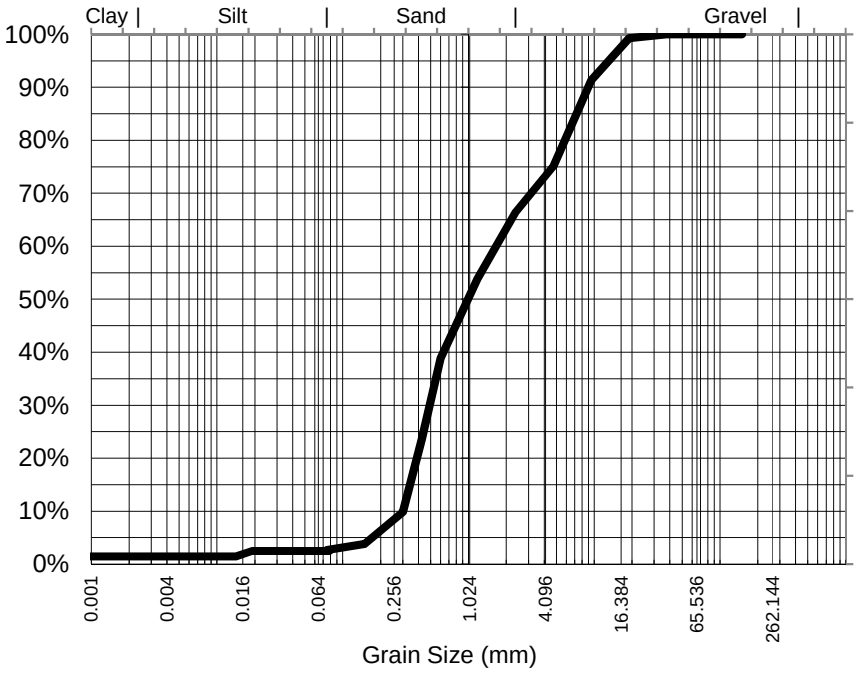
ALS Laboratory Group Pty Ltd
5/585 Maitland Road
Mayfield West, NSW 2304
pH 02 4014 2500
fax 02 4968 0349
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	28-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503599-003 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH14 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
37.5	100%
19.0	99%
9.50	91%
4.75	75%
2.36	66%
1.18	54%
0.600	39%
0.425	24%
0.300	10%
0.150	4%
0.075	3%
Particle Size (microns)	
78	2%
55	2%
39	2%
19	2%
10	1%
5	1%
1	1%

Samples analysed as received.

Median Particle Size (mm)*	1.031

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	25-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SHELL, GRAVEL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.68 g/cm3

NATA Accreditation: 825 Site: Newcastle
This document is issued in accordance with NATA's accreditation requirements. Accredited for compliance with ISO/IEC 17025. This document shall not be reproduced, except in full.

Peter Keyte
Manager Newcastle
Authorised Signatory

Certificate of Analysis

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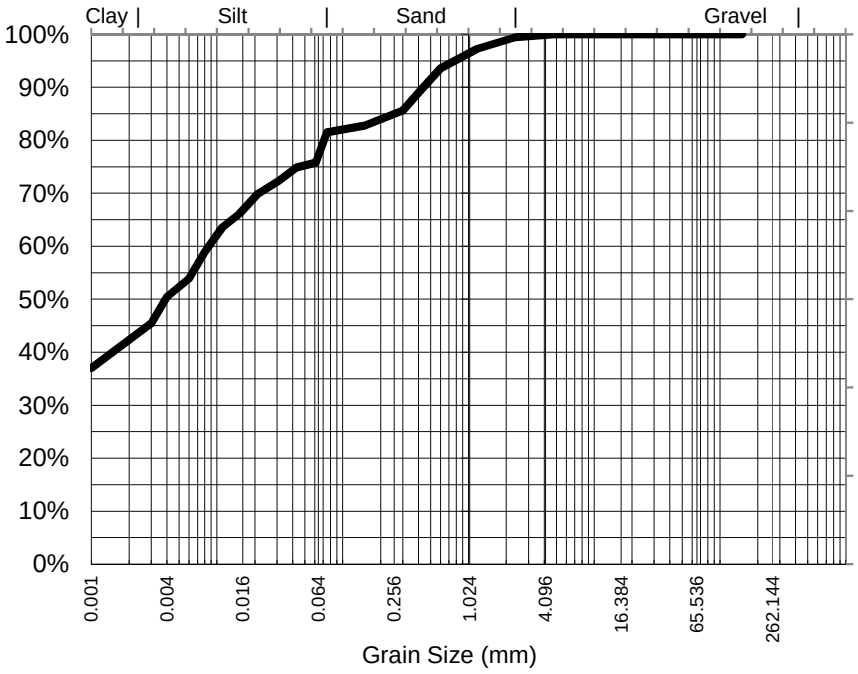
5/585 Maitland Road
Mayfield West, NSW 2304
pH 02 4014 2500
fax 02 4968 0349
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	28-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503599-004 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH14 0.4-0.7B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	99%
1.18	97%
0.600	94%
0.425	90%
0.300	86%
0.150	83%
0.075	82%
Particle Size (microns)	
61	76%
43	75%
31	72%
15	66%
8	59%
4	50%
1	37%

Samples analysed as received.

Median Particle Size (mm)*	0.004

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SAND, CLAY, GRAVEL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.72 g/cm3

Analysed: 25-Feb-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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Peter Keyte
Manager Newcastle
Authorised Signatory

Certificate of Analysis

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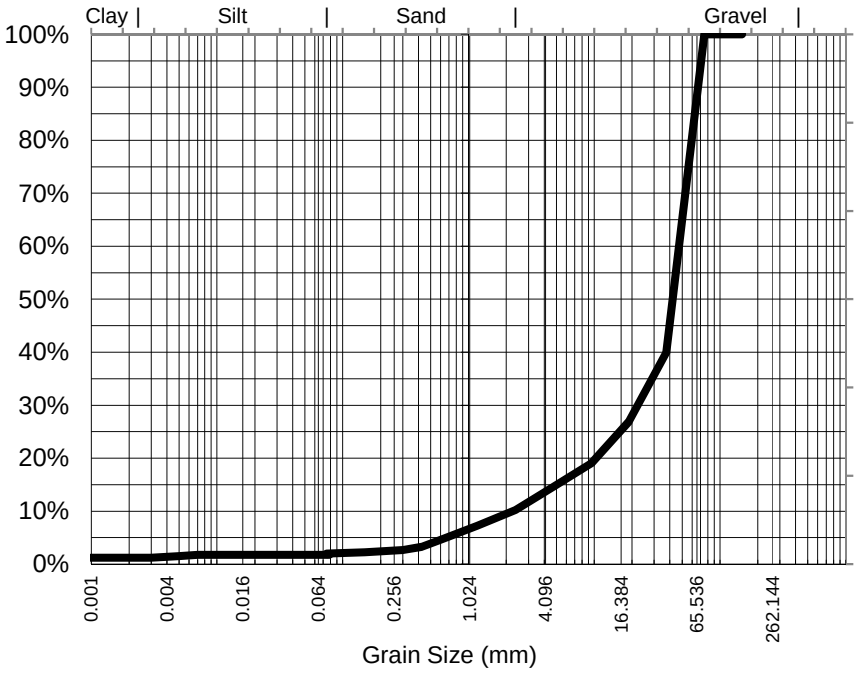
fax 02 4968 0349
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	28-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503599-009 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH23 0.4-0.9B

Particle Size Distribution



Particle Size (mm)	Percent Passing
75	100%
37.5	40%
19.0	27%
9.50	19%
4.75	15%
2.36	10%
1.18	7%
0.600	5%
0.425	3%
0.300	3%
0.150	2%
0.075	2%
Particle Size (microns)	
78	2%
55	2%
39	2%
19	2%
10	2%
5	1%
1	1%

Median Particle Size (mm)*	43.799

Samples analysed as received.

** Soil Particle Density required for Hydrometer analysis according to AS 1289.3.5.1—2006 was unable to be performed as insufficient sample was supplied by the client . Typical sediment SPD values used for calculations and consequently, NATA endorsement does not apply to hydrometer ..*

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	25-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	FINES, GRAVEL, ROCK, SAND, SHELL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) g/cm3

NATA Accreditation: 825 Site: Newcastle
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Peter Keyte
Manager Newcastle
Authorised Signatory

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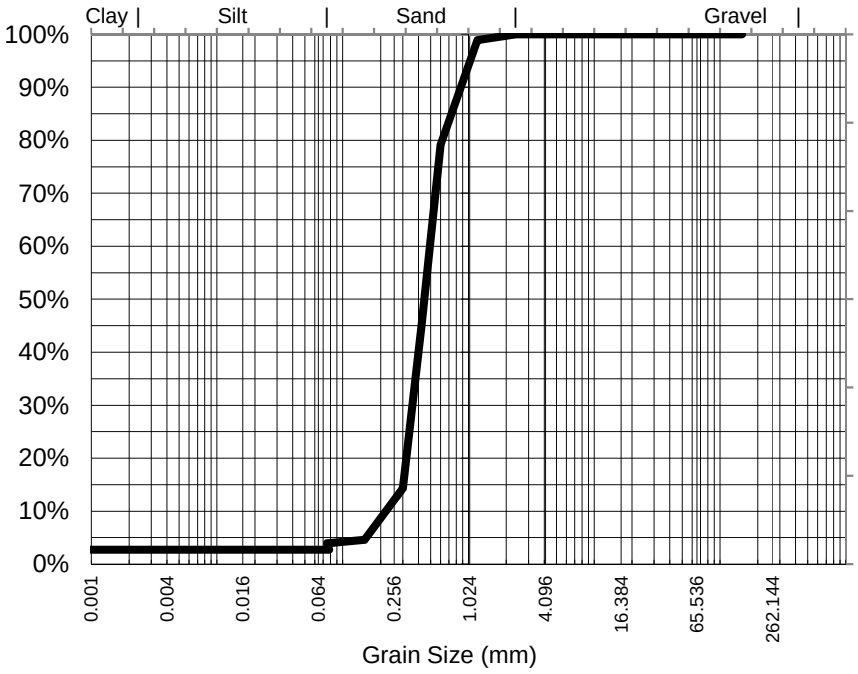
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	28-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503599-014 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH25 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	100%
1.18	99%
0.600	79%
0.425	45%
0.300	14%
0.150	5%
0.075	4%
Particle Size (microns)	
78	3%
55	3%
39	3%
19	3%
10	3%
5	3%
1	3%

Samples analysed as received.

Median Particle Size (mm)*	0.449

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	25-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.67 g/cm3

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ALS Environmental

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CLIENT: Sally Leyland

COMPANY: Aurecon Australasia Pty Ltd

ADDRESS: Locked Bag 331
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Brisbane, Qld, Australia 4001

PROJECT: GPC Geochemical Investigation

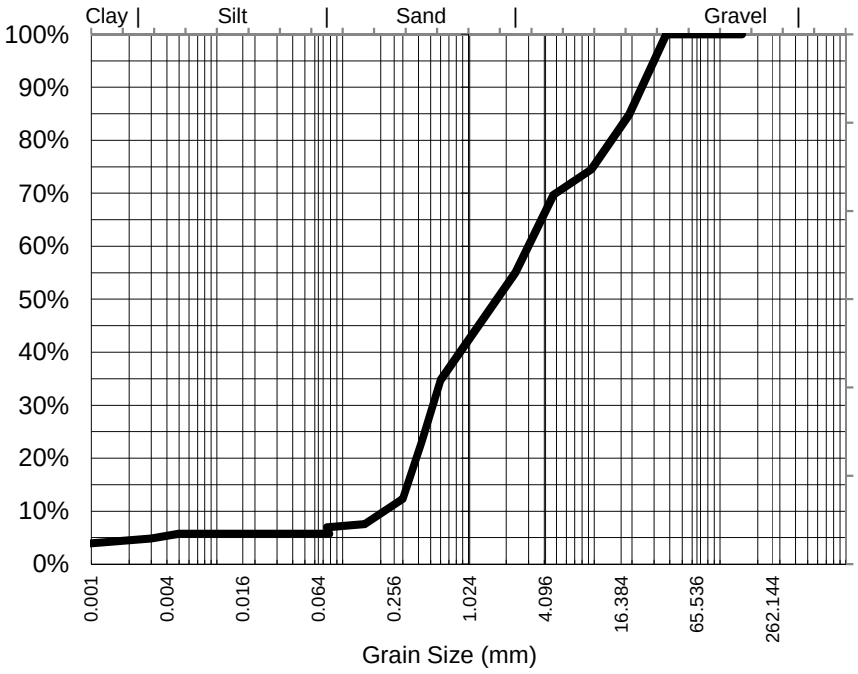
DATE REPORTED: 28-Feb-2015

DATE RECEIVED: 17-Feb-2015

REPORT NO: ES1503599-015 / PSD

SAMPLE ID: BH25 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
37.5	100%
19.0	85%
9.50	75%
4.75	70%
2.36	55%
1.18	45%
0.600	35%
0.425	23%
0.300	12%
0.150	8%
0.075	7%
Particle Size (microns)	
78	6%
55	6%
39	6%
19	6%
10	6%
5	6%
1	4%

Samples analysed as received.

Median Particle Size (mm)*	1.784

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments: AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly

Loss on Pretreatment NA

Sample Description: FINES, GRAVEL, SAND, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.67 g/cm3

Analysed: 25-Feb-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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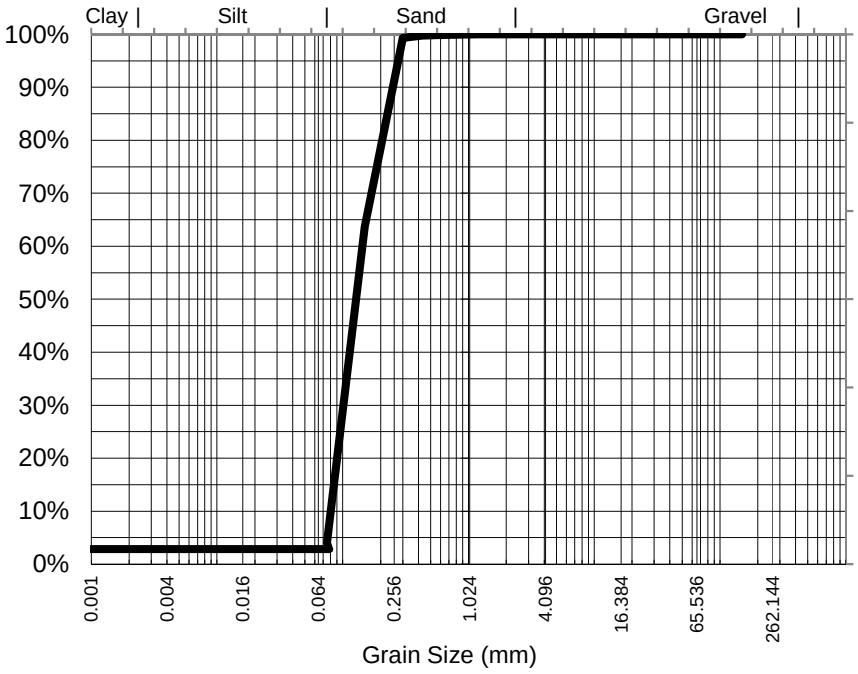
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	28-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503599-020 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB26 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	100%
0.600	100%
0.425	100%
0.300	99%
0.150	64%
0.075	4%
Particle Size (microns)	
78	3%
55	3%
39	3%
19	3%
10	3%
5	3%
1	3%

Samples analysed as received.

Median Particle Size (mm)*	0.133

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	25-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SHELL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.69 g/cm3

NATA Accreditation: 825 Site: Newcastle
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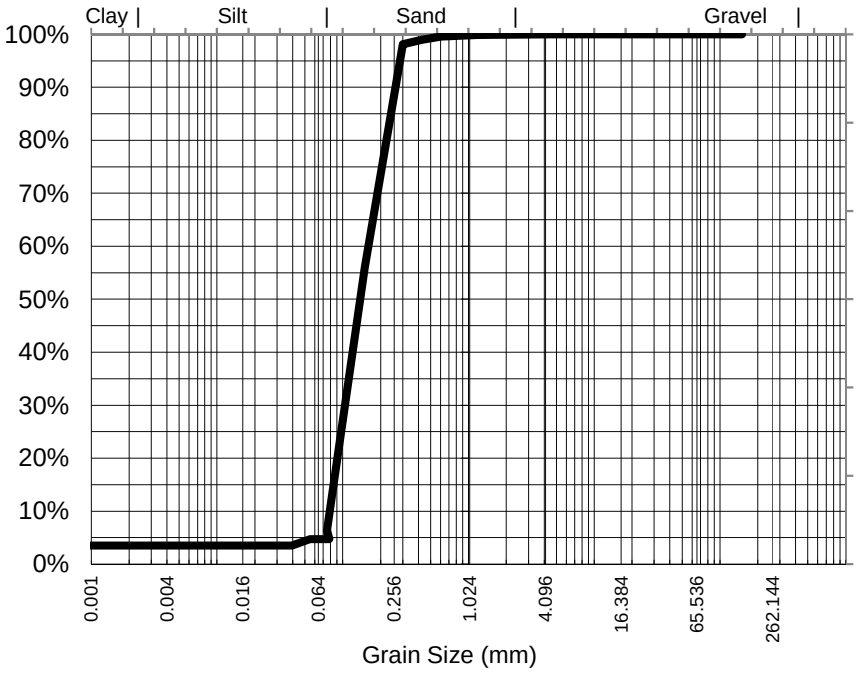
CLIENT:	Sally Leyland	**DATE REPORTED:**	28-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503599-021 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB26 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	100%
1.18	100%
0.600	100%
0.425	99%
0.300	98%
0.150	56%
0.075	6%
Particle Size (microns)	
78	5%
55	5%
39	3%
19	3%
10	3%
5	3%
1	3%

Samples analysed as received.

Median Particle Size (mm)*	0.141

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	25-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SHELL, GRAVEL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.69 g/cm3

NATA Accreditation: 825 Site: Newcastle
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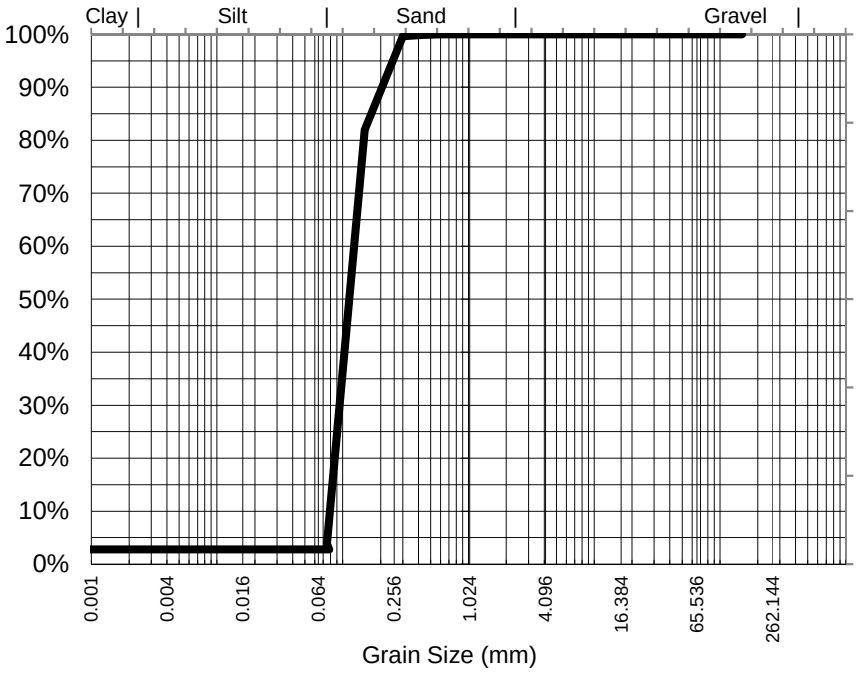
CLIENT:	Sally Leyland	**DATE REPORTED:**	28-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503599-029 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB25 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
1.18	100%
0.600	100%
0.425	100%
0.300	100%
0.150	82%
0.075	4%
Particle Size (microns)	
78	3%
55	3%
39	3%
19	3%
10	3%
5	3%
1	3%

Samples analysed as received.

Median Particle Size (mm)*	0.119

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	25-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.68 g/cm3

NATA Accreditation: 825 Site: Newcastle
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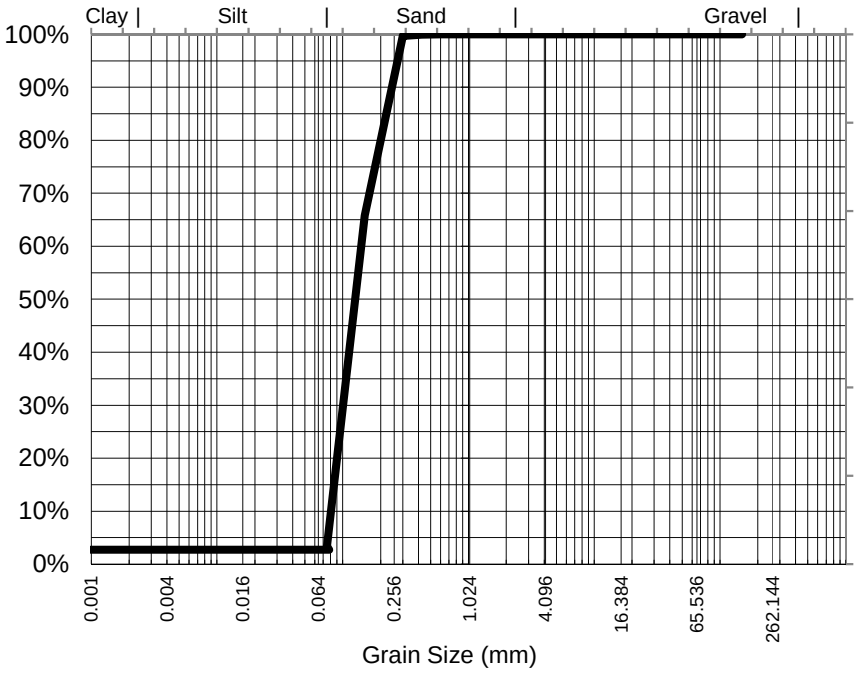
CLIENT:	Sally Leyland	**DATE REPORTED:**	28-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503599-030 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB25 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
0.600	100%
0.425	100%
0.300	100%
0.150	66%
0.075	3%
Particle Size (microns)	
78	3%
55	3%
39	3%
19	3%
10	3%
5	3%
1	3%

Median Particle Size (mm)*	0.131

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	25-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SHELL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.69 g/cm3

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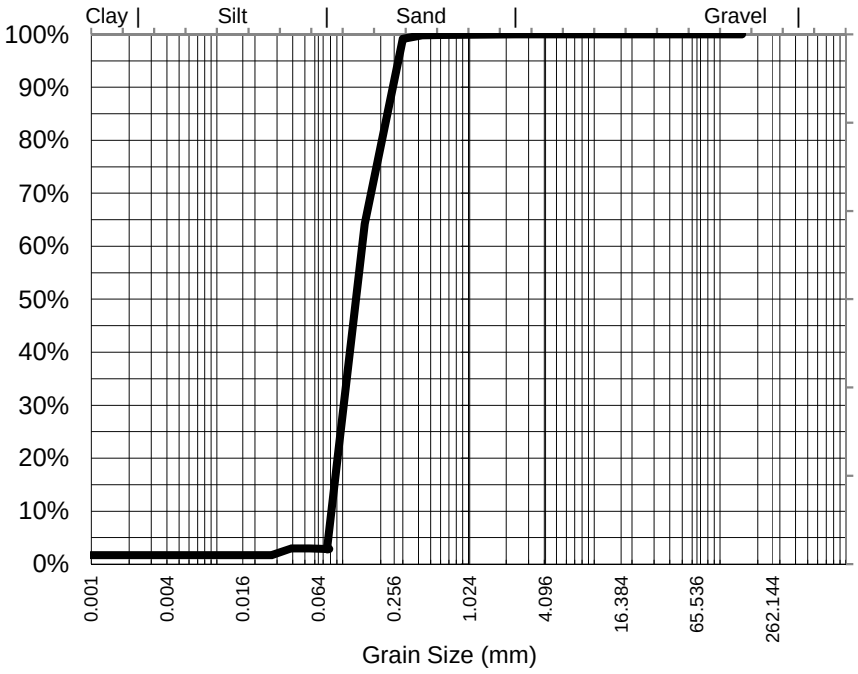
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	28-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503599-035 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB27 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	100%
1.18	100%
0.600	100%
0.425	100%
0.300	99%
0.150	64%
0.075	3%
Particle Size (microns)	
78	3%
55	3%
39	3%
19	2%
10	2%
5	2%
1	2%

Samples analysed as received.

Median Particle Size (mm)*	0.133

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	25-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SHELL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.68 g/cm3

NATA Accreditation: 825 Site: Newcastle
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ALS Environmental

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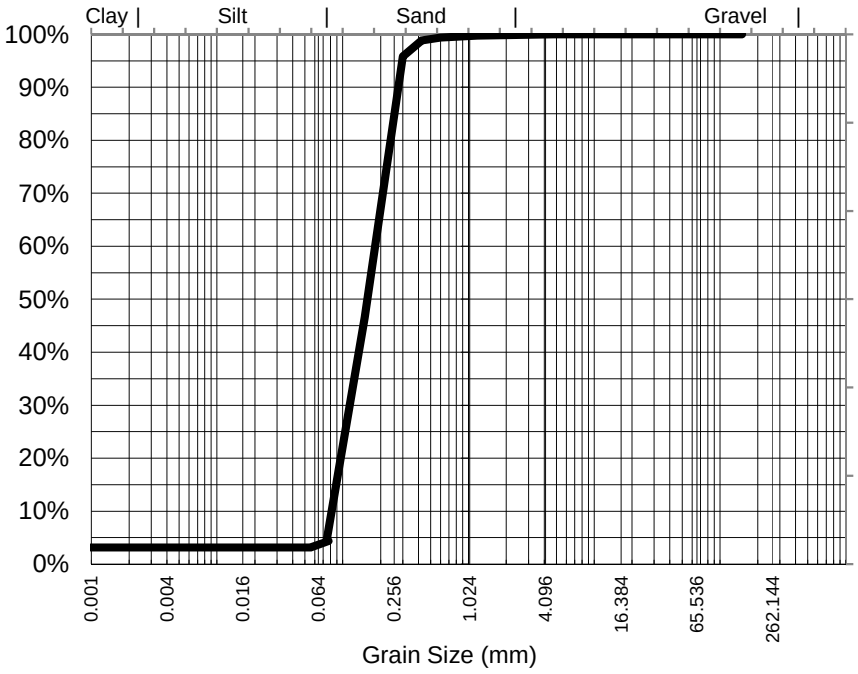
CLIENT:	Sally Leyland	**DATE REPORTED:**	28-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503599-036 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB27 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	100%
1.18	100%
0.600	99%
0.425	99%
0.300	96%
0.150	47%
0.075	5%
Particle Size (microns)	
77	4%
55	3%
39	3%
19	3%
10	3%
5	3%
1	3%

Samples analysed as received.

Median Particle Size (mm)*	0.160

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	25-Feb-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SHELL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.7 g/cm3

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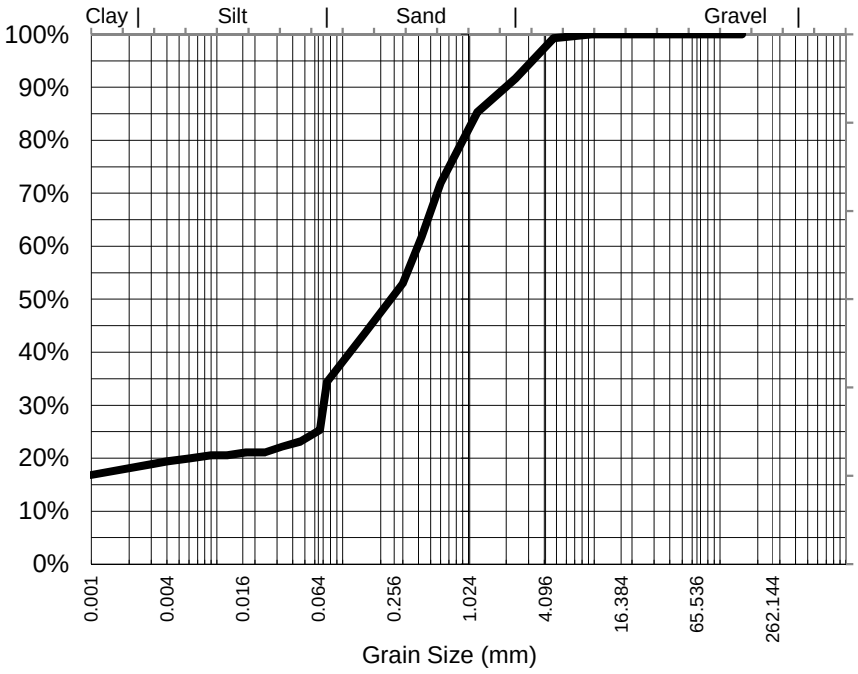
CLIENT:	Sally Leyland	**DATE REPORTED:**	28-Feb-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503599-LCS1401 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	LCS1401

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	99%
2.36	92%
1.18	85%
0.600	72%
0.425	62%
0.300	53%
0.150	44%
0.075	34%
Particle Size (microns)	
66	25%
46	23%
33	22%
17	21%
9	21%
4	19%
1	17%

Median Particle Size (mm)*	0.252

Samples analysed as received.

** Soil Particle Density required for Hydrometer analysis according to AS 1289.3.5.1—2006 was not requested by the client . Typical sediment SPD values used for calculations and consequently, NATA endorsement does not apply to hydrometer results*

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 25-Feb-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: SAND, GRAVEL, CLAY

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) #N/A g/cm3

NATA Accreditation: 825 Site: Newcastle
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Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle): Custody Seal Intact? Yes No N/A; Free ice / frozen ice bricks present upon receipt? Yes No N/A; Random Sample Temperature on Receipt: °C; Other comment:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: (1) 2 3 4 5 6 7	
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (7)	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 13 February 2015	DATE/TIME: 13 February 2015 1730
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: K Schafer	RECEIVED BY: Ravi
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 16-2-15 1600	DATE/TIME: 17/2/15 14:30

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	BH1 0.0-0.5 A	13/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
2	BH1 0.0-0.5 B	13/02/2015	S	Bag (White label)	1		1							
3	BH1 0.3V	13/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

150ml Jars and 500ml Amber sent direct to Brisbane fo TOC/TBT

Environmental Division
Sydney
Work Order
ES1503683

Telephone : +61-2-8784 8555

150 ml Jar from sample #13 missing Sydney – can you please split after Volatiles and send to EB for TBT/TOC

ALS Environmental

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NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
ORANGE 4/13 Geary Place North Orange NSW 2541
Ph: 024423 2063 E: orange@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
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Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle): Custody Seal Intact? Yes No N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Free ice / frozen ice bricks present upon receipt? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6	Random Sample Temperature on Receipt: °C
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6	Other comment:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*		
DATE/TIME: 13 February 2015	DATE/TIME: 13 February 2015 1730	DATE/TIME: 16-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
4	BH6 0.0-0.8 A	13/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
5	BH6 0.0-0.8 B	13/02/2015	S	Bag (White label)	1		1							
6	BH6 0.3V	13/02/2015	S	Glass Jar (150 ml)	1			1						
7	BH6 0.7V	13/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	5	1	1	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) **Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround	Custody Seal Intact?	Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 (3) 4 5 6 7	Random Sample Temperature on Receipt	°C
PROJECT MANAGER: Sally Leyland — **CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comments:	
SAMPLER: Georgina Kerr — **SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~) — **EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*	KS	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com	DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com	13 February 2015	13 February 2015 1730	16-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS — MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
8	BH10 0.0-0.3A	13/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
9	BH10 0.0-0.3B	13/02/2015	S	Bag (White label)	1		1							
10	BH10 0.0V	13/02/2015	S	Glass Jar (150 ml)	1			1						
11	BH10 0.3V	13/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	3		1	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround		Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free Ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 (4) 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (13)	Other comment:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		13 February 2015	13 February 2015 1730	16-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
12	BH15 0.0-0.5A	13/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
13	BH15 0.5-1.0A	13/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
14	BH15 0.0-0.5B	13/02/2015	S	Bag (White label)	1		1							
15	BH15 0.3V	13/02/2015	S	Glass Jar (150 ml)	1			1						
16	BH15 0.7V	13/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	5	1	1	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free Ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 (5) 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 13 February 2015	DATE/TIME: 13 February 2015 1730
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: 45	RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 16-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
17	BH17 0.0-0.1A	13/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
18	BH17 0.0-0.1B	13/02/2015	S	Bag (White label)	1		1							
19	BH17 0.0V	13/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (12)	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		13 February 2015	13 February 2015 1730

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 16-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
20	BH21 0.0-0.6A	13/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
21	BH21 0.0-0.6B	13/02/2015	S	Bag (White label)	1		1							
22	BH21 0.3V	13/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	**FOR LABORATORY USE ONLY (Circle)** Custody Seal Intact? Yes No N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Free ice / frozen ice bricks present upon receipt? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)** COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 (7)	Other comment:
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006		
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 13 February 2015	DATE/TIME: 13 February 2015 1730
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		**RELINQUISHED BY:** KS	**RECEIVED BY:**
		DATE/TIME: 16-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
23	BH22 0.0-0.6 A	13/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
24	BH22 0.0-0.6B	13/02/2015	S	Bag (White label)	1		1							
25	BH22 0.3 B (should say ' V')	13/02/2015	S	Bag (White label)	1		1							Please change the name of this sample to BH22 0.3 V
				TOTAL	4	1	2							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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MACKAY 78 Harbour Road Mackay QLD 4740
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SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
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NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (8)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (8)	Other comment:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*	KS	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		13 February 2015	13 February 2015 1730	16-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
26	BH27 0.0-0.35 A	13/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
27	BH27 0.0-0.35 B	13/02/2015	S	Bag (White label)	1		1							
28	BH27 0.3V	13/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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Ph: 07 4944 0177 E: mackay@alsglobal.com
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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle): Custody Seal Intact? Yes / No / N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 9	Random Sample Temperature on Receipt: °C
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 12	Other comment:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		13 February 2015	13 February 2015 1730

RELINQUISHED BY:	RECEIVED BY:
KS	
DATE/TIME: 16-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
29	WB21 0.0-0.5 A	13/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
30	WB21 0.5-1.0 A	13/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
31	WB21 0.0-0.5 B	13/02/2015	S	Bag (White label)	1		1							
32	WB21 0.5-1.0 B	13/02/2015	S	Bag (White label)	1		1							
33	WB21 0.3V	13/02/2015	S	Glass Jar (150 ml)	1			1						
34	WB21 0.7V	13/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle): Custody Seal Intact? Yes No N/A; Free ice / frozen ice bricks present upon receipt? Yes No N/A; Random Sample Temperature on Receipt: °C; Other comment:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (10) OF: 1 2 3 4 5 6 (12)	
ORDER NUMBER: 245563			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 13 February 2015	DATE/TIME: 13 February 2015 1730
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: KS	RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 16-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
35	WB22 0.0-0.5 A	13/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
36	WB22 0.5-1.0 A	13/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
37	WB22 0.0-0.5 B	13/02/2015	S	Bag (White label)	1		1							
38	WB22 0.5-1.0 B	13/02/2015	S	Bag (White label)	1		1							
39	WB22 0.3V	13/02/2015	S	Glass Jar (150 ml)	1			1						
40	WB22 0.7V	13/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle): Custody Seal Intact? Yes No N/A; Free ice / frozen ice bricks present upon receipt? Yes No N/A; Random Sample Temperature on Receipt: °C; Other comment:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (4) OF: 1 2 3 4 5 6 (12)	
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr DATE/TIME: 13 February 2015	RECEIVED BY: Kelly Schafer DATE/TIME: 13 February 2015 1730
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 16-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
41	WB24 0.0-0.5 A	13/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
42	WB24 0.5-0.8 A	13/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
43	WB24 0.0-0.5 B	13/02/2015	S	Bag (White label)	1		1							
44	WB24 0.5-0.8 B	13/02/2015	S	Bag (White label)	1		1							
45	WB24 0.3V	13/02/2015	S	Glass Jar (150 ml)	1			1						
46	WB24 0.7V	13/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date):	5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (12)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (13)	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		13 February 2015	13 February 2015 1730

RELINQUISHED BY:	RECEIVED BY:
KS	
DATE/TIME: 16-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	Rinsate Suite	Trip blank suite	
47	Trip Blank 10	13/02/2015	S	Pre-filled glass jar	1								1	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
48	Rinsate 10	13/02/2015	W	Bottle	8							1		
				TOTAL	9							1	1	

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
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ALS Environmental

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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☐GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
☐MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
☐MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
☐MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
☐NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
☐NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
☐PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
☐SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
☐TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townesville.environmental@alsglobal.com
☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround		Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (3)	Random Sample Temperature on Receipt °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (3)	Other comments:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		13 February 2015	13 February 2015 1730	16-2-15 1600

RECEIVED BY:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	Rinsate Suite	Trip blank suite	
49	Triplicate 10A	12/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
50	Triplicate 10B	12/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
				TOTAL	4	2								

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

SAMPLE RECEIPT INFORMATION & BOTTLE TYPE

CONWAG

WORKORDER No: ES1503683

To be completed by Sample Receipt						Samples checked, labelled and put in trays by:	Analysis creation by: (Starlims only)
Sorting Times *(Only record for BP, Mobil & URS)*	**Temperature Details** (record if NOT on COC)		**Packaging**		**Courier Details** (Mandatory for Quarantine)		
Time Sorting Commenced:	Sample Temp	'C	Seal Intact - Y / N / NA		Con Note:	Initial:	Initial:
Time Placed in Fridge:	Chilling Method - Circle If sample temp is less than 6'C it is not necessary to complete this section		**Type**	**No.**			
Sorting to Fridge Target Time <1 Hour			Esky		*Cells shaded grey don't need to be completed on this form if they are entered directly into LIMS/ANGEL by Sample Receipt staff.*		
	Ice / Ice Bricks / No Chilling		Other				

Sample Receipt Advice Comments - To be completed by Sorting Staff

VOC analysis may be compromised as sample containers contained **headspace** *(list):*

Details of any samples damaged during transit:

Other Information (eg. Were bottles received that weren't completely filled) (eg. If sample temperature is above 6'C add further detail here - *Internal use only - Not for SRN*):

Samples oiginally received at ALS Gladstone - Date - Temp and forward to ALS Sydney for Analysis.

BOTTLES LOGGED AND LABELLED ◯

Metals Bottles: F = Field filtered. T = Total. N/S = Not Specified.
Cyanide Bottles: Tr = Treated, meaning the client has ticked the pre-treated box on the bottle. Un = Untreated, meaning the box is not ticked.
Ferrous Iron, Hexavalent Chromium & Geosmin and MIB: F = Field filtered. N/S = Not Specified.
Soil Bags: S = Small. M = Medium (~500mL asbestos or PSD bag). L = Large (~6kg FMT bag)

Lab No.	S-						SV-				Scores by	V(Vial)"					T(Vial)"			W-				P-		OG-	M-										IN-										Micro			UTW-			Crypto Lab	Other
	Soil Jar	Sediment Jar	SOIL BAG CIRCE Plastic / Paper Frozen / Not Frozen			Potential ACM Board	Glass Orange (SVOC)		Grey HDPE - No PTFE (PFOS & PFOA etc)		Red Glass (AOX)	Purple (VOC)	Dark Blue / White (Halo Acetic Acids)	Grey (Acrylamide Acrolein)	Green (Geosmin & MIB)			Purple		Black on White EDA pres'vd (Eborn)	Natural Plastic Green			White Plastic Green (Chlorine)	Plastic Purple (Nutrien, Total Phenols & COD)		Purple Glass (O&G)	Standard Metal Bottle			ORC Metal Bottle			Maroon on White Plastic (As / Se Specia'n)	Blue White Plastic (CN)		Yellow Plastic (Sulfide)	Light Blue Plastic (UHS)	Light Orange Plastic (Sulfite)	Maroon Plastic (Ferrous Iron)		Blue Plastic (Cr VI)		Brown/ Green Stripe Glass (Surf't or Alkyl Ethox's)	Sterile Micro Jar		Dark Green White Plastic (Algae)	Light Green & White Plastic (UT Nutrients - Unfiltered)	Turquoise & White Plastic (UT Nutrients - Filtered)	Plastic Carboy (Crypto & Giardia)	
																	TOC	DOC									CIRCLE Red OR Red / Green			CIRCLE Red OR Red / Green															Black	Grey						
	150	250	S	M	L	Bag	100	500	60	125	500	40	40	40	F	N/S	40	40	40mL	1L	500	250	1L	60	125	250mL	F	T	N/S	F	T	N/S	60	Tr	Un	125	250	250	F	N/S	F	N/S	500	120	250	500mL	60	60	10L	
	This line allows for an initial indication of bottle types received without specifying the exact number for each sample. When using this function tick the boxes matching the containers received for this work order.																																																
1																																																	
2																																																	
3																																																	
4																																																	
5																																																	
6																																																	
7																																																	
8																																																	
9																																																	
10																																																	

Certificate of Analysis

ALS Laboratory Group Pty Ltd
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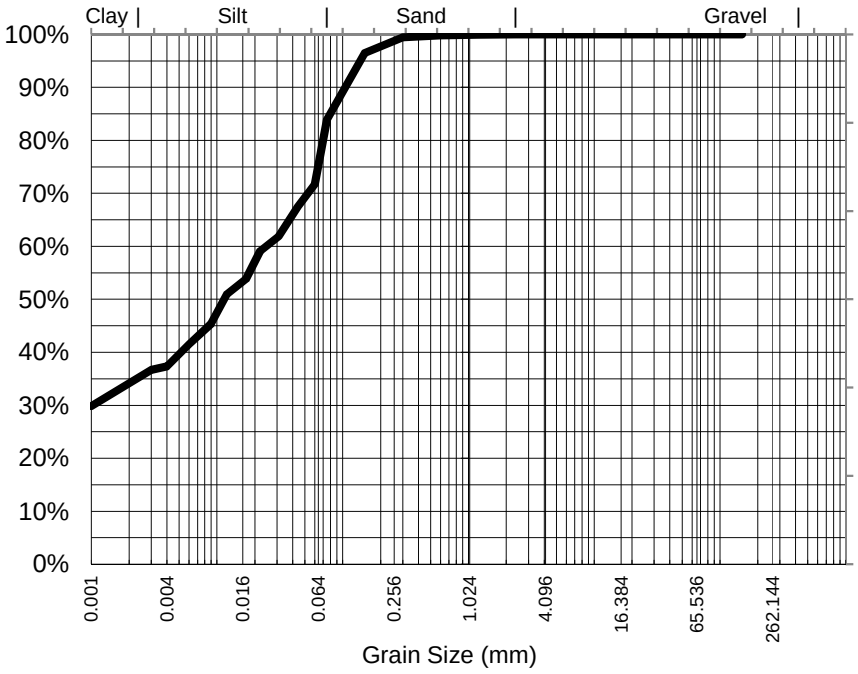
pH 02 4014 2500
fax 02 4968 0349
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	9-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503683-002 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH1 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	100%
0.600	100%
0.425	100%
0.300	99%
0.150	96%
0.075	84%
Particle Size (microns)	
60	72%
44	68%
31	62%
17	54%
9	45%
4	37%
1	30%

Median Particle Size (mm)*	0.011

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 04/03/02015

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: CLAY

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.76 g/cm3

NATA Accreditation: 825 Site: Newcastle
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Dianne Blane
Laboratory Co-ordinator, Newcastle
Authorised Signatory

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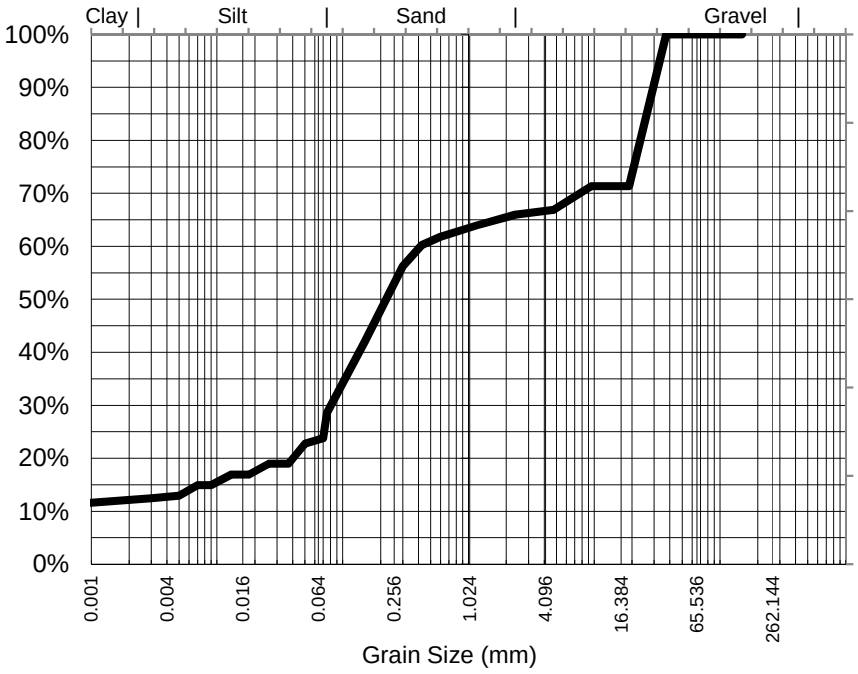
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	9-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503683-005 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH6 0.0-0.8B

Particle Size Distribution



Particle Size (mm)	Percent Passing
37.5	100%
19.0	71%
9.50	71%
4.75	67%
2.36	66%
1.18	64%
0.600	62%
0.425	60%
0.300	56%
0.150	42%
0.075	29%
Particle Size (microns)	
70	24%
50	23%
37	19%
18	17%
9	15%
5	13%
1	12%

Samples analysed as received.

Median Particle Size (mm)*	0.234

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 04/03/02015

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: CLAY, SAND, GRAVEL

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.73 g/cm3

NATA Accreditation: 825 Site: Newcastle
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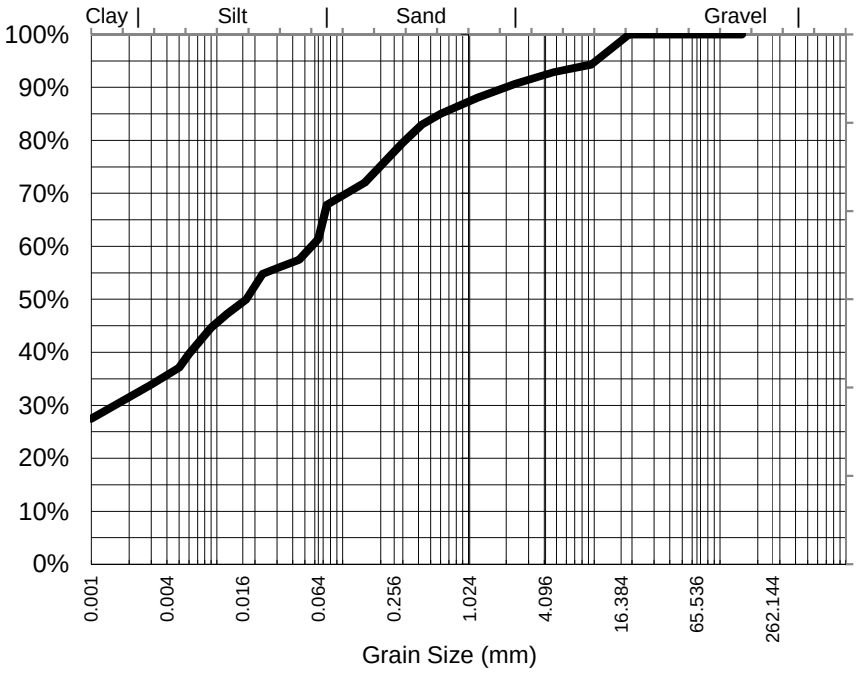
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	9-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503683-009 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH10 0.0-0.3B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	94%
4.75	93%
2.36	91%
1.18	88%
0.600	85%
0.425	83%
0.300	80%
0.150	72%
0.075	68%
Particle Size (microns)	
64	61%
45	57%
32	56%
17	50%
9	45%
5	37%
1	27%

Samples analysed as received.

Median Particle Size (mm)*	0.017

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 04/03/02015

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: CLAY, SAND, GRAVEL, SHELL

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.72 g/cm3

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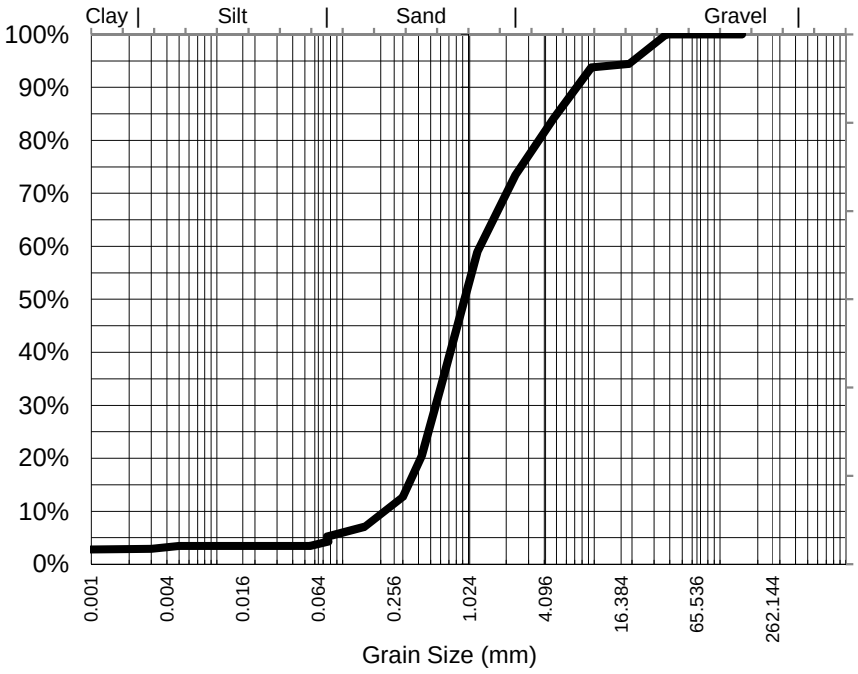
CLIENT:	Sally Leyland	**DATE REPORTED:**	9-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503683-014 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH15 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
37.5	100%
19.0	94%
9.50	94%
4.75	84%
2.36	73%
1.18	59%
0.600	33%
0.425	20%
0.300	13%
0.150	7%
0.075	5%
Particle Size (microns)	
77	4%
55	3%
39	3%
19	3%
10	3%
5	3%
1	3%

Median Particle Size (mm)*	0.977

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	04/03/02015
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, GRAVEL, SHELL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.68 g/cm3

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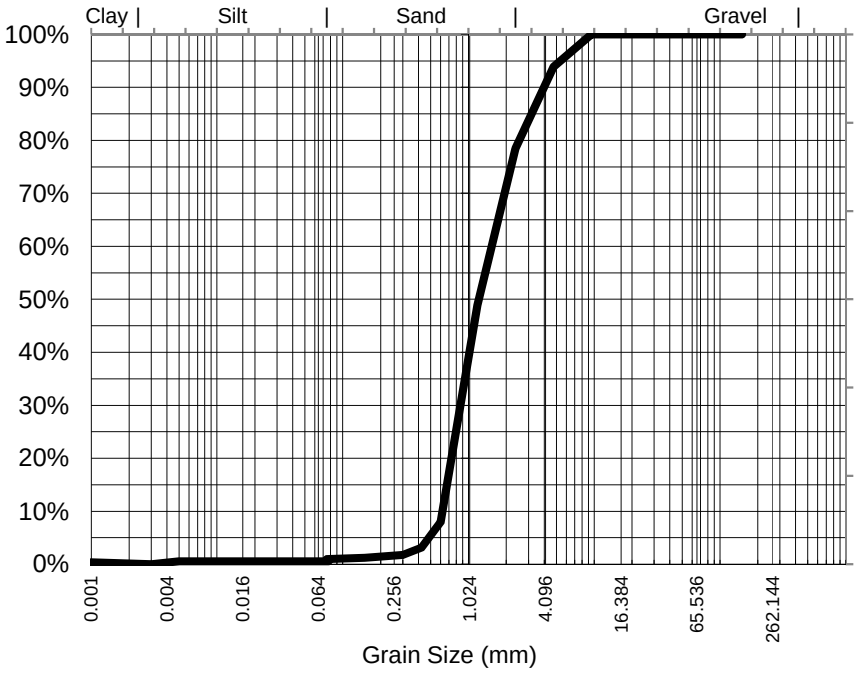
CLIENT:	Sally Leyland	**DATE REPORTED:**	9-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503683-018 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH17 0.0-0.1B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	94%
2.36	78%
1.18	49%
0.600	8%
0.425	3%
0.300	2%
0.150	1%
0.075	1%
Particle Size (microns)	
77	1%
55	1%
39	1%
19	1%
10	1%
5	1%
1	0%

Median Particle Size (mm)*	1.225

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	04/03/02015
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, GRAVEL , SHELL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.66 g/cm3

NATA Accreditation: 825 Site: Newcastle
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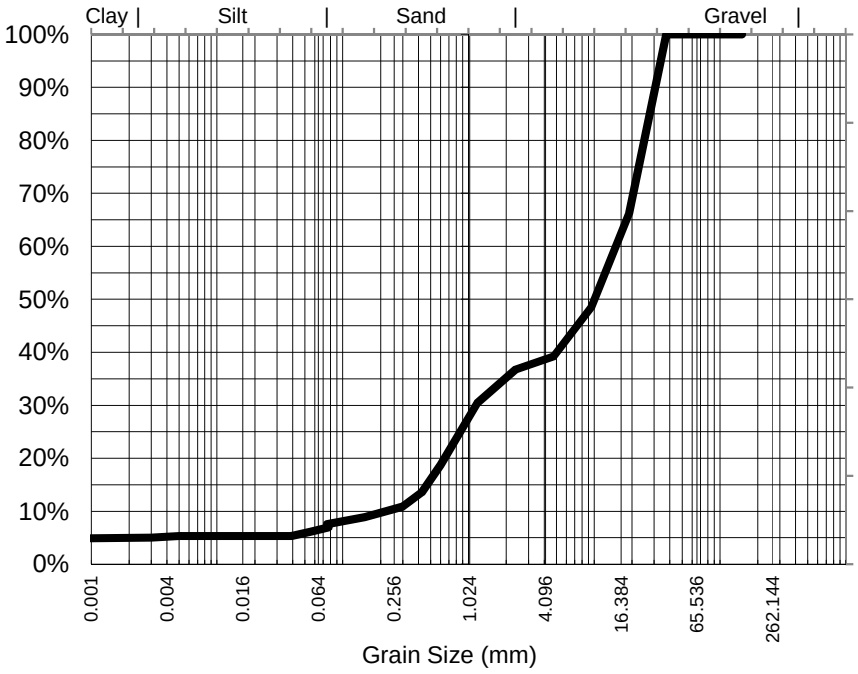
Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	9-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503683-021 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH21 0.0-0.6B

Particle Size Distribution



Particle Size (mm)	Percent Passing
37.5	100%
19.0	66%
9.50	48%
4.75	39%
2.36	37%
1.18	30%
0.600	19%
0.425	14%
0.300	11%
0.150	9%
0.075	8%
Particle Size (microns)	
77	7%
55	6%
39	5%
19	5%
10	5%
5	5%
1	5%

Samples analysed as received.

Median Particle Size (mm)*	10.305

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	04/03/02015
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, GRAVEL, SHELL, CLAY	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.68 g/cm3

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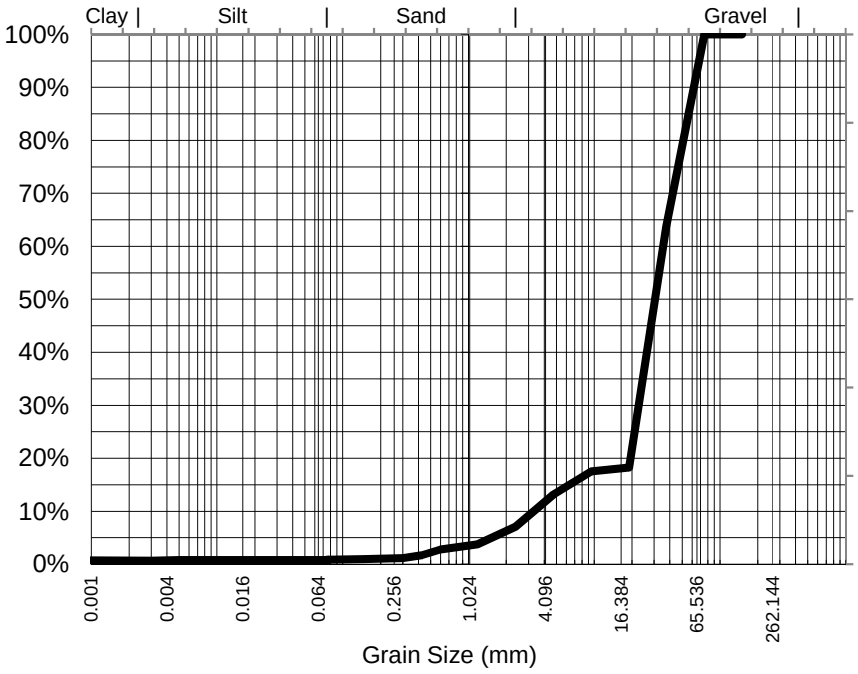
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	9-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503683-024 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH22 0.0-0.6B

Particle Size Distribution



Particle Size (mm)	Percent Passing
75	100%
37.5	64%
19.0	18%
9.50	17%
4.75	13%
2.36	7%
1.18	4%
0.600	3%
0.425	2%
0.300	1%
0.150	1%
0.075	1%
Particle Size (microns)	
77	1%
55	1%
39	1%
19	1%
10	1%
5	1%
1	1%

Median Particle Size (mm)*	31.913

Samples analysed as received.

** Soil Particle Density required for Hydrometer analysis according to AS 1289.3.5.1—2006 was unable to be performed as insufficient sample was supplied by the client . Typical sediment SPD values used for calculations and consequently, NATA endorsement does not apply to hydrometer*

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	04/03/02015
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, GRAVEL, SHELL, CLAY	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) g/cm3

NATA Accreditation: 825 Site: Newcastle
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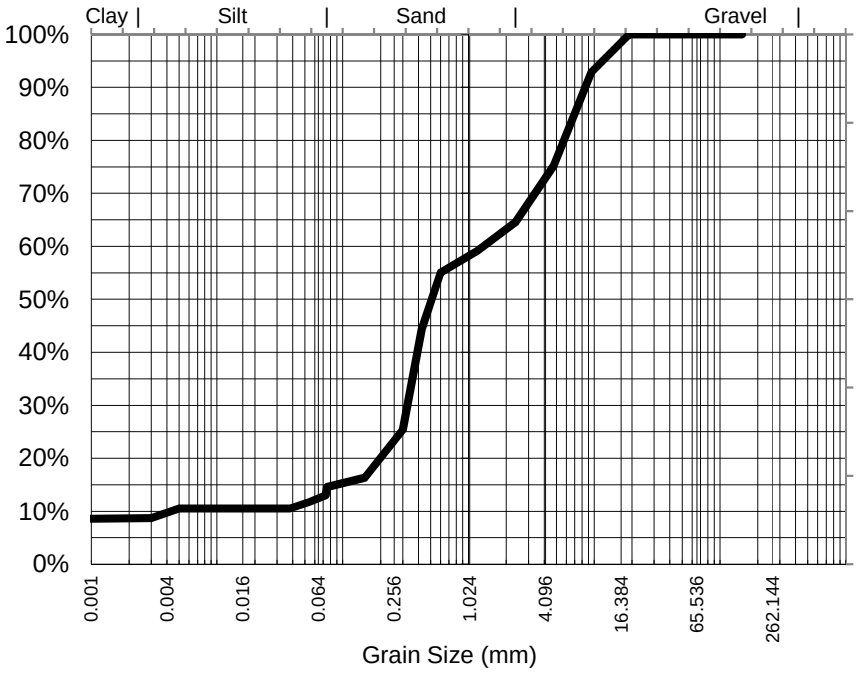
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	9-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503683-027 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH27 0.0-0.35B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	93%
4.75	75%
2.36	65%
1.18	59%
0.600	55%
0.425	44%
0.300	25%
0.150	16%
0.075	15%
Particle Size (microns)	
73	13%
54	12%
38	11%
19	11%
10	11%
5	11%
1	9%

Samples analysed as received.

Median Particle Size (mm)*	0.517

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:		**Analysed:**	04/03/02015
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, CLAY, GRAVEL, SHELL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.71 g/cm3

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Dianne Blane
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Authorised Signatory

Certificate of Analysis

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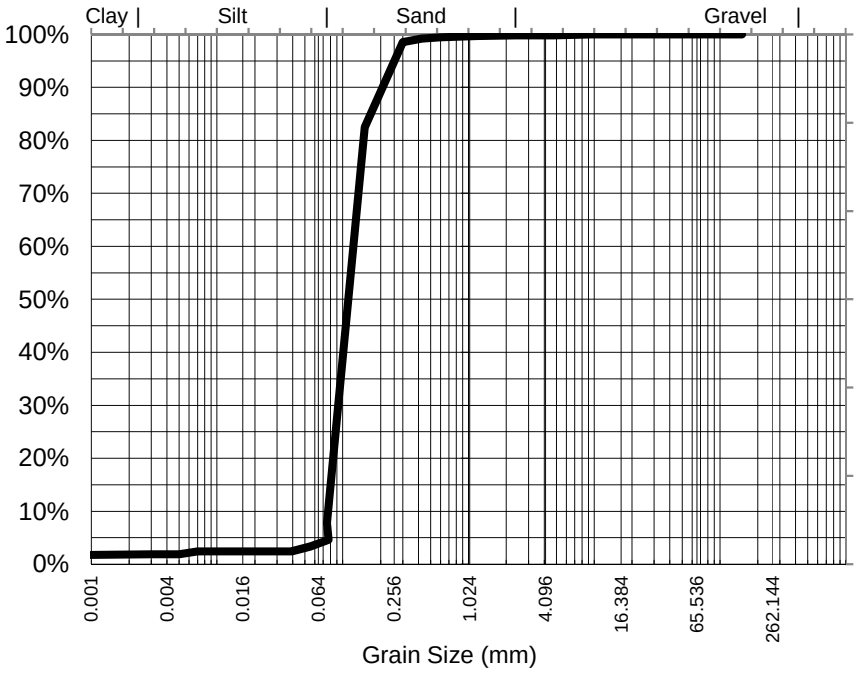
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	9-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503683-031 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB21 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	100%
2.36	100%
1.18	100%
0.600	99%
0.425	99%
0.300	99%
0.150	82%
0.075	8%
Particle Size (microns)	
77	5%
55	3%
39	2%
19	2%
10	2%
5	2%
1	2%

Median Particle Size (mm)*	0.117

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	04/03/02015
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SILT, SHELL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.68 g/cm3

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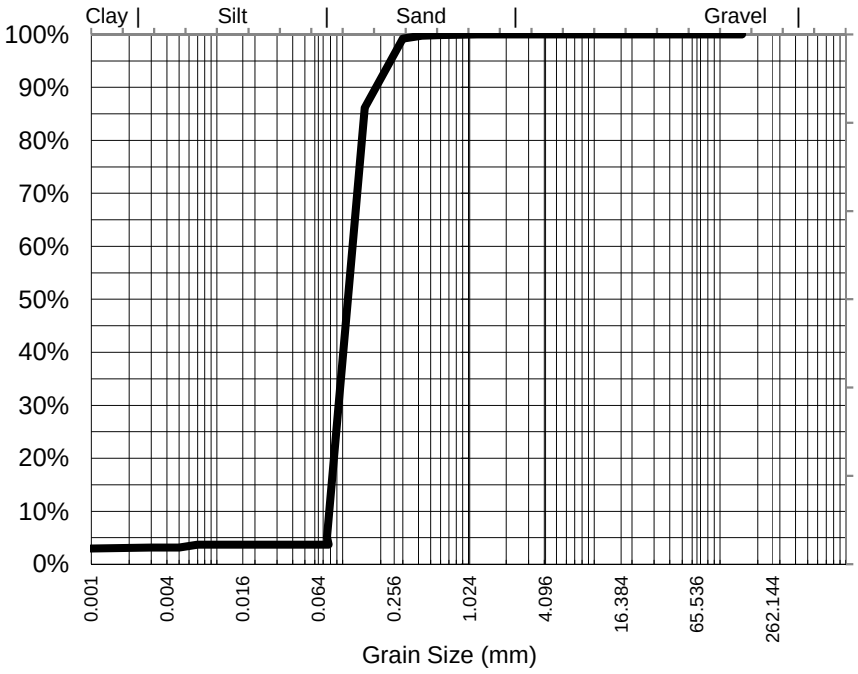
CLIENT:	Sally Leyland	**DATE REPORTED:**	9-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503683-032 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	W21 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	100%
0.600	100%
0.425	100%
0.300	99%
0.150	86%
0.075	5%
Particle Size (microns)	
77	4%
55	4%
39	4%
19	4%
10	4%
5	3%
1	3%

Median Particle Size (mm)*	0.117

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	04/03/02015
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SILT, SHELL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.69 g/cm3

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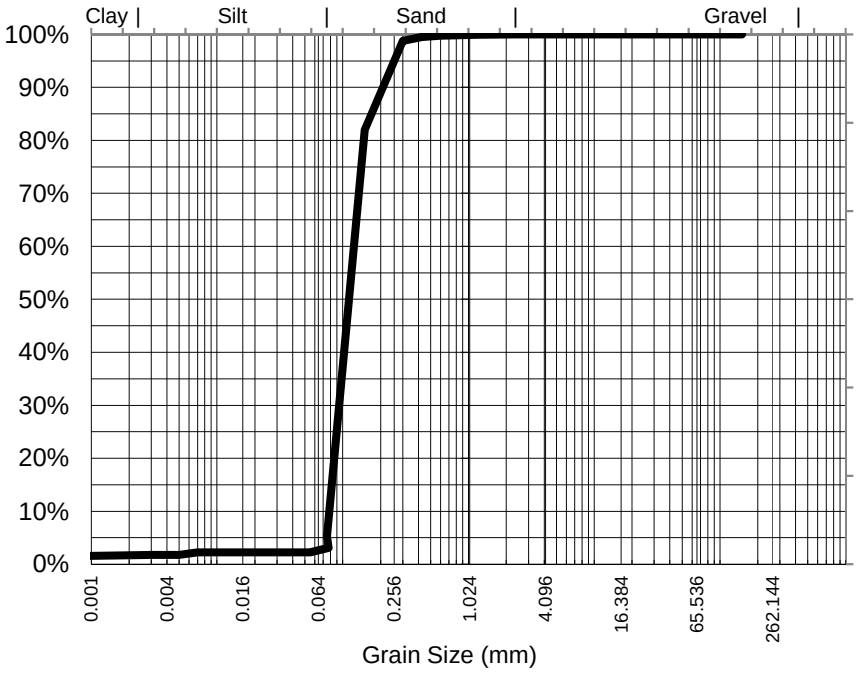
CLIENT:	Sally Leyland	**DATE REPORTED:**	9-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503683-037 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB22 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	100%
0.600	100%
0.425	100%
0.300	99%
0.150	82%
0.075	5%
Particle Size (microns)	
77	3%
55	2%
39	2%
19	2%
10	2%
5	2%
1	2%

Median Particle Size (mm)*	0.119

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	04/03/02015
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SILT, SHELL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.68 g/cm3

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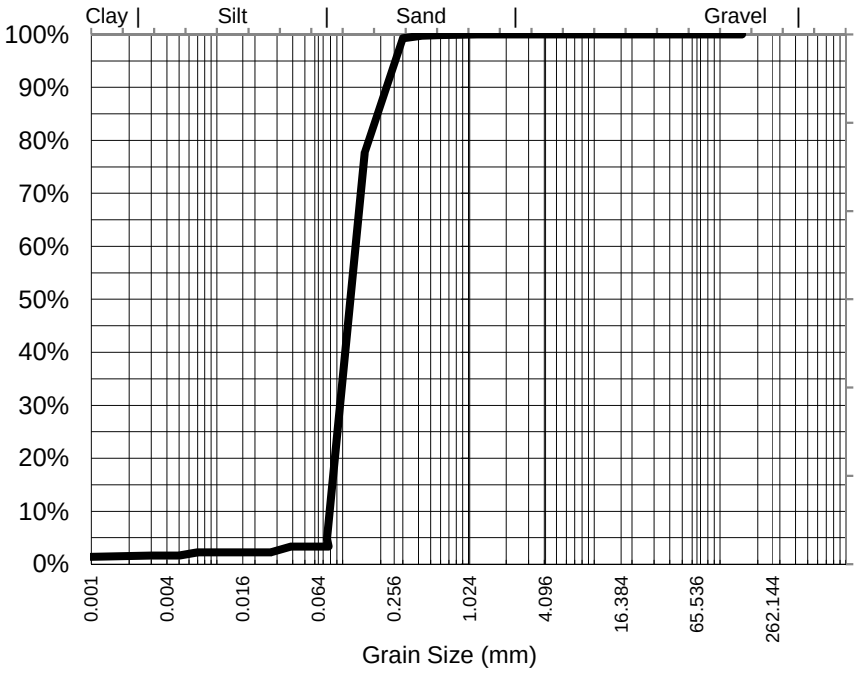
CLIENT:	Sally Leyland	**DATE REPORTED:**	9-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503683-038 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB22 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	100%
0.600	100%
0.425	100%
0.300	99%
0.150	78%
0.075	5%
Particle Size (microns)	
77	3%
55	3%
39	3%
19	2%
10	2%
5	2%
1	1%

Median Particle Size (mm)*	0.121

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	04/03/02015
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SILT, SHELL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.69 g/cm3

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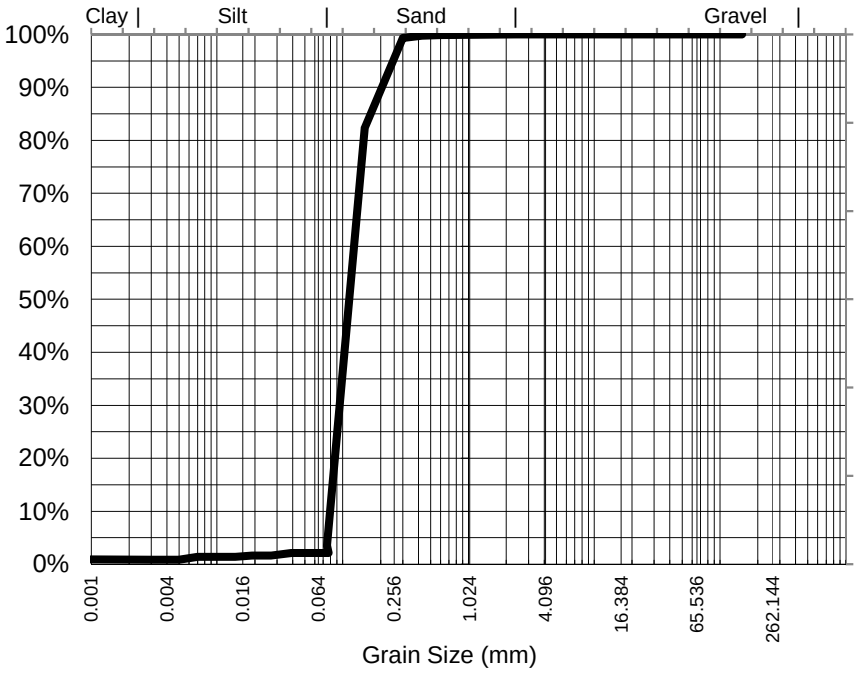
CLIENT:	Sally Leyland	**DATE REPORTED:**	9-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503683-043 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB24 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	100%
1.18	100%
0.600	100%
0.425	100%
0.300	99%
0.150	82%
0.075	3%
Particle Size (microns)	
77	2%
55	2%
39	2%
19	2%
10	1%
5	1%
1	1%

Samples analysed as received.

Median Particle Size (mm)*	0.119

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	04/03/02015
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SILT, SHELL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.69 g/cm3

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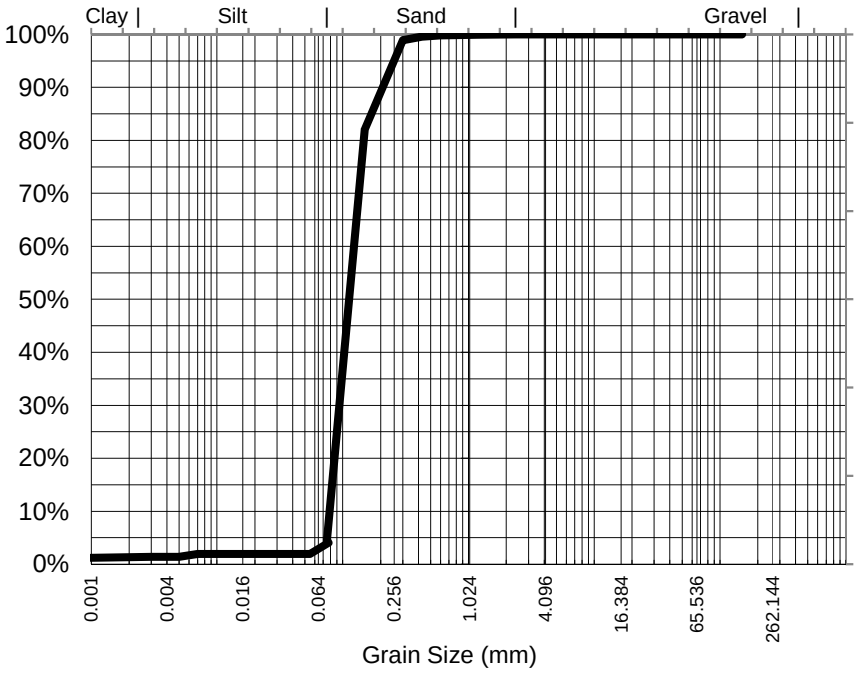
CLIENT:	Sally Leyland	**DATE REPORTED:**	9-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503683-044 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	WB24 0.5-0.8B

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	100%
0.600	100%
0.425	100%
0.300	99%
0.150	82%
0.075	5%
Particle Size (microns)	
77	4%
55	2%
39	2%
19	2%
10	2%
5	1%
1	1%

Median Particle Size (mm)*	0.119

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	04/03/02015
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SILT, SHELL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.69 g/cm3

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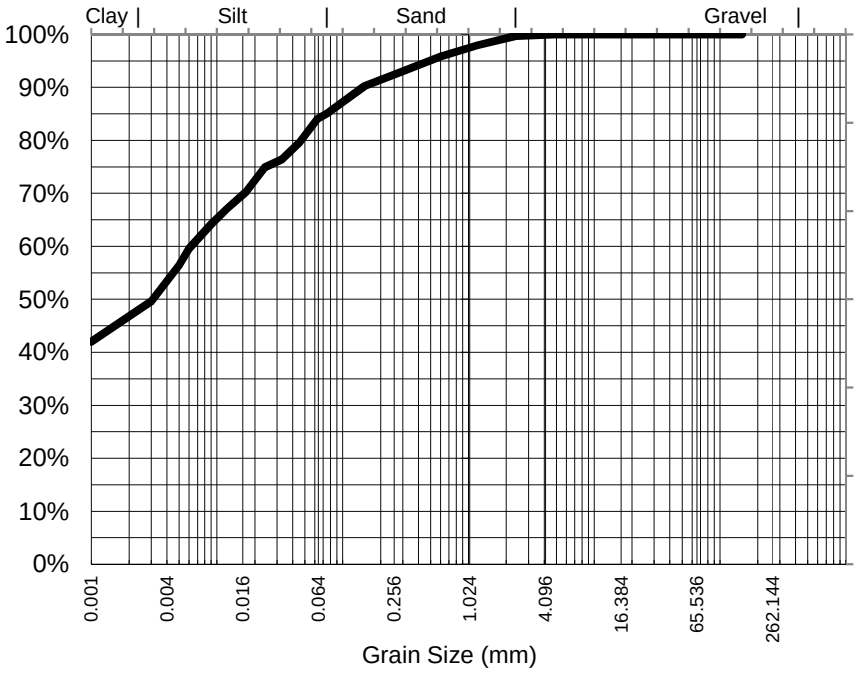
CLIENT:	Sally Leyland	**DATE REPORTED:**	6-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503684-002 / PSD
PROJECT:	Gpc Geochemical Investigation	**SAMPLE ID:**	BH3 0.0-0.3B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	100%
1.18	98%
0.600	96%
0.425	94%
0.300	93%
0.150	90%
0.075	85%
Particle Size (microns)	
63	84%
45	80%
33	76%
17	70%
9	64%
5	56%
1	42%

Median Particle Size (mm)*	0.003

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 3-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: CLAY, GRAVEL

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.6 g/cm3

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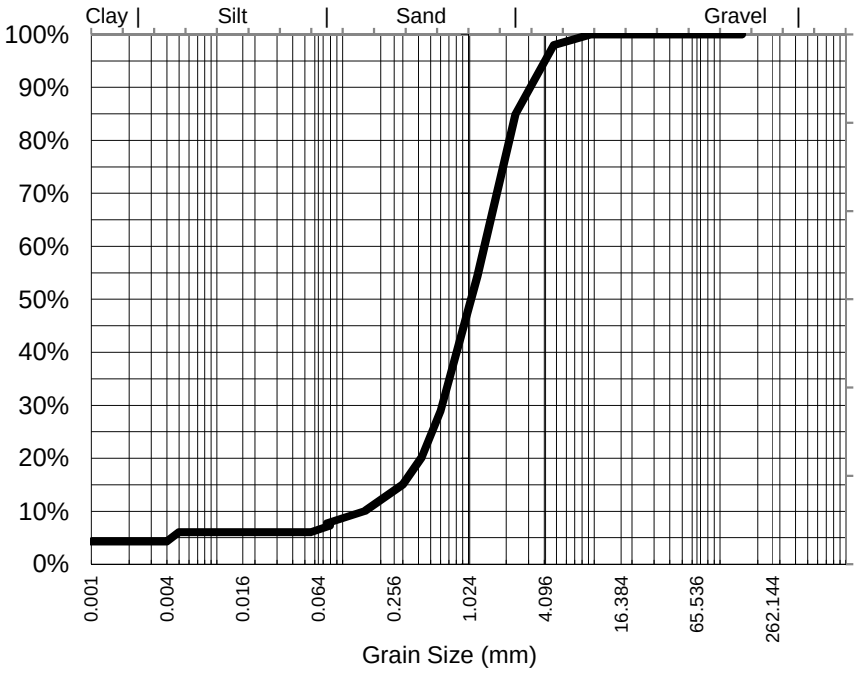
CLIENT:	Sally Leyland	**DATE REPORTED:**	6-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503684-005 / PSD
PROJECT:	Gpc Geochemical Investigation	**SAMPLE ID:**	BH4 0.0-0.6B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	98%
2.36	85%
1.18	54%
0.600	29%
0.425	20%
0.300	15%
0.150	10%
0.075	8%
Particle Size (microns)	
79	7%
56	6%
39	6%
20	6%
10	6%
5	6%
1	4%

Median Particle Size (mm)*	1.080

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	3-Mar-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, GRAVEL, CLAY	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.65 g/cm3

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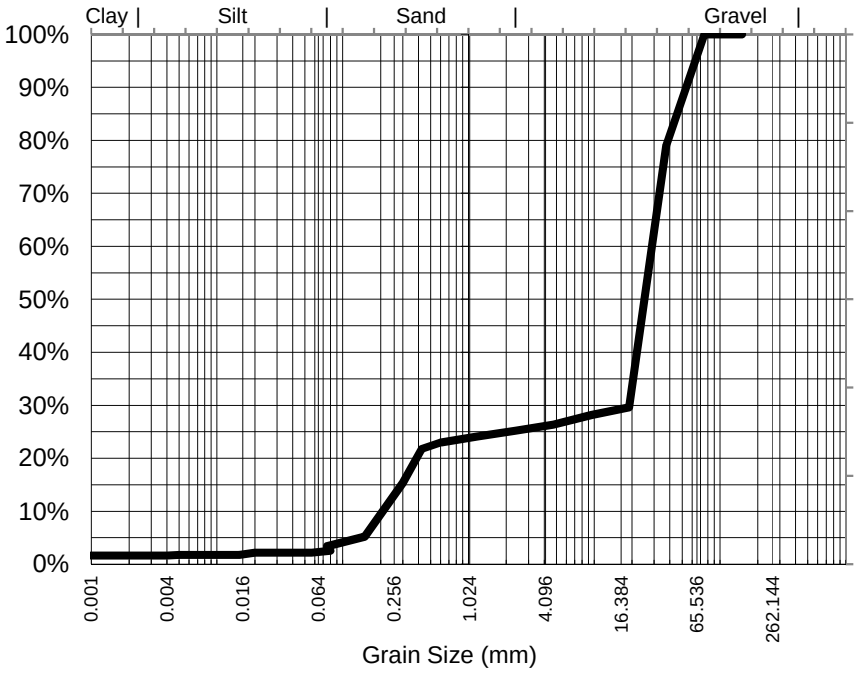
CLIENT:	Sally Leyland	**DATE REPORTED:**	6-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503684-009 / PSD
PROJECT:	Gpc Geochemical Investigation	**SAMPLE ID:**	BH30 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
75	100%
37.5	79%
19.0	30%
9.50	28%
4.75	26%
2.36	25%
1.18	24%
0.600	23%
0.425	22%
0.300	15%
0.150	5%
0.075	3%
Particle Size (microns)	
80	3%
57	2%
40	2%
20	2%
10	2%
5	2%
1	2%

Median Particle Size (mm)*	26.641

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	3-Mar-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	GRAVEL, SAND, FINES	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.64 g/cm3

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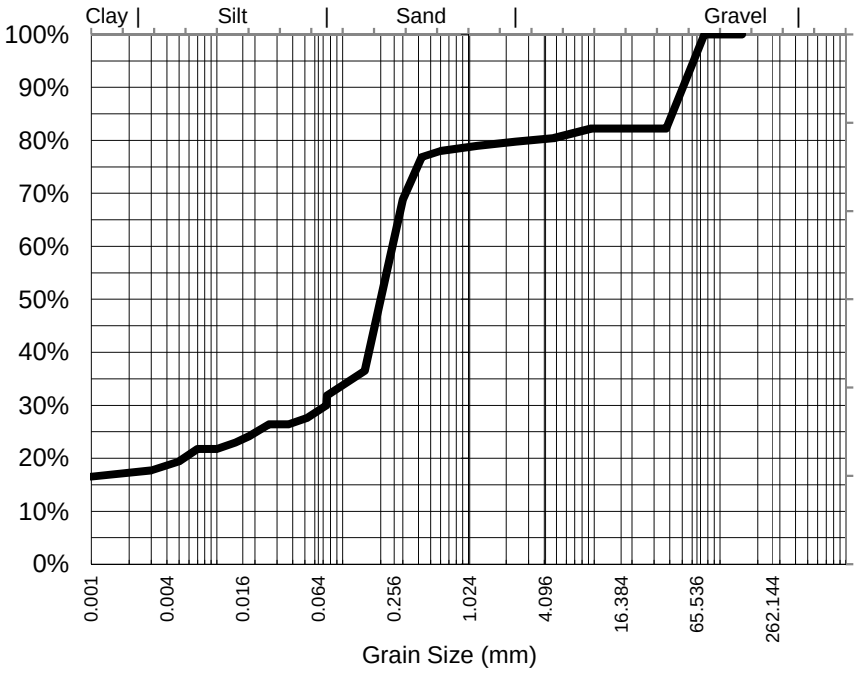
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	6-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503684-010 / PSD
PROJECT:	Gpc Geochemical Investigation	**SAMPLE ID:**	BH30 0.5-1.1B

Particle Size Distribution



Particle Size (mm)	Percent Passing
75	100%
37.5	82%
19.0	82%
9.50	82%
4.75	80%
2.36	80%
1.18	79%
0.600	78%
0.425	77%
0.300	69%
0.150	37%
0.075	32%
Particle Size (microns)	
74	30%
52	28%
37	26%
18	24%
10	22%
5	19%
1	17%

Samples analysed as received.

Median Particle Size (mm)*	0.213

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY, SAND, GRAVEL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.63 g/cm3

Analysed: 3-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

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TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle): Custody Seal Intact? Yes No N/A; Free ice / frozen ice bricks present upon receipt? Yes No N/A; Random Sample Temperature on Receipt: °C; Other comment:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 8	
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr DATE/TIME: 15 February 2015	RECEIVED BY: Kelly Schafer DATE/TIME: 15 February 2015 1850
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		RELINQUISHED BY: KSchafer DATE/TIME: 16-2-15 1600
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			RECEIVED BY: DATE/TIME: 17/2/15 9am
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	BE1 0.0-0.5 A	15/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
2	BE1 0.5-1.0 A	15/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
3	BE1 0.0-0.5 B	15/02/2015	S	Bag (White label)	1		1								
4	BE1 0.5-1.0 B	15/02/2015	S	Bag (White label)	1		1								
5	BE1 0.3V	15/02/2015	S	Glass Jar (150 ml)	1			1							
6	BE1 0.7V	15/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	7	2	2	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plasti
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

150ml Jars ~~and 500ml Amber~~ sent direct to Brisbane for TOC/TBT

Environmental Division
Sydney
Work Order
ES1503685

Telephone : +61-2-8784 8555

Certificate of Analysis

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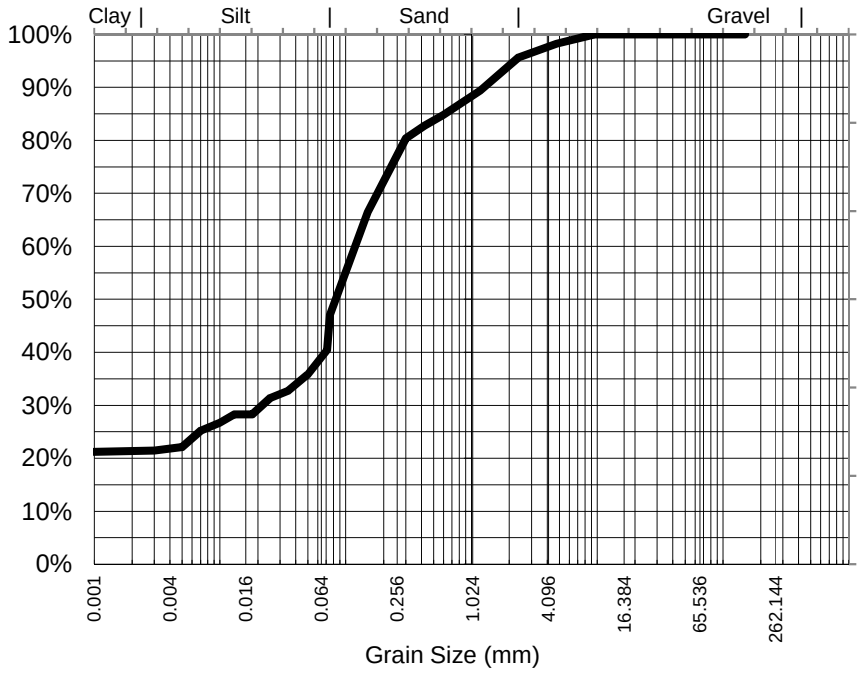
fax 02 4968 0349
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	9-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503685-003 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BE1 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	98%
2.36	96%
1.18	89%
0.600	85%
0.425	83%
0.300	80%
0.150	66%
0.075	47%
Particle Size (microns)	
71	40%
50	36%
35	33%
18	28%
10	27%
5	22%
1	21%

Median Particle Size (mm)*	0.086

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY, SAND, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.74 g/cm3

Analysed: 4-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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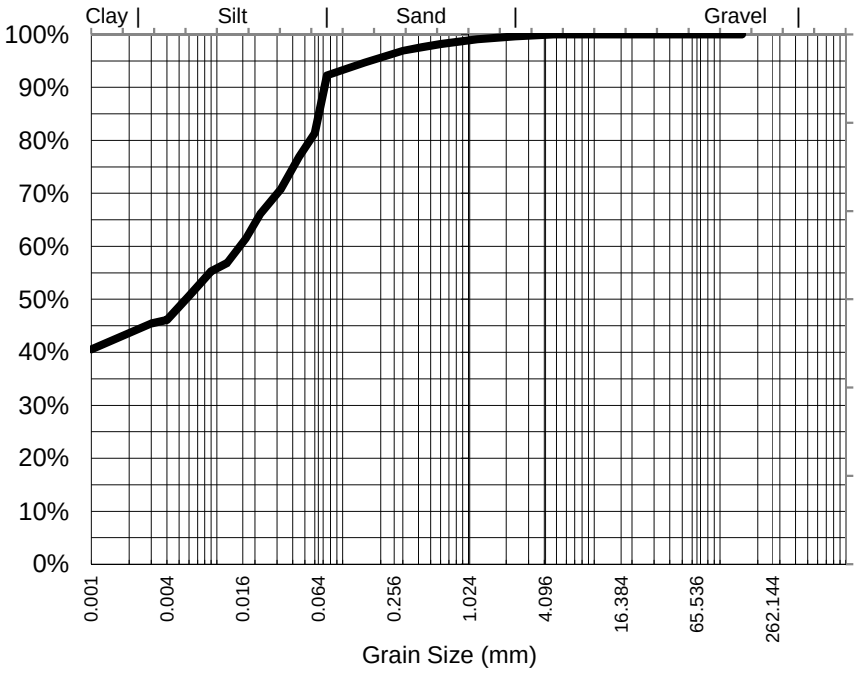
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	9-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503685-004 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BE1 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	100%
1.18	99%
0.600	98%
0.425	98%
0.300	97%
0.150	95%
0.075	92%
Particle Size (microns)	
60	81%
45	77%
32	71%
17	62%
9	55%
4	46%
1	41%

Median Particle Size (mm)*	0.006

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.76 g/cm3

Analysed: 4-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

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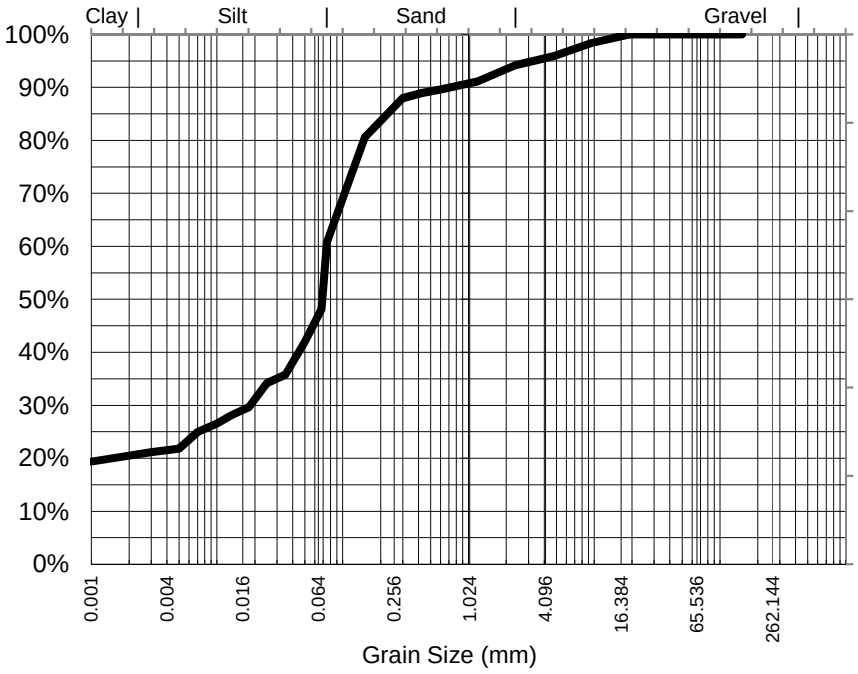
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503685-009 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BE2 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	98%
4.75	96%
2.36	94%
1.18	91%
0.600	90%
0.425	89%
0.300	88%
0.150	81%
0.075	61%
Particle Size (microns)	
68	48%
50	42%
35	36%
18	30%
10	27%
5	22%
1	19%

Samples analysed as received.

Median Particle Size (mm)*	0.069

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.7 g/cm3

Analysed: 4-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

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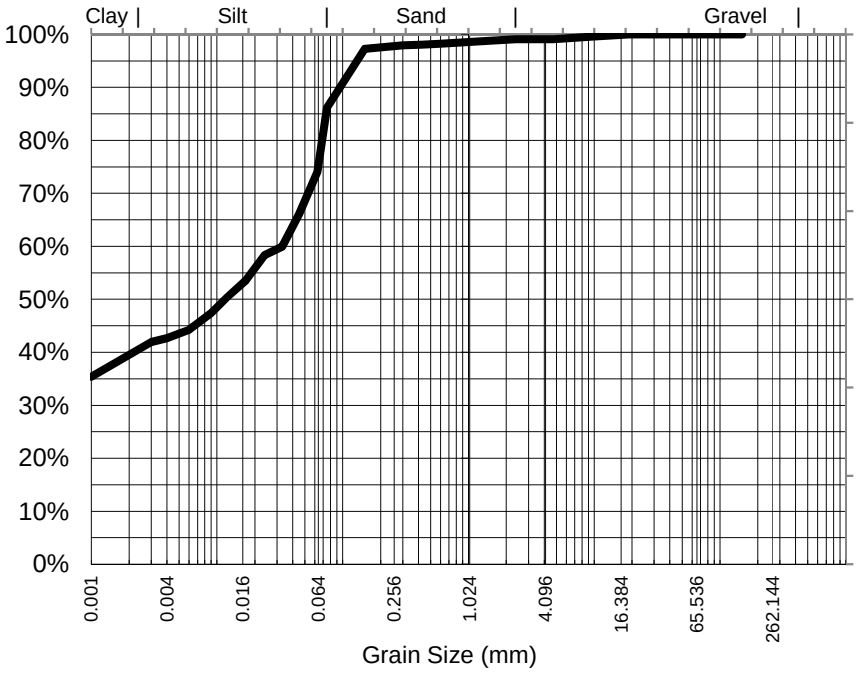
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503685-010 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BE2 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	100%
4.75	99%
2.36	99%
1.18	99%
0.600	98%
0.425	98%
0.300	98%
0.150	97%
0.075	86%
Particle Size (microns)	
63	74%
45	66%
33	60%
17	54%
9	47%
4	43%
1	35%

Samples analysed as received.

Median Particle Size (mm)*	0.012

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.75 g/cm3

Analysed: 4-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

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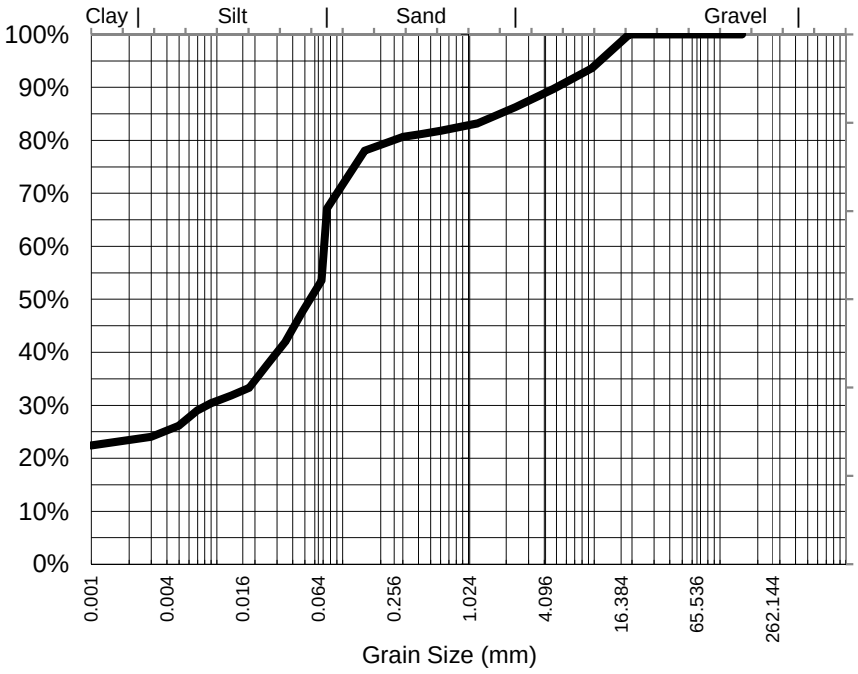
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503685-015 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BE3 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	94%
4.75	90%
2.36	86%
1.18	83%
0.600	82%
0.425	81%
0.300	81%
0.150	78%
0.075	67%
Particle Size (microns)	
68	54%
48	48%
35	42%
18	33%
9	30%
5	26%
1	22%

Median Particle Size (mm)*	0.056

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 4-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: CLAY, SHELL

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.74 g/cm3

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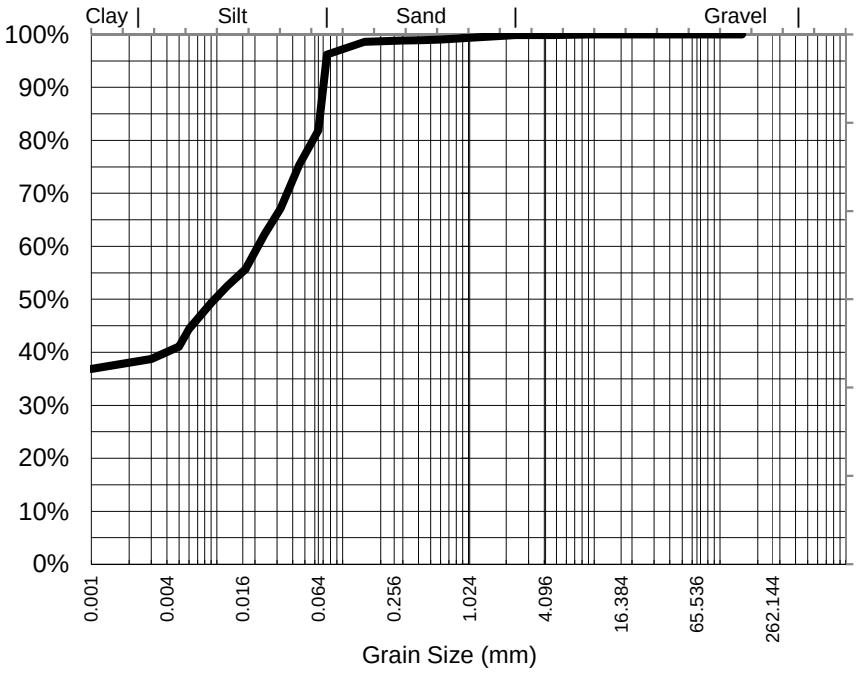
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503685-016 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BE3 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	100%
2.36	100%
1.18	99%
0.600	99%
0.425	99%
0.300	99%
0.150	99%
0.075	96%
Particle Size (microns)	
64	82%
45	75%
32	67%
17	56%
9	49%
5	41%
1	37%

Median Particle Size (mm)*	0.010

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.74 g/cm3

Analysed: 4-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

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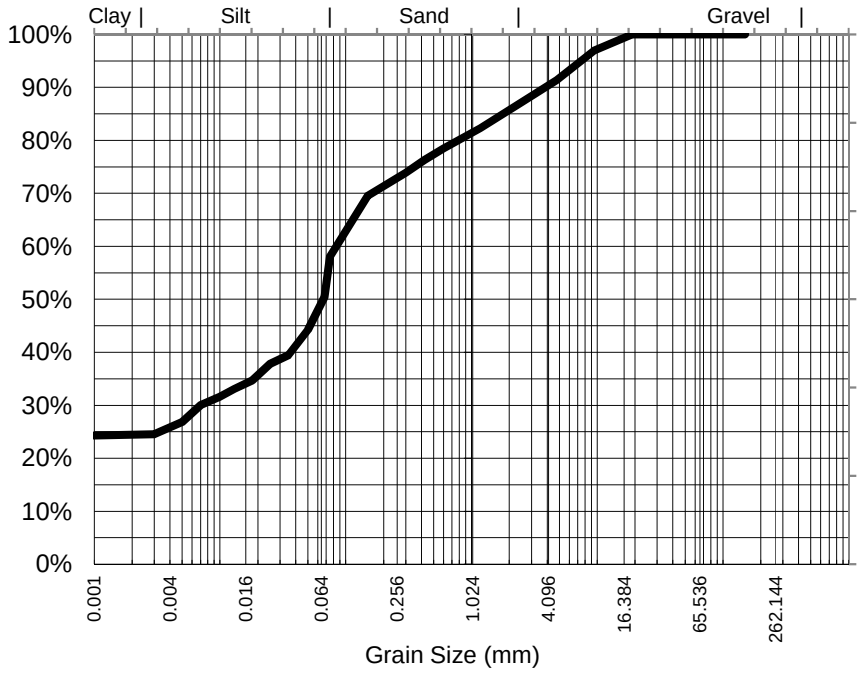
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503685-021 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BE9 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	97%
4.75	91%
2.36	87%
1.18	82%
0.600	79%
0.425	76%
0.300	74%
0.150	70%
0.075	58%
Particle Size (microns)	
68	50%
50	44%
35	39%
18	35%
10	32%
5	27%
1	24%

Samples analysed as received.

Median Particle Size (mm)*	0.067

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.74 g/cm3

Analysed: 4-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

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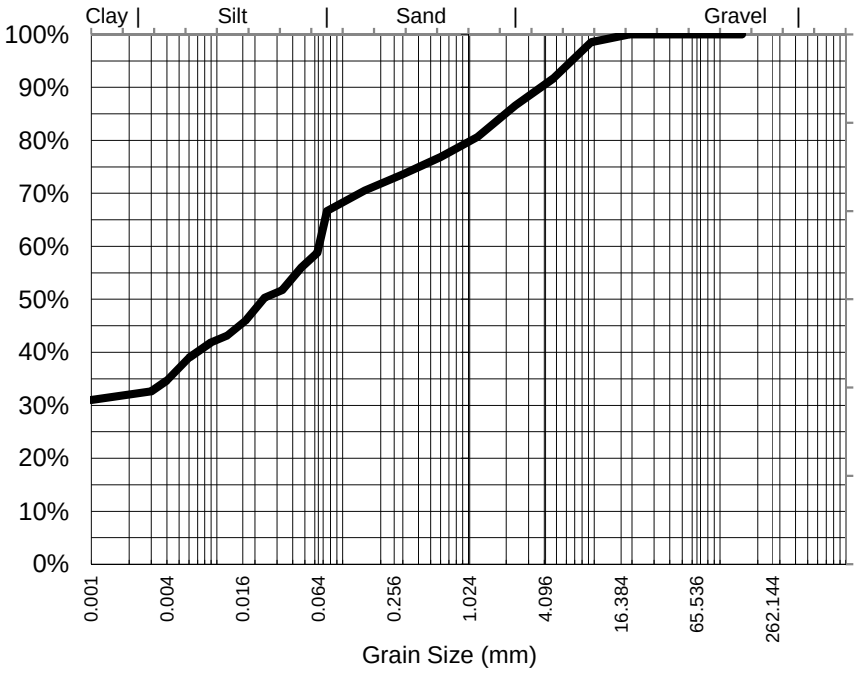
CLIENT:	Sally Leyland	**DATE REPORTED:**	9-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503685-022 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BE9 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	99%
4.75	92%
2.36	87%
1.18	81%
0.600	77%
0.425	75%
0.300	74%
0.150	71%
0.075	67%
Particle Size (microns)	
63	59%
47	56%
33	52%
17	46%
9	42%
4	35%
1	31%

Samples analysed as received.

Median Particle Size (mm)*	0.024

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.75 g/cm3

Analysed: 4-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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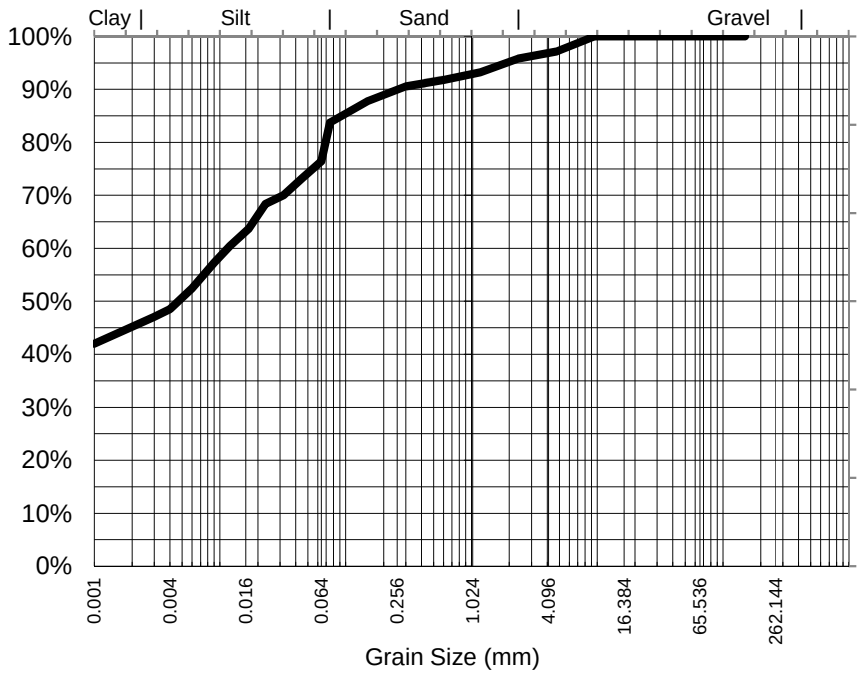
Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	9-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503685-027 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BE16 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	97%
2.36	96%
1.18	93%
0.600	92%
0.425	91%
0.300	91%
0.150	88%
0.075	84%
Particle Size (microns)	
64	76%
45	73%
32	70%
17	64%
9	57%
4	49%
1	42%

Samples analysed as received.

Median Particle Size (mm)*	0.005

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.74 g/cm3

Analysed: 4-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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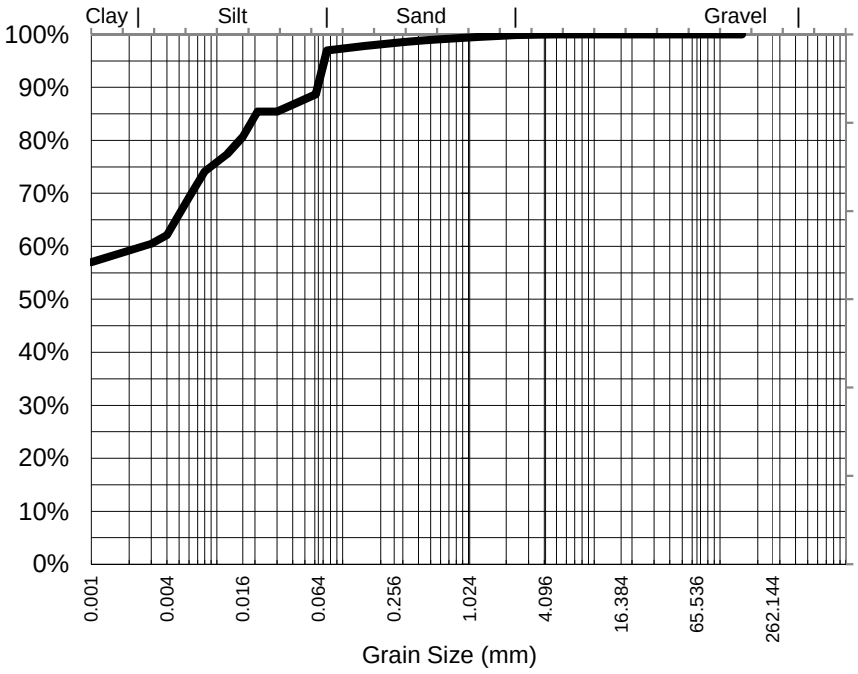
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	9-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503685-028 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BE16 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	100%
1.18	99%
0.600	99%
0.425	99%
0.300	99%
0.150	98%
0.075	97%
Particle Size (microns)	
61	89%
43	87%
30	85%
16	81%
8	74%
4	62%
1	57%

Median Particle Size (mm)*	<0.001

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.72 g/cm3

Analysed: 4-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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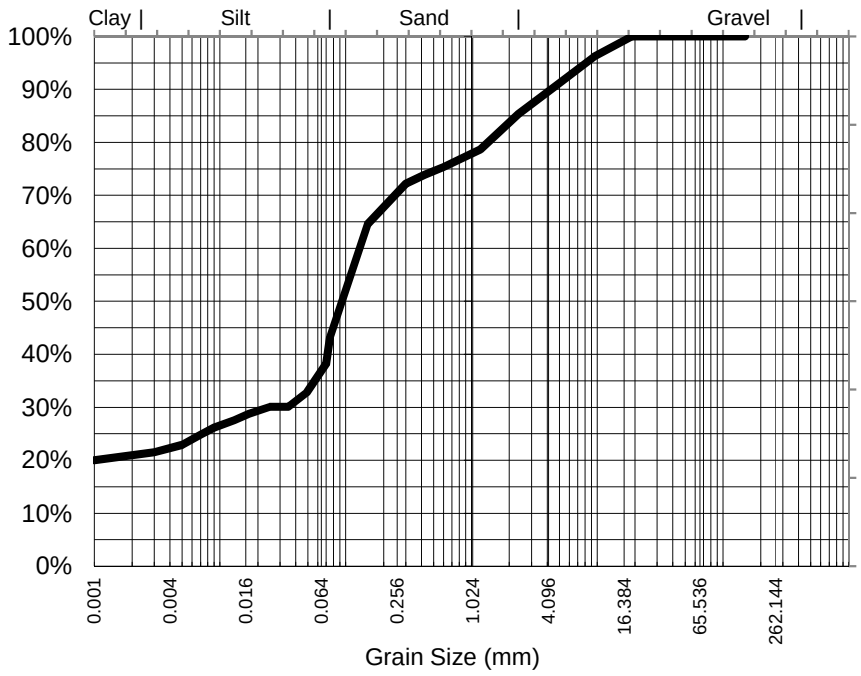
CLIENT:	Sally Leyland	**DATE REPORTED:**	9-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503685-033 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BE17 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	96%
4.75	91%
2.36	85%
1.18	79%
0.600	75%
0.425	74%
0.300	72%
0.150	65%
0.075	43%
Particle Size (microns)	
70	38%
49	33%
35	30%
17	29%
9	26%
5	23%
1	20%

Samples analysed as received.

Median Particle Size (mm)*	0.099

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.75 g/cm3

Analysed: 4-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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Dianne Blane
Laboratory Co-ordinator, Newcastle
Authorised Signatory

Certificate of Analysis

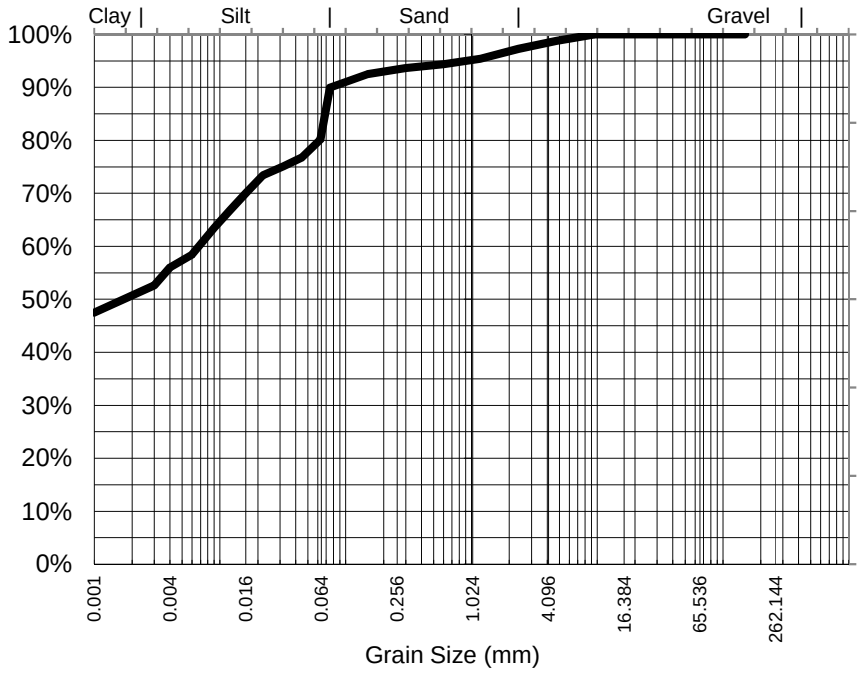
ALS Laboratory Group Pty Ltd
5/585 Maitland Road
Mayfield West, NSW 2304
pH 02 4014 2500
fax 02 4968 0349
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	9-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503685-034 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BE17 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	99%
2.36	97%
1.18	95%
0.600	94%
0.425	94%
0.300	94%
0.150	93%
0.075	90%
Particle Size (microns)	
63	80%
45	77%
32	75%
16	70%
9	63%
4	56%
1	47%

Samples analysed as received.

Median Particle Size (mm)*	0.002

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.75 g/cm3

Analysed: 4-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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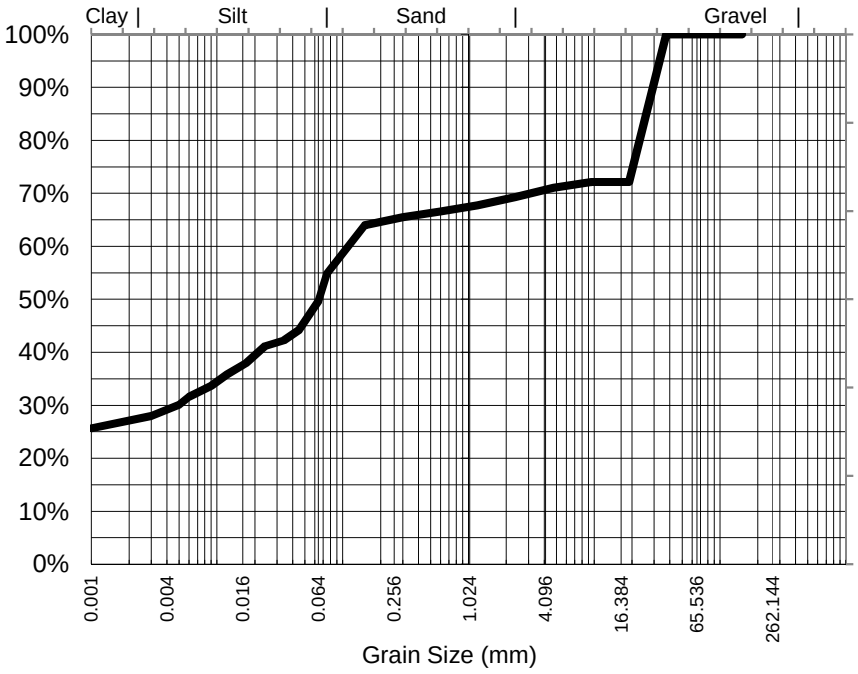
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	9-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503685-039 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BE18 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
37.5	100%
19.0	72%
9.50	72%
4.75	71%
2.36	69%
1.18	68%
0.600	67%
0.425	66%
0.300	66%
0.150	64%
0.075	55%
Particle Size (microns)	
64	50%
45	44%
34	42%
17	38%
9	34%
5	30%
1	26%

Median Particle Size (mm)*	0.065

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.74 g/cm3

Analysed: 4-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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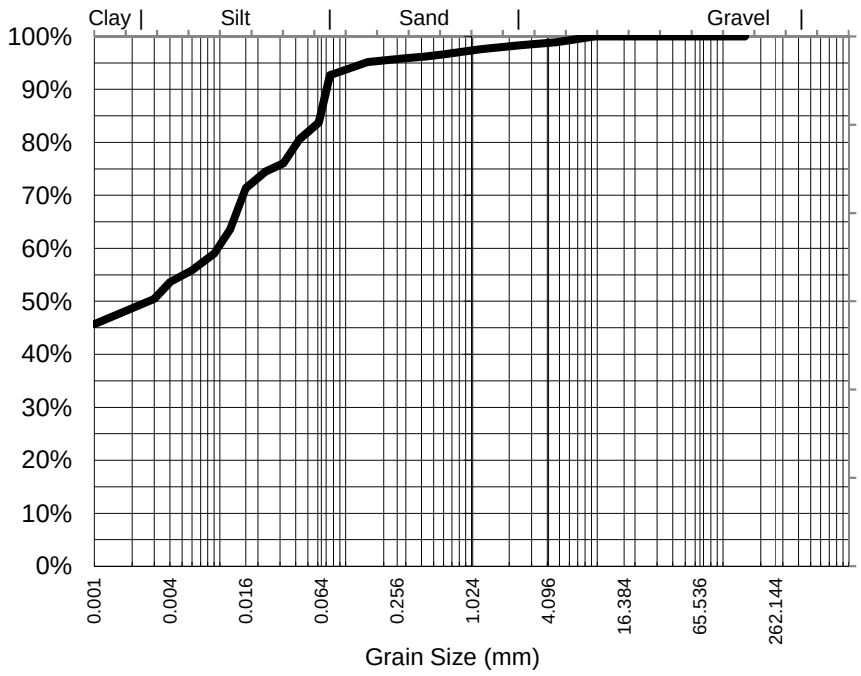
Mayfield West, NSW 2304
pH 02 4014 2500
fax 02 4968 0349
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	9-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	17-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503685-040 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BE18 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	99%
2.36	98%
1.18	98%
0.600	97%
0.425	96%
0.300	96%
0.150	95%
0.075	93%
Particle Size (microns)	
61	84%
43	81%
32	76%
16	71%
9	59%
4	54%
1	46%

Samples analysed as received.

Median Particle Size (mm)*	0.003

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.74 g/cm3

Analysed: 4-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

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Laboratory Co-ordinator, Newcastle
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Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice blicks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		16 February 2015	16 February 2015 1830

RELINQUISHED BY:	RECEIVED BY:
Kschafer	Steven
DATE/TIME: 17-2-15 1600	DATE/TIME: 18/2/15 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		
1	BH37 0.0-0.32 A	16/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1		1						Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
2	BH37 0.0-0.32 B	16/02/2015	S	Bag (White label)	1		1							
				TOTAL	3	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

150ml Jars and 500ml Amber sent direct to Brisbane for TOC/TBT

Environmental Division
Sydney
Work Order
ES1503806



Telephone : +61-2-8784 8555

ALS Environmental

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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present Upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		16 February 2015	16 February 2015 1830

RELINQUISHED BY:	RECEIVED BY:
KSchafer	Glenn
DATE/TIME: 17/2-15 1600	DATE/TIME: 18/2/15 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
3	BH38 0.0-0.5 A	16/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
4	BH38 0.5-1.0 A	16/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
5	BH38 0.0-0.5 B	16/02/2015	S	Bag (White label)	1		1							
6	BH38 0.5-1.0 B	16/02/2015	S	Bag (White label)	1		1							
7	BH38 0.3V	16/02/2015	S	Glass Jar (150 ml)	1			1						
8	BH38 0.7V	16/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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☐TOWNSVILLE 14-15 Desma Court BOHLE QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS: ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comments:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		16 February 2015	16 February 2015 1830

RELINQUISHED BY:	RECEIVED BY:
K Schafer	Steven
DATE/TIME:	DATE/TIME:
17-2-15 1600	18/2/15 9:00

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
9	PC10 0.0-0.5A	16/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
10	PC10 0.5-1.0A	16/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
11	PC10 0.0-0.5B	16/02/2015	S	Bag (White label)	1		1							
12	PC10 0.5-1.0B	16/02/2015	S	Bag (White label)	1		1							
13	PC10 0.3V	16/02/2015	S	Glass Jar (150 ml)	1			1						
14	PC10 0.7V	16/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	6	1	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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ALS Laboratory: please tick →

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comments:	
SAMPLER: Georgina Kerr SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO) EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*	A Schafer	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com	DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com	16 February 2015	16 February 2015 1830	17-2-15 1600	18/2/15 900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	Rinsate Suite	Trip blank suite	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
15	Triplicate 10A	16/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
16	Triplicate 10B	16/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
17	Triplicate 11A	16/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
18	Triplicate 11B	16/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
19	Trip Blank 13	16/02/2015	S	Pre-filled glass jar	1								1	
20	Rinsate 12	16/02/2015	w	Bottle	8							1		
				TOTAL	13	2						1	1	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 07 7471 7310 E: samples.brisbane@alsglobal.com
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Ph: 07 7471 5600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 8372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4965 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/12 Geary Place North Nowra NSW 2541
Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr DATE/TIME: 16 February 2015	RECEIVED BY: Kelly Schafer DATE/TIME: 16 February 2015 1830
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):		RELINQUISHED BY: DATE/TIME: 17.2.15 1600
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			RECEIVED BY: DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	BH37 0.0-0.32 A	16/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1		1						
2	BH37 0.0-0.32 B	16/02/2015	S	Bag (White label)	1		1							
				TOTAL	3	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

150ml Jars and 500ml Amber sent direct to Brisbane for TOC/TBT

Environmental Division Sydney

Work Order

ES1503806

Telephone : +61-2-8784 8555

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Ph: 08 8359 0890 E: adelaide@auslglobal.com
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GLADSTONE 36 Callemondah Drive Clinton QLD 4680
Ph: 07 7471 5600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
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NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 16 February 2015	DATE/TIME: 16 February 2015 1830
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY:	RECEIVED BY:
			DATE/TIME: 17-2-15 1600

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
3	BH38 0.0-0.5 A	16/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
4	BH38 0.5-1.0 A	16/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
5	BH38 0.0-0.5 B	16/02/2015	S	Bag (White label)	1		1							
6	BH38 0.5-1.0 B	16/02/2015	S	Bag (White label)	1		1							
7	BH38 0.3V	16/02/2015	S	Glass Jar (150 ml)	1			1						
8	BH38 0.7V	16/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

☐ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0390 E: adelaide@alsglobal.com
☐BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
☐GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
☐MACKAY 75 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
☐MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
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☐PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
☐SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
☐TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: ponkamnia@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) **Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround		Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comment:

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*	K Schafer	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		16 February 2015	16 February 2015 1830	17-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
9	PC10 0.0-0.5A	16/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
10	PC10 0.5-1.0A	16/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
11	PC10 0.0-0.5B	16/02/2015	S	Bag (White label)	1		1							
12	PC10 0.5-1.0B	16/02/2015	S	Bag (White label)	1		1							
13	PC10 0.3V	16/02/2015	S	Glass Jar (150 ml)	1			1						
14	PC10 0.7V	16/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	6	1	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) **Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 245553		Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	Other comment:	
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

COC SEQUENCE NUMBER (Circle)

COC: 1 2 3 4 5 6 7

OF: 1 2 3 4 5 6 7

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	K Schafer	
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
16 February 2015	16 February 2015 1830	17-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	Rinsate Suite	Trip blank suite	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
15	Triplicate 10A	16/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
16	Triplicate 10B	16/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
17	Triplicate 11A	16/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
18	Triplicate 11B	16/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
19	Trip Blank 13	16/02/2015	S	Pre-filled glass jar	1								1	
20	Rinsate 12	16/02/2015	w	Bottle	8							1		
				TOTAL	13	2						1	1	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Certificate of Analysis

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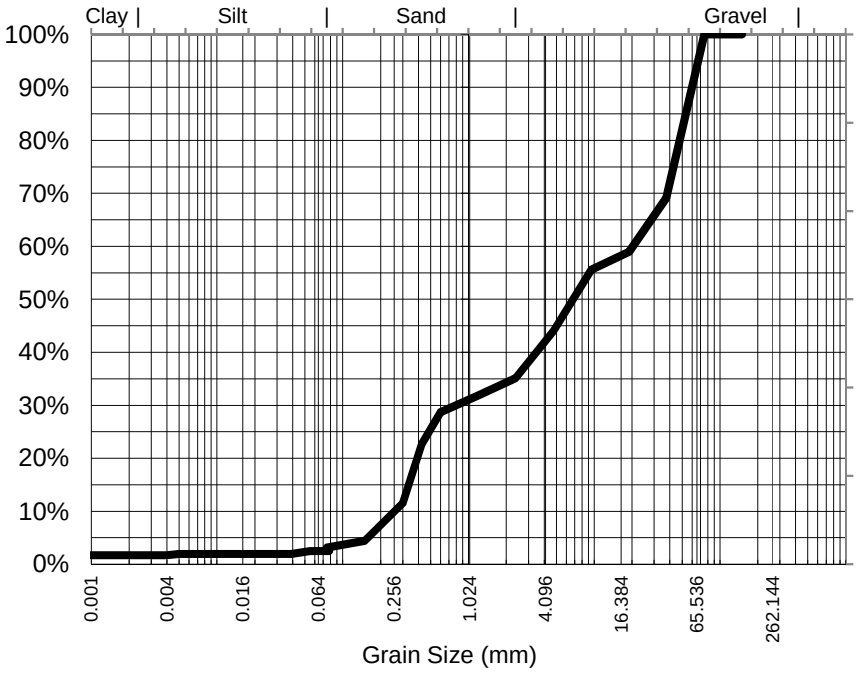
Mayfield West, NSW 2304
pH 02 4014 2500
fax 02 4968 0349
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	6-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	18-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503806-002 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH37 0.0-0.32B

Particle Size Distribution



Particle Size (mm)	Percent Passing
75	100%
37.5	69%
19.0	59%
9.50	56%
4.75	44%
2.36	35%
1.18	32%
0.600	29%
0.425	23%
0.300	12%
0.150	4%
0.075	3%
Particle Size (microns)	
78	2%
55	2%
39	2%
20	2%
10	2%
5	2%
1	2%

Median Particle Size (mm)*	7.197

Samples analysed as received.

** Soil Particle Density required for Hydrometer analysis according to AS 1289.3.5.1—2006 was unable to be performed as insufficient sample was supplied by the client . Typical sediment SPD values used for calculations and consequently, NATA endorsement does not apply to hydrometer ..*

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	3-Mar-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, FINES, GRAVEL, SHELL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) g/cm3

NATA Accreditation: 825 Site: Newcastle
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Dianne Blane
Laboratory Co-ordinator, Newcastle
Authorised Signatory

Certificate of Analysis

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Mayfield West, NSW 2304
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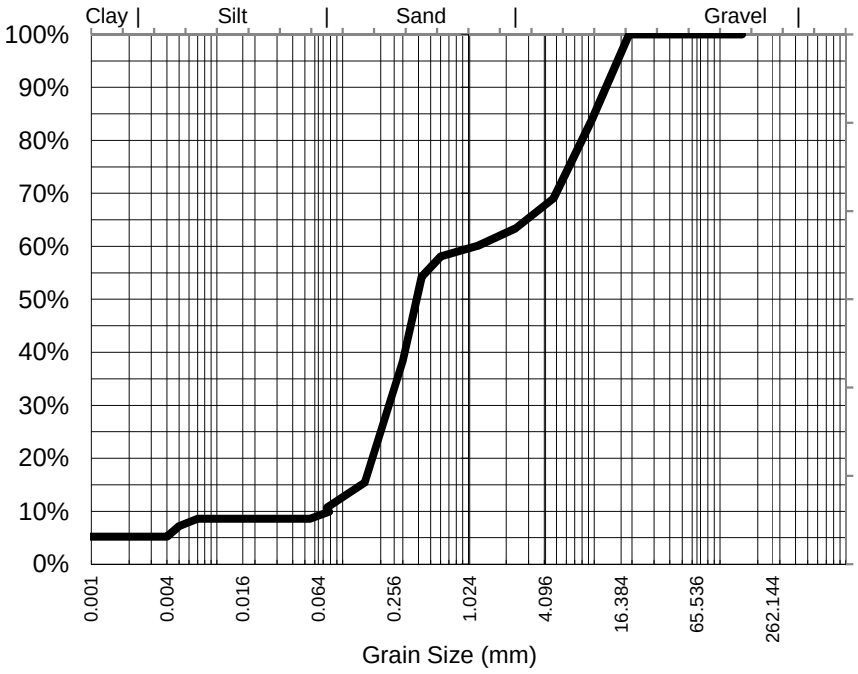
fax 02 4968 0349
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	6-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	18-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503806-005 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH38 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	84%
4.75	69%
2.36	63%
1.18	60%
0.600	58%
0.425	54%
0.300	38%
0.150	15%
0.075	11%
Particle Size (microns)	
78	10%
55	9%
39	9%
20	9%
10	9%
5	7%
1	5%

Samples analysed as received.

Median Particle Size (mm)*	0.391

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SAND, CLAY, GRAVEL, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.68 g/cm3

Analysed: 3-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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Dianne Blane
Laboratory Co-ordinator, Newcastle
Authorised Signatory

Certificate of Analysis

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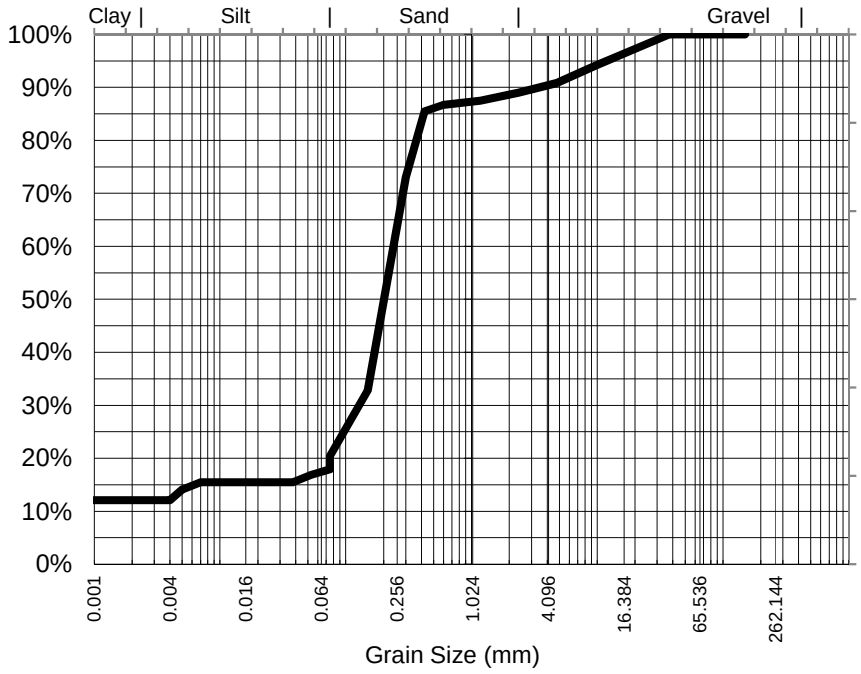
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	6-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	18-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503806-006 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH38 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
37.5	100%
19.0	97%
9.50	94%
4.75	91%
2.36	89%
1.18	88%
0.600	87%
0.425	85%
0.300	73%
0.150	33%
0.075	20%
Particle Size (microns)	
75	18%
53	17%
38	15%
19	15%
10	15%
5	14%
1	12%

Samples analysed as received.

Median Particle Size (mm)*	0.214

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SAND, SILT, GRAVEL, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.68 g/cm3

Analysed: 3-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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Dianne Blane
Laboratory Co-ordinator, Newcastle
Authorised Signatory

Certificate of Analysis

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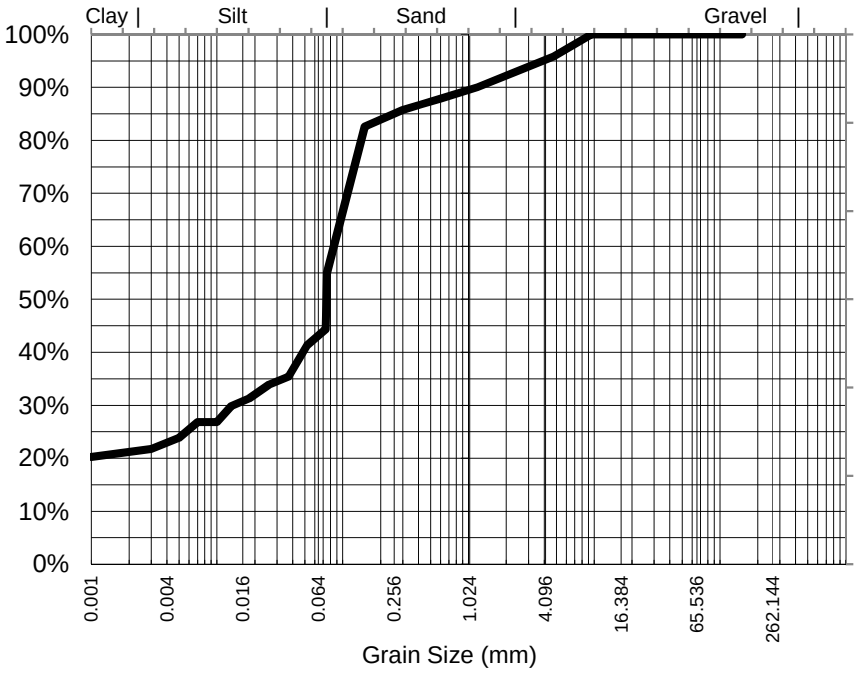
Mayfield West, NSW 2304
pH 02 4014 2500
fax 02 4968 0349
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	6-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	18-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503806-011 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	PC10 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	96%
2.36	93%
1.18	90%
0.600	88%
0.425	87%
0.300	86%
0.150	83%
0.075	55%
Particle Size (microns)	
73	44%
52	41%
37	35%
18	31%
10	27%
5	24%
1	20%

Median Particle Size (mm)*	0.074

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 3-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: SAND, SILT, SHELL

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.6 g/cm3

NATA Accreditation: 825 Site: Newcastle
This document is issued in accordance with NATA's accreditation requirements. Accredited for compliance with ISO/IEC 17025. This document shall not be reproduced, except in full.

Dianne Blane
Laboratory Co-ordinator, Newcastle
Authorised Signatory

Certificate of Analysis

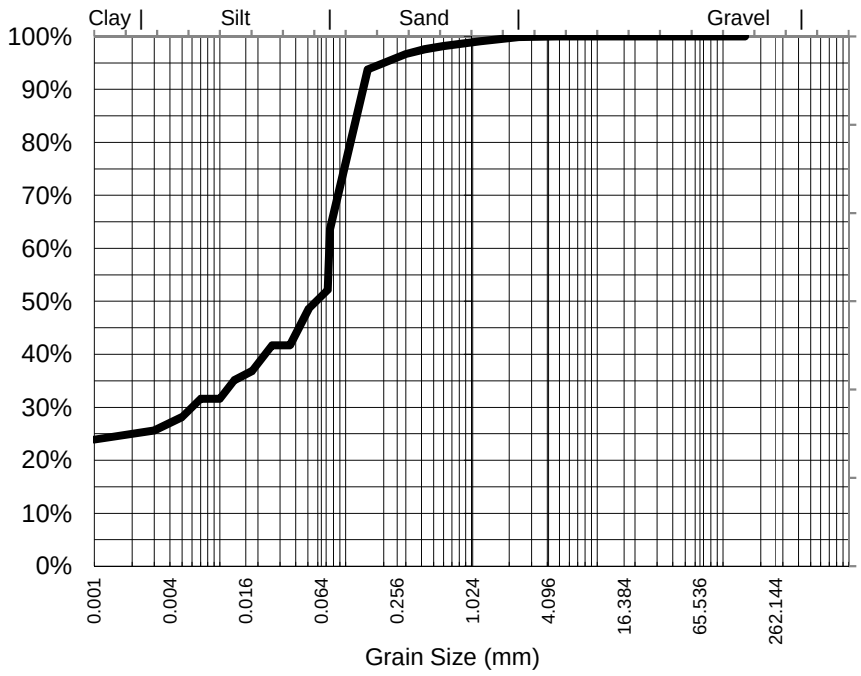
ALS Laboratory Group Pty Ltd
5/585 Maitland Road
Mayfield West, NSW 2304
pH 02 4014 2500
fax 02 4968 0349
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	6-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	18-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503806-012 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	PC10 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	100%
1.18	99%
0.600	98%
0.425	98%
0.300	97%
0.150	94%
0.075	64%
Particle Size (microns)	
72	52%
51	49%
36	42%
18	37%
10	32%
5	28%
1	24%

Median Particle Size (mm)*	0.059

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 3-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: SAND, SILT, SHELL

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.65 g/cm3

NATA Accreditation: 825 Site: Newcastle
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Dianne Blane
Laboratory Co-ordinator, Newcastle
Authorised Signatory

Subcon / Forward Lab / Split WO
Lab / Analysis: Newcastle / PSD
Organised By / Date:
Relinquished By / Date:
Courier:
WO No:
Attach By PO / Internal Sheet:

CHAIN OF CUSTODY

ALS Environmental

ALS Laboratory: please tick →

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SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes No N/A
ORDER NUMBER: 245553		Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	Other comments:	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

COC SEQUENCE NUMBER (Circle)
COC: (1) 2 3 4 5 6 7
OF: 1 2 3 4 (5) 6 7

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	*K Schafer*	*David*
DATE/TIME: 17 February 2015	DATE/TIME: 17 February 2015 1500	DATE/TIME: 18-2-15 1600	DATE/TIME: 19/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	BH12 0.0-0.5A	17/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
2	BH12 0.5-1.0A	17/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
3	BH12 0.0-0.5B	17/02/2015	S	Bag (White label)	1		1							
4	BH12 0.5-1.0B	17/02/2015	S	Bag (White label)	1		1							
5	BH12 0.3V	17/02/2015	S	Glass Jar (150 ml)	1			1						
6	BH12 0.7V	17/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	6	1	2	2						

150ml Jars sent direct to Brisbane for TOC/TBT

Environmental Division Sydney
Work Order
ES1503916

Telephone : +61-2-8784 8555

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric P
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free Ice / frozen Ice Bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 (2) 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 (5) 6 7	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		17 February 2015	17 February 2015 1500

RELINQUISHED BY:	RECEIVED BY:
KSchafer	Da..J
DATE/TIME: 18.2.15 1600	DATE/TIME: 19/2 0400

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS (MATRIX: SOLID (S) WATER (W))			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
7	BH16 0.0-0.4A	17/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
8	BH16 0.0-0.4B	17/02/2015	S	Bag (White label)	1		1							
9	BH16 0.3V	17/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Environmental

ALS Laboratory: please tick →

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 (3) 4 5 6 7	Random Sample Temperature on Receipt	°C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006 DF: 1 2 3 4 (5) 6 7	Other comments:	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.teyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.teyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	Kelly Schafer	Schafer	David
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
17 February 2015	17 February 2015 1500	18-2-15 1600	19/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
10	BH18 0.0-0.5A	17/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
11	BH18 0.5-1.0A	17/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
12	BH18 1.0-1.35A	17/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
13	BH18 0.0-0.5B	17/02/2015	S	Bag (White label)	1		1							
14	BH18 0.5-1.0B	17/02/2015	S	Bag (White label)	1		1							
15	BH18 0.3V	17/02/2015	S	Glass Jar (150 ml)	1			1						
16	BH18 0.7V	17/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	*KSchafer*	*Dan*
DATE/TIME: 17 February 2015	DATE/TIME: 17 February 2015 1500	DATE/TIME: 18-2-15 1600	DATE/TIME: 19/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH				Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
17	BH19 0.0-0.4A	17/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
18	BH19 0.0-0.4B	17/02/2015	S	Bag (White label)	1		1								
19	BH19 0.3V	17/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	4	1	1	1							

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CHAIN OF CUSTODY

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OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006 OF: 1 2 3 4 5 6 7	Other comment:	
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Georgina Kerr	*Kelly Schafer*	KSchafer	Dan
DATE/TIME: 17 February 2015	DATE/TIME: 17 February 2015 1500	DATE/TIME: 18-2-15 1600	DATE/TIME: 19/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB, Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	Rinsate Suite	Trip blank suite	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
20	Trip Blank 13	17/02/2015	S	Pre-filled glass jar	1								1	
				TOTAL	1								1	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Certificate of Analysis

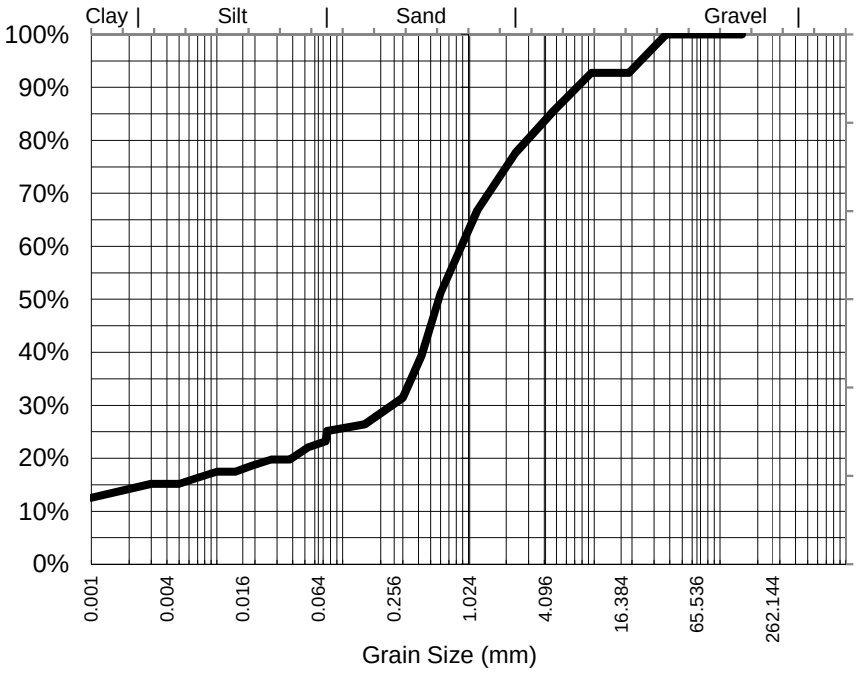
ALS Laboratory Group Pty Ltd
5/585 Maitland Road
Mayfield West, NSW 2304
pH 02 4014 2500
fax 02 4968 0349
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	6-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	19-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503916-003 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH12 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
37.5	100%
19.0	93%
9.50	93%
4.75	86%
2.36	78%
1.18	67%
0.600	51%
0.425	39%
0.300	31%
0.150	26%
0.075	25%
Particle Size (microns)	
73	23%
53	22%
38	20%
19	19%
10	17%
5	15%
1	13%

Samples analysed as received.

Median Particle Size (mm)*	0.582

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY, SAND, GRAVEL, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.65 g/cm3

Analysed: 3-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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Dianne Blane
Laboratory Co-ordinator, Newcastle
Authorised Signatory

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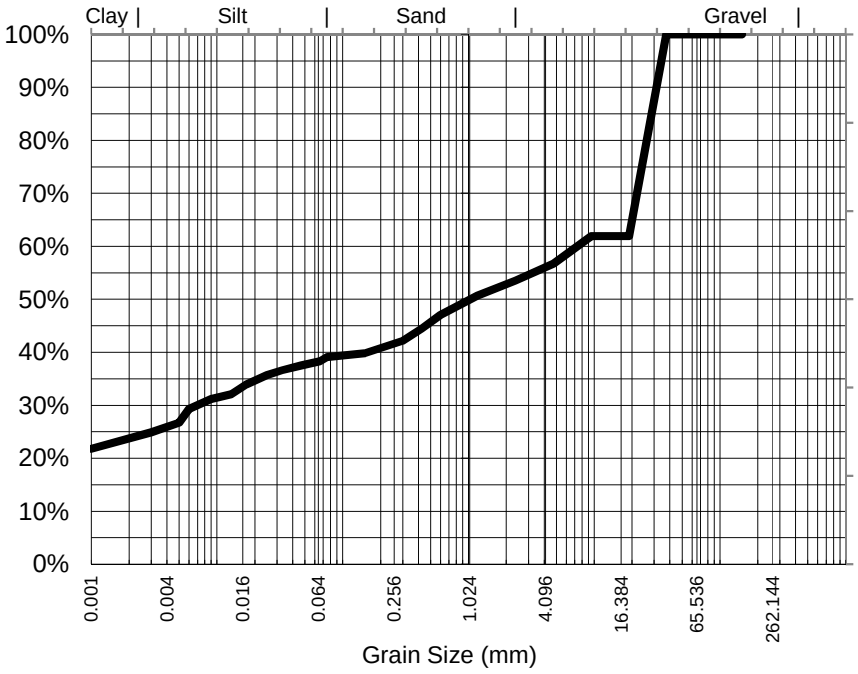
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	6-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	19-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503916-004 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH12 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
37.5	100%
19.0	62%
9.50	62%
4.75	57%
2.36	54%
1.18	51%
0.600	47%
0.425	44%
0.300	42%
0.150	40%
0.075	39%
Particle Size (microns)	
66	38%
47	38%
33	37%
17	34%
9	31%
5	27%
1	22%

Median Particle Size (mm)*	1.069

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 3-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: CLAY, SAND, GRAVEL, SHELL

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.67 g/cm3

NATA Accreditation: 825 Site: Newcastle
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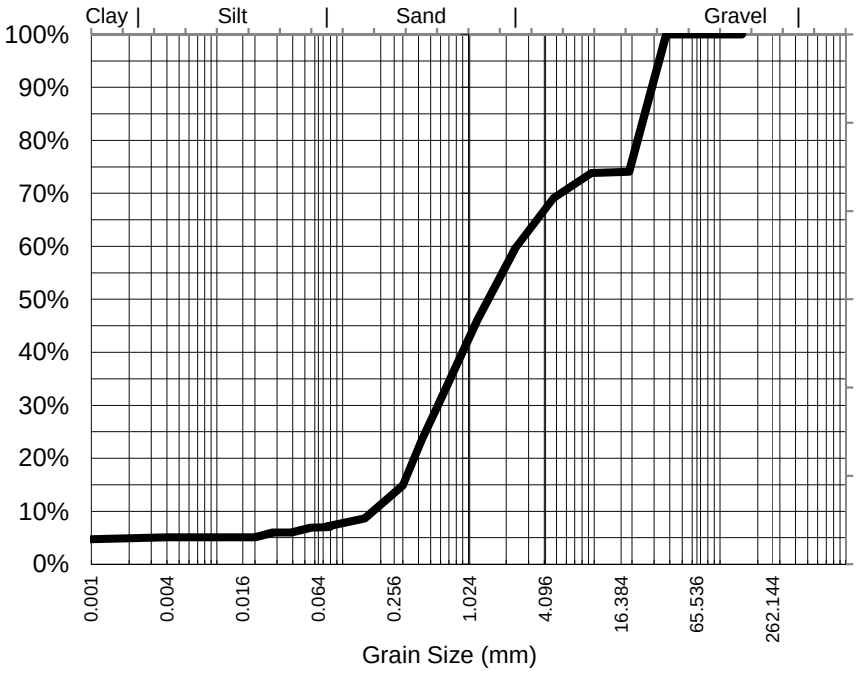
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	6-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	19-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503916-008 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH16 0.0-0.4B

Particle Size Distribution



Particle Size (mm)	Percent Passing
37.5	100%
19.0	74%
9.50	74%
4.75	69%
2.36	60%
1.18	46%
0.600	31%
0.425	23%
0.300	15%
0.150	9%
0.075	7%
Particle Size (microns)	
79	7%
56	7%
39	6%
20	5%
10	5%
5	5%
1	5%

Samples analysed as received.

Median Particle Size (mm)*	1.517

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	3-Mar-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, FINES, GRAVEL, SHELL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.65 g/cm3

NATA Accreditation: 825 Site: Newcastle
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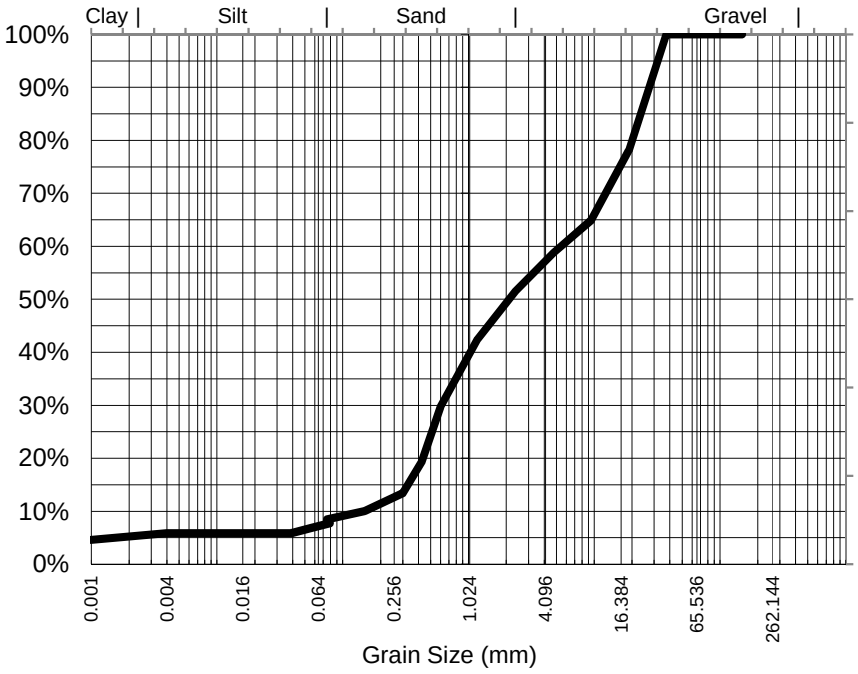
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	6-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	19-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503916-013 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH18 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
37.5	100%
19.0	78%
9.50	65%
4.75	59%
2.36	52%
1.18	42%
0.600	30%
0.425	19%
0.300	13%
0.150	10%
0.075	8%
Particle Size (microns)	
79	8%
56	7%
39	6%
20	6%
10	6%
5	6%
1	5%

Samples analysed as received.

Median Particle Size (mm)*	2.163

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	3-Mar-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, FINES, GRAVEL, SHELL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.67 g/cm3

NATA Accreditation: 825 Site: Newcastle
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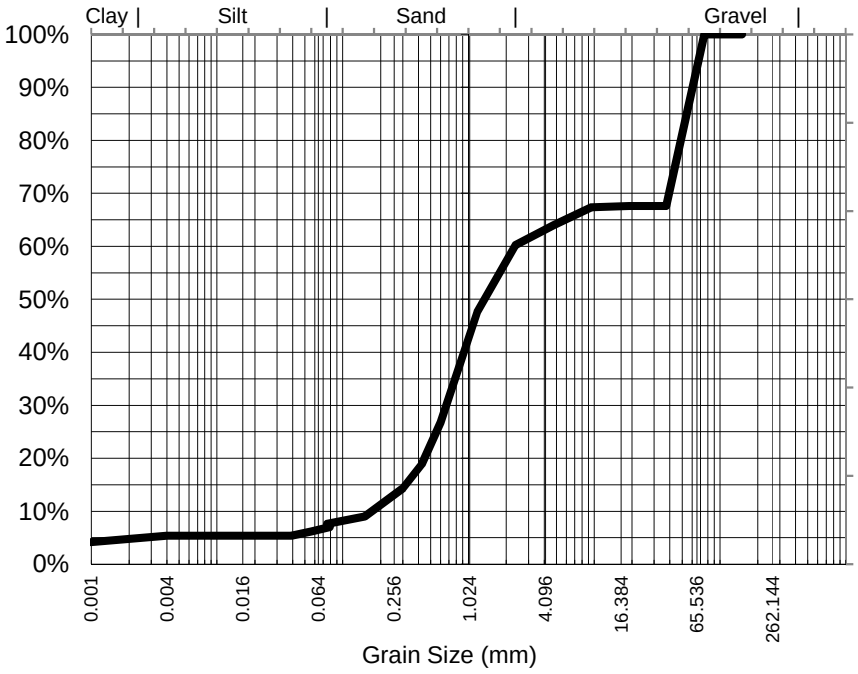
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	6-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	19-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503916-014 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH18 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
75	100%
37.5	68%
19.0	68%
9.50	67%
4.75	64%
2.36	60%
1.18	48%
0.600	27%
0.425	19%
0.300	14%
0.150	9%
0.075	8%
Particle Size (microns)	
79	7%
56	6%
39	5%
20	5%
10	5%
5	5%
1	4%

Samples analysed as received.

Median Particle Size (mm)*	1.399

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	3-Mar-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, FINES, GRAVEL, SHELL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.65 g/cm3

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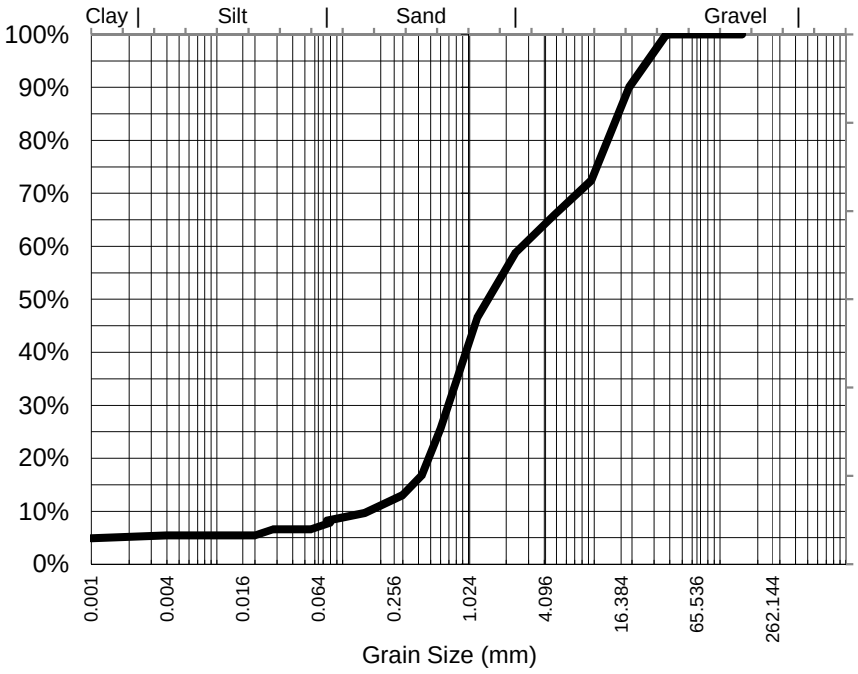
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	6-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	19-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1503916-018 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	BH19 0.0-0.4B

Particle Size Distribution



Particle Size (mm)	Percent Passing
37.5	100%
19.0	90%
9.50	72%
4.75	66%
2.36	59%
1.18	47%
0.600	26%
0.425	17%
0.300	13%
0.150	10%
0.075	8%
Particle Size (microns)	
79	8%
56	7%
39	7%
20	5%
10	5%
5	5%
1	5%

Samples analysed as received.

Median Particle Size (mm)*	1.511

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	3-Mar-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, FINES, GRAVEL, SHELL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.65 g/cm3

NATA Accreditation: 825 Site: Newcastle
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Dianne Blane
Laboratory Co-ordinator, Newcastle
Authorised Signatory

ALS Environmental

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GLADSTONE 46 Callemondah Drive Clinton QLD 4680
Ph: 07 7471 5600 E: gladstone@alsglobal.com
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Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 3-4 Westall Road Springvale VIC 3171
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MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 8735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 02 4422 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle): Custody Seal Intact? Yes / No / N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: (1) 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 (14)	Other comments:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 22-Feb-15	DATE/TIME: 22-Feb-15 1845
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: KSchafer	RECEIVED BY: Dan
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 23.2.15 1600	DATE/TIME: 24/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	EB8 0.0-0.5 A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
2	EB8 0.5-1.0 A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
3	EB8 0.0-0.5 B	22/02/2015	S	Bag (White label)	1		1							
4	EB8 0.5-1.0 B	22/02/2015	S	Bag (White label)	1		1							
5	EB8 0.3V	22/02/2015	S	Glass Jar (150 ml)	1			1						
6	EB8 0.7V	22/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	7	2	2	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

150ml A Jars and 500ml Amber sent direct to Brisbane for TOC/TBT

Subcon / Forward Lab / Split WO
Lab / Analysis: Newcastle / PSD
Organised By / Date:
Relinquished By / Date:
Connote / Courier:
WO No:
Attach By PO / Internal Sheet:

Environmental Division Sydney

Work Order

ES1504301

Telephone : +61-2-8784 8555

ALS Environmental

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Ph: 07 7471 5600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171
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Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
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Ph: 02 4968 0439 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle): Custody Seal Intact? Yes No N/A; Free ice / frozen ice bricks present upon receipt? Yes No N/A; Random Sample Temperature on Receipt: °C; Other comment:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 (2) 3 4 5 6 7	
ORDER NUMBER: 245563		OF: 1 2 3 4 5 6 (14)	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: *Georgina Kerr*	RECEIVED BY: *Kelly Schafer*	RELINQUISHED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 22-Feb-15	DATE/TIME: 22-Feb-15 1845	DATE/TIME: 23.2.15 1600
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com				
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com				

RECEIVED BY: Paul	
DATE/TIME: 24/2 0900	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH				Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
7	EB10 0.0-0.5 A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
8	EB10 0.5-1.0 A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
9	EB10 0.0-0.5 B	22/02/2015	S	Bag (White label)	1		1								
10	EB10 0.5-1.0 B	22/02/2015	S	Bag (White label)	1		1								
11	EB10 0.3V	22/02/2015	S	Glass Jar (150 ml)	1			1							
12	EB10 0.7V	22/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	8	2	2	2							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Environmental

ALS Laboratory: please tick →

☐ADELAIDE 21 Burma Road Pooraka SA 5095 Ph 08 8359 0890 E adelaide@alsglobal.com
☐BRISBANE 32 Shand Street Stafford QLD 4053 Ph 07 3243 7222 E samples.brisbane@alsglobal.com
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☐MACKAY 78 Harbour Road Mackay QLD 4740 Ph 07 4944 0177 E mackay@alsglobal.com
☐MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph 03 8549 9600 E samples.melbourne@alsglobal.com
☐MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph 02 6372 6735 E mudgee.mail@alsglobal.com
☐NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph 02 4968 9433 E samples.newcastle@alsglobal.com
☐NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph 024423 2063 E nowra@alsglobal.com
☐PERTH 10 Hod Way Malaga WA 6090 Ph 08 9209 7655 E samples.perth@alsglobal.com
☐SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph 02 8784 8555 E samples.sydney@alsglobal.com
☐TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph 07 4796 0600 E townsville.environmental@alsglobal.com
☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph 02 4225 3125 E portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle):**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround		Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 (3) 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Other comments:

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		22-Feb-15	22-Feb-15 1845	23.2.15 1600

RECEIVED BY:	**DATE/TIME:**
Dan	24/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
13	EB13 0.0-0.7A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
14	EB13 0.0-0.7B	22/02/2015	S	Bag (White label)	1		1							
15	EB13 0.3V	22/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	2		1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobe.com

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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		22-Feb-15	22-Feb-15 1845

RELINQUISHED BY:	RECEIVED BY:
KS	Dan
DATE/TIME: 23-2-15 1600	DATE/TIME: 24/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP068-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
16	EB18 0.0-0.5A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
17	EB18 0.5-0.85A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
18	EB18 0.0-0.5B	22/02/2015	S	Bag (White label)	1		1							
19	EB18 0.5-0.85B	22/02/2015	S	Bag (White label)	1		1							
20	EB18 0.3V	22/02/2015	S	Glass Jar (150 ml)	1			1						
21	EB18 0.7V	22/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 22-Feb-15	DATE/TIME: 22-Feb-15 1815
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 23.2.15 1600	DATE/TIME: 24/2 0905

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
22	EB19 0.0-0.5 A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
23	EB19 0.5-0.8 A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
24	EB19 0.0-0.5 B	22/02/2015	S	Bag (White label)	1		1								
25	EB19 0.5-0.8 B	22/02/2015	S	Bag (White label)	1		1								
26	EB19 0.3V	22/02/2015	S	Glass Jar (150 ml)	1			1							
27	EB19 0.7V	22/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	7	2	2	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245563		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 8	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		22-Feb-15	22-Feb-15 1845

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME:	DATE/TIME:
23.2.15 1600	24/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
28	EB20 0.0-0.6 A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
29	EB20 0.0-0.6 B	22/02/2015	S	Bag (White label)	1		1							
30	EB20 0.3V	22/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes / No / N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 7A	Other comments:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 22-Feb-15	DATE/TIME: 22-Feb-15 1845
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY:	RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 23.2.15 1600	DATE/TIME: 24/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
31	EB21 0.0-0.5 A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
32	EB21 0.5-1.0 A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
33	EB21 0.0-0.5 B	22/02/2015	S	Bag (White label)	1		1							
34	EB21 0.5-1.0 B	22/02/2015	S	Bag (White label)	1		1							
35	EB21 0.3V	22/02/2015	S	Glass Jar (150 ml)	1			1						
36	EB21 0.7V	22/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	8	2	2	2						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice blocks present upon receipt? Yes / No / N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (36) OF: 1 2 3 4 5 6 (A)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*		Dan
DATE/TIME: 22-Feb-15	DATE/TIME: 22-Feb-15 1845	DATE/TIME: 23.2.15 1600	DATE/TIME: 24/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
37	EB23 0.0-0.5 A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
38	EB23 0.5-~~1.0~~ 0.7 A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
39	EB23 0.0-0.5 B	22/02/2015	S	Bag (White label)	1		1								
40	EB23 0.5-1.0 B	22/02/2015	S	Bag (White label)	1		1								
41	EB23 0.3V	22/02/2015	S	Glass Jar (150 ml)	1			1							
42	EB23 0.7V	22/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	7	2	2	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

received as EB23 0.5-0.7 B

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NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes / No / N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6	Random Sample Temperature on Receipt: °C
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6	Other comment:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 22-Feb-15	DATE/TIME: 22-Feb-15 1845
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: KS	RECEIVED BY: Dan
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 23.2.15 1600	DATE/TIME: 24/2 am

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
43	EB24 0.0-0.5 A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
44	EB24 0.5-1.0 A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1									
45	EB24 0.0-0.5 B	22/02/2015	S	Bag (White label)	1		1								
46	EB24 0.5-1.0 B	22/02/2015	S	Bag (White label)	1		1								
47	EB24 0.3V	22/02/2015	S	Glass Jar (150 ml)	1			1							
48	EB24 0.7V	22/02/2015	S	Glass Jar (150 ml)	1			1							
				TOTAL	7	2	2	1							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
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NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 024423 2063 E: nowra@als.global.com
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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 246563	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (10)	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Other comment:	

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer		Dan
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		22-Feb-15	22-Feb-15 1805	23.2.15 1600	24/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
49	EB25 0.0-0.6 A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
50	EB25 0.0-0.6 B	22/02/2015	S	Bag (White label)	1		1							
51	EB25 0.3V	22/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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PERTH 10 Hod Way Malaga WA 6090
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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (11)	Random Sample Temperature on Receipt: C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (4)	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		22-Feb-15	22-Feb-15 1845

RELINQUISHED BY:	RECEIVED BY:
KS	Dan
DATE/TIME: 23-2-15 1600	DATE/TIME: 24/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION	ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
52	EB29 0.0-0.5 A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
53	EB29 0.0-0.5 B	22/02/2015	S	Bag (White label)	1		1							
54	EB29 0.3V	22/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	4	1	1	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date):	5 day turnaround
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (12) OF: 1 2 3 4 5 6 (14)	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A; Free ice / frozen ice bricks present upon receipt? Yes No N/A; Random Sample Temperature on Receipt: °C; Other comment:
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 22-Feb-15	DATE/TIME: 22-Feb-15 1845
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: KS	RECEIVED BY: Paul
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 23.2.15 1600	DATE/TIME: 24/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC , Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
55	EB30 0.0-0.5 A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
56	EB30 0.5-0.8 A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
57	EB30 0.0-0.5 B	22/02/2015	S	Bag (White label)	1		1							
58	EB30 0.5-0.8 B	22/02/2015	S	Bag (White label)	1		1							
59	EB30 0.3V	22/02/2015	S	Glass Jar (150 ml)	1			1						
60	EB30 0.7V	22/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	7	2	2	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (13)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 22-Feb-15	DATE/TIME: 22-Feb-15 1895
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: XS	RECEIVED BY: Dan
		DATE/TIME: 23-2-15 1600	DATE/TIME: 24/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	TOC, Metals, Pesticides/Herbicides		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
61	EB35 0.0-0.5 A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
62	EB35 0.5-1.0 A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
63	EB35 0.0-0.5 B	22/02/2015	S	Bag (White label)	1		1							
64	EB35 0.5-1.0 B	22/02/2015	S	Bag (White label)	1		1							
65	EB35 0.3V	22/02/2015	S	Glass Jar (150 ml)	1			1						
66	EB35 0.7V	22/02/2015	S	Glass Jar (150 ml)	1			1						
				TOTAL	7	2	2	1						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; CRC = Nitric Preserved CRC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

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ALS Laboratory: please tick →

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☐GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph 07 7471 5600 E gladstone@alsglobal.com
☐MACKAY 78 Harbour Road Mackay QLD 4740 Ph 07 4944 0177 E mackay@alsglobal.com
☐MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph 03 8549 9600 E samples.melbourne@alsglobal.com
☐MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph 02 6372 6735 E mudgee.mail@alsglobal.com
☐NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph 02 4968 9433 E samples.newcastle@alsglobal.com
☐NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph 024423 2063 E nowra@alsglobal.com
☐PERTH 10 Hod Way Malaga WA 6090 Ph 08 9209 7655 E samples.perth@alsglobal.com
☐SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph 02 8784 8555 E samples.sydney@alsglobal.com
☐TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph 07 4796 0600 E townsville.environmental@alsglobal.com
☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph 02 4225 3125 E portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free Ice / Frozen Ice Bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6	Random Sample Temperature on Receipt °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 22-Feb-15	DATE/TIME: 22-Feb-15 1845
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY:	RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 23.2.15 1600	DATE/TIME: 24/2 0900

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	Rinsate Suite	Trip blank suite	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
67	Triplicate 12A	22/02/2015	S	Glass Jar (250 ml)	2	1								
68	Duplicate 5A	22/02/2015	S	Glass Jar (250 ml and 150 ml)	2	1								
~~69~~	~~Duplicate 5B~~	~~22/02/2015~~	~~S~~	~~Glass Jar (250 ml and 150 ml)~~	~~2~~									~~Send to Eurofins~~
69	~~Rinsate 12~~ Rinsate 13	22/02/2015	W	Bottle	8							1		
				TOTAL	12	1						1		

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

As per attached email.

Jacob Waugh

From: Saman Taeidi
Sent: Tuesday, 24 February 2015 8:18 AM
To: Jacob Waugh
Subject: FW: Emailing: 150222 ALS COC_GPC Geochem.xls, 150222 Eurofins Chain of Custody.xls
Attachments: 150222 ALS COC_GPC Geochem Rev 2.xls

Hi Jacob,

For this Aurecon batch ES1504301 received yesterday, the client wants to change a sample ID, 'Rinsate 12' to 'Rinsate 13'. I have changed it in the work order but can you please get someone to check the sample ID on the jar as well and change it?

Kind Regards

Saman Taeidi
Client Services Officer
ALS | Environmental Division
277-289 Woodpark Road
Smithfield NSW 2164 Australia

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F +61 2 8784 8500

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-----Original Message-----
From: Sally Leyland [mailto:Sally.Leyland@aurecongroup.com]
Sent: Monday, 23 February 2015 5:53 PM
To: Kelly Schafer; Saman Taeidi
Cc: Zachary Chataway; Vanessa Turnbull
Subject: RE: Emailing: 150222 ALS COC_GPC Geochem.xls, 150222 Eurofins Chain of Custody.xls

Hi Saman,

Please can you change the Rinsate sample collected on 22 Feb 2015 from 'Rinsate 12' to 'Rinsate 13'? I expect these samples have already left Gladstone, so hope you can make the amendment.Thanks.

Regards,
Sally

Sally Leyland
Senior Environmental Scientist, Aurecon
T +61 7 3173 8006 F +61 7 3173 8001 M +61 477 736 809 E sally.leyland@aurecongroup.com Level 14, 32 Turbot Street, Brisbane | QLD 4000 | Australia Locked Bag 331, Brisbane I QLD 4001 | Australia aurecongroup.com

-----Original Message-----
From: Sally Leyland

ALS Environmental

Tailored Analytical Services & Charges - Sediments - Aurecon Suite 1

Parameter	ALS Code	Technique/ Method Reference	LOR (mg/kg) (or as indicated)	No.	Price per Sample $	Total ($)
Moisture	EA055	In-house	1%	-	No Charge	Nil
Metals by ICP/MS (15 metals incl. Sb, As, Cd, Cr, Cu, Pb, Mn, Ni, Ag, Zn + low level Hg)	SD-3	USEPA 6020 APHA 3112 Hg-B	Sb:0.5 Cd, Ag:0.1 Mn:10 Others:1 Hg: 0.01	412	48.00	19,776.00
Organotins (Monobutyltin, Dibutyltin, Tributyltin)	EP090	In house GC/MS	0.5-1 µg Sn/kg		130.00	53,560.00
TRH (C10-C40) - Ultra trace including sum of C10-C40	EP071-SD	USEPA 3510/8015	3-5 per fraction		24.00	9,888.00
Ultra trace OC/OP Pesticides, PCB and PAH	SD-2	USEPA 3640/3620 USEPA8081/8082 USEPA 3640/8270	PAH: 0.004-0.005 PCB: 0.005 OC/OP: 0.0005-0.01		175.00	72,100.00
Ammonia as N - Low level	EK255A-SD	Rayment & Lyon 7C1 & 7C2	0.2		20.00	8,240.00
Nitrites N and Nitrates N	NT-4S	APHA 4500 NO3- - I/NO_2^--B APHA 4500 NO2- - I	0.1		55.00	22,660.00
Total Phosphorus as P	EK067	APHA 4500-P	2			
Total Nitrogen	EK062	APHA 4500 N_{org}/NO_3	20			
TOC (High temp furnace incl. prep)	EP003	In house	0.02%		20.00	8,240.00
TOTAL PROJECT COST FOR SEDIMENT SAMPLES (EXCL. GST):						194,464.00

Tailored Analytical Services & Charges - Sediments - Aurecon Suite 2

Parameter	ALS Code	Technique/ Method Reference	LOR (mg/kg) (or as indicated)	No.	Price per Sample $	Total ($)
Sizing - Particle Sizing plus Soil Particle Density (<2.36mm) and Hydrometer to 1-5 µm[1]	EA150-H/EA152	AS 1289 3.6.3	1%	412	110.00	45,320.00
TOTAL PROJECT COST FOR SEDIMENT SAMPLES (EXCL. GST):						45,320.00

Certificate of Analysis

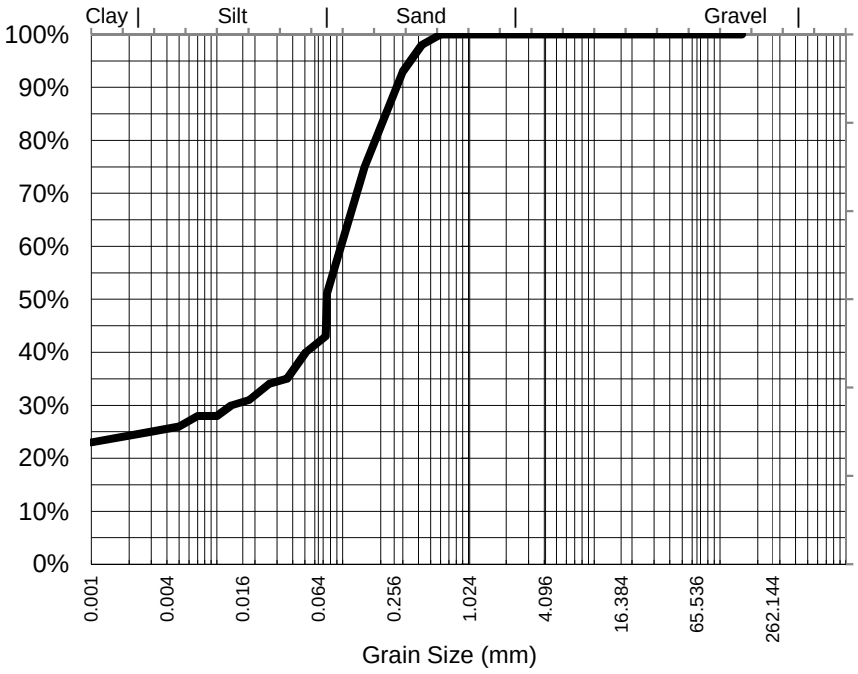
ALS Laboratory Group Pty Ltd
5/585 Maitland Road
Mayfield West, NSW 2304
pH 02 4014 2500
fax 02 4968 0349
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	19-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	23-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504301-004 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	EB8 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
0.600	100%
0.425	98%
0.300	93%
0.150	75%
0.075	51%
Particle Size (microns)	
73	43%
51	40%
36	35%
18	31%
10	28%
5	26%
1	23%

Median Particle Size (mm)*	0.075

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SAND, CLAY

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.64 g/cm3

Analysed: 11-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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Dianne Blane
Inorganic Coordinator Newcastle
Authorised Signatory

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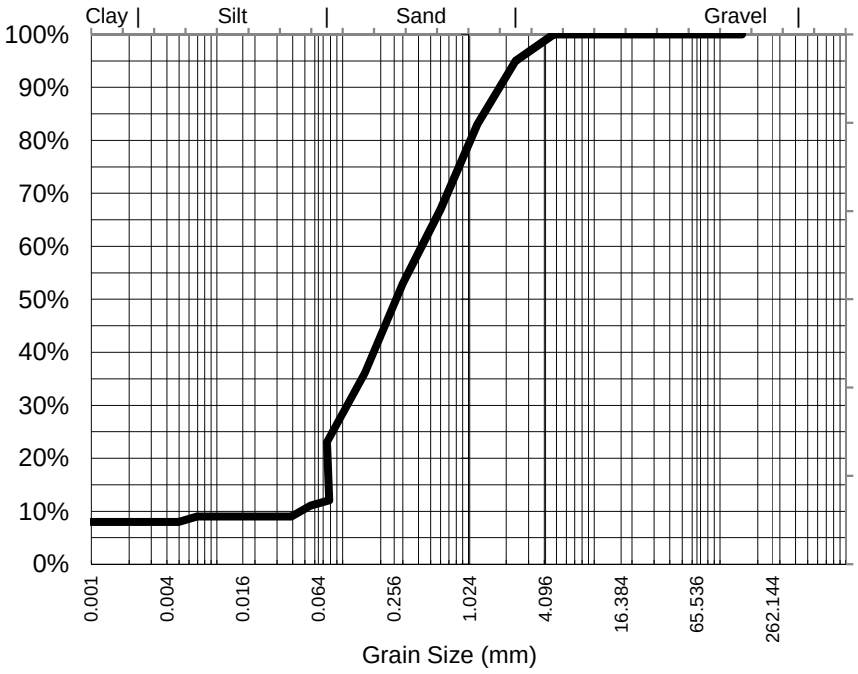
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	19-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	23-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504301-009 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	EB10 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	95%
1.18	83%
0.600	67%
0.425	60%
0.300	53%
0.150	36%
0.075	23%
Particle Size (microns)	
78	12%
55	11%
39	9%
19	9%
10	9%
5	8%
1	8%

Median Particle Size (mm)*	0.274

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 11-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: SILT, SHELL, SAND

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.65 g/cm3

NATA Accreditation: 825 Site: Newcastle
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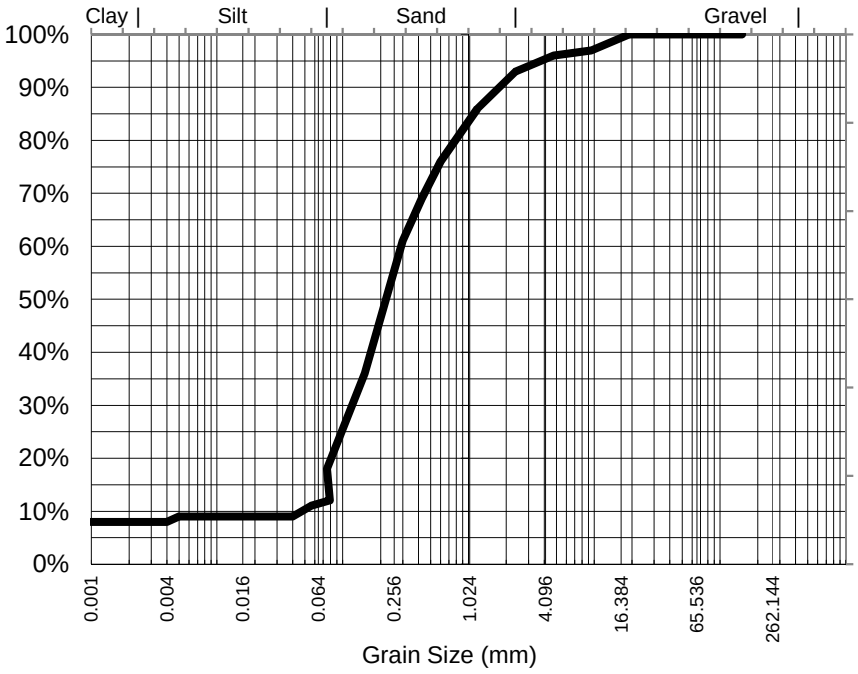
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	19-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	23-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504301-010 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	EB10 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	97%
4.75	96%
2.36	93%
1.18	86%
0.600	76%
0.425	69%
0.300	61%
0.150	36%
0.075	18%
Particle Size (microns)	
79	12%
56	11%
40	9%
20	9%
10	9%
5	9%
1	8%

Samples analysed as received.

Median Particle Size (mm)*	0.234

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:		**Analysed:**	11-Mar-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SILT, SHELL, SAND	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.64 g/cm3

NATA Accreditation: 825 Site: Newcastle
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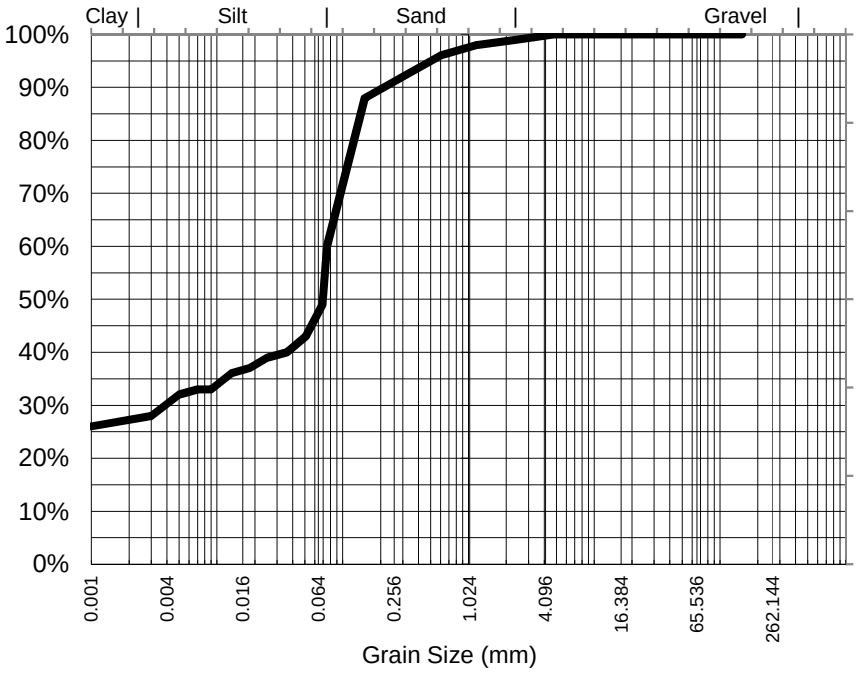
Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	19-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	23-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504301-014 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	EB13 0.0-0.7B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	99%
1.18	98%
0.600	96%
0.425	94%
0.300	92%
0.150	88%
0.075	60%
Particle Size (microns)	
69	49%
51	43%
36	40%
18	37%
9	33%
5	32%
1	26%

Samples analysed as received.

Median Particle Size (mm)*	0.070

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY, SILT, SAND, GRAVEL, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.65 g/cm3

Analysed: 11-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

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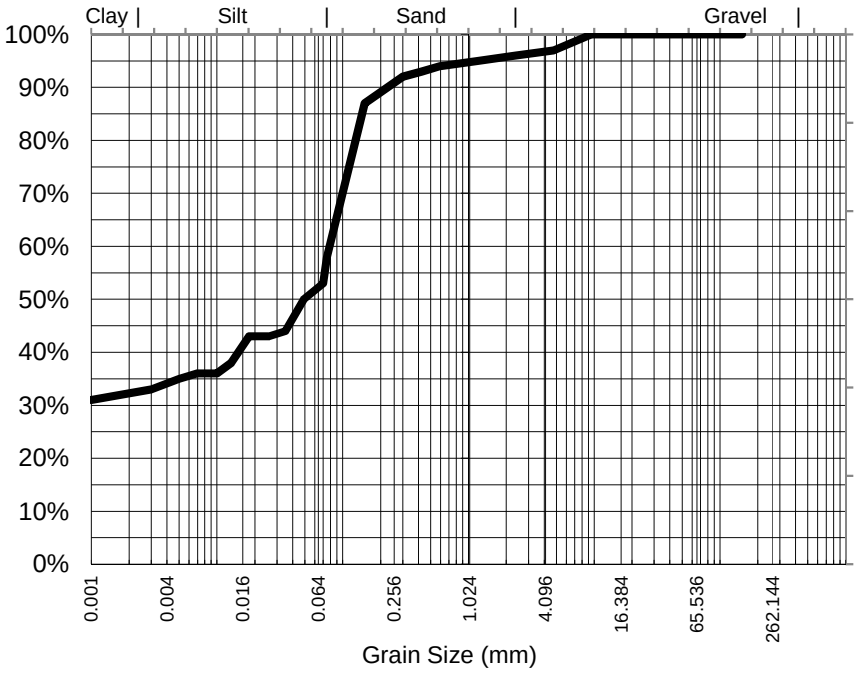
Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	19-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	23-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504301-018 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	EB18 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	97%
2.36	96%
1.18	95%
0.600	94%
0.425	93%
0.300	92%
0.150	87%
0.075	58%
Particle Size (microns)	
70	53%
49	50%
35	44%
18	43%
10	36%
5	35%
1	31%

Median Particle Size (mm)*	0.049

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 11-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: CLAY, SILT, SAND, GRAVEL, SHELL

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.62 g/cm3

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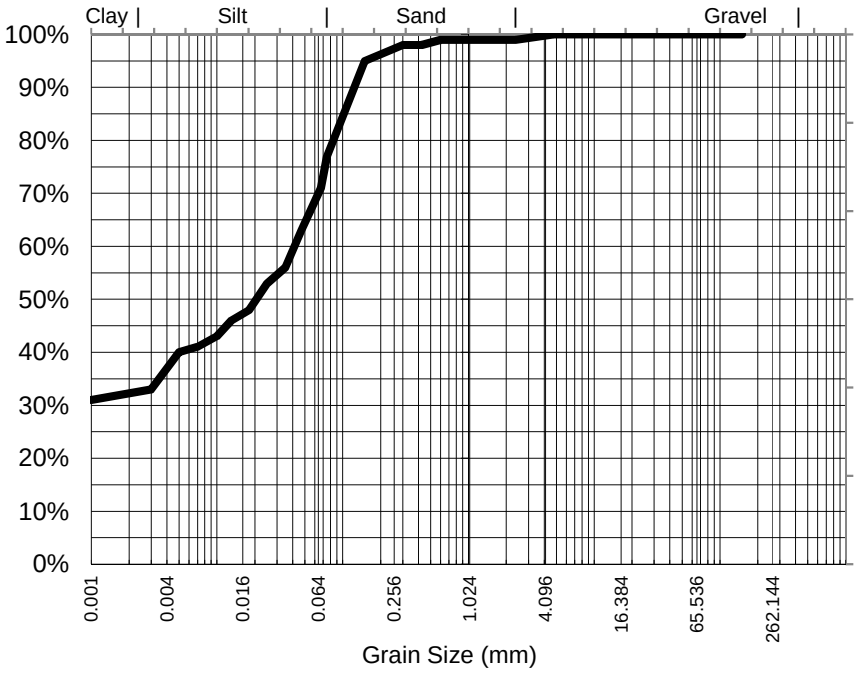
Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	19-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	23-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504301-019 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	EB18 0.5-1.0B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	99%
1.18	99%
0.600	99%
0.425	98%
0.300	98%
0.150	95%
0.075	77%
Particle Size (microns)	
67	71%
47	63%
35	56%
18	48%
10	43%
5	40%
1	31%

Median Particle Size (mm)*	0.021

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SAND, CLAY

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.56 g/cm3

Analysed: 11-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

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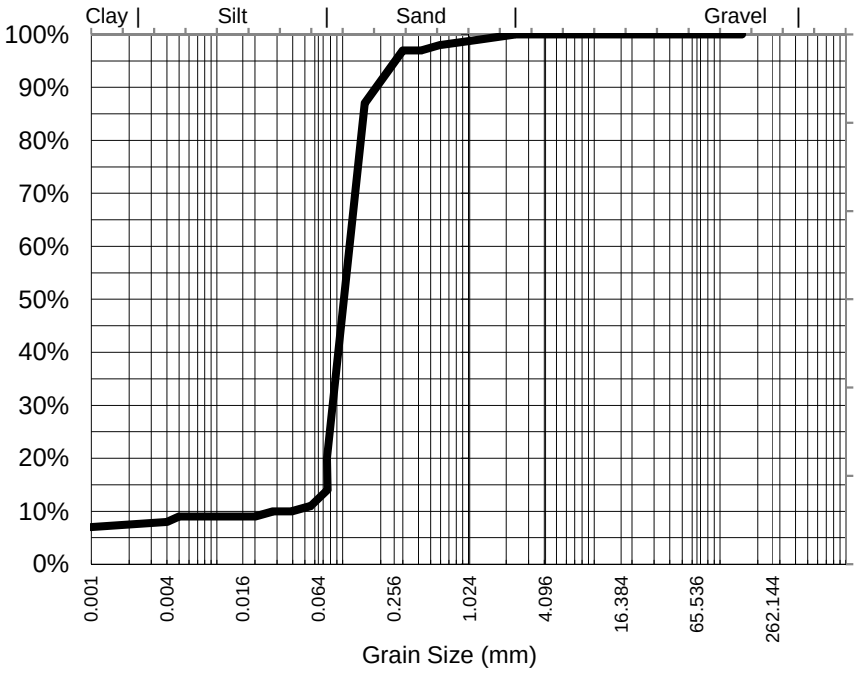
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	19-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	23-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504301-024 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	EB19 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	99%
0.600	98%
0.425	97%
0.300	97%
0.150	87%
0.075	20%
Particle Size (microns)	
76	14%
56	11%
39	10%
20	9%
10	9%
5	9%
1	7%

Samples analysed as received.

Median Particle Size (mm)*	0.109

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SAND, SILT, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.67 g/cm3

Analysed: 11-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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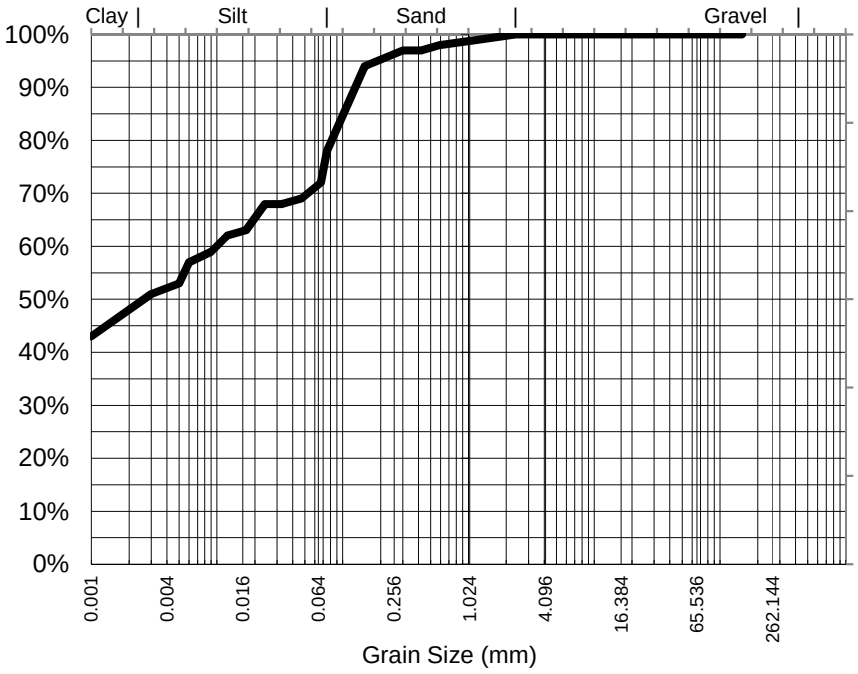
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	19-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	23-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504301-025 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	EB19 0.5-0.8B

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	99%
0.600	98%
0.425	97%
0.300	97%
0.150	94%
0.075	78%
Particle Size (microns)	
67	72%
47	69%
33	68%
17	63%
9	59%
5	53%
1	43%

Median Particle Size (mm)*	0.003

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SAND, CLAY

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.6 g/cm3

Analysed: 11-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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Dianne Blane
Inorganic Coordinator Newcastle
Authorised Signatory

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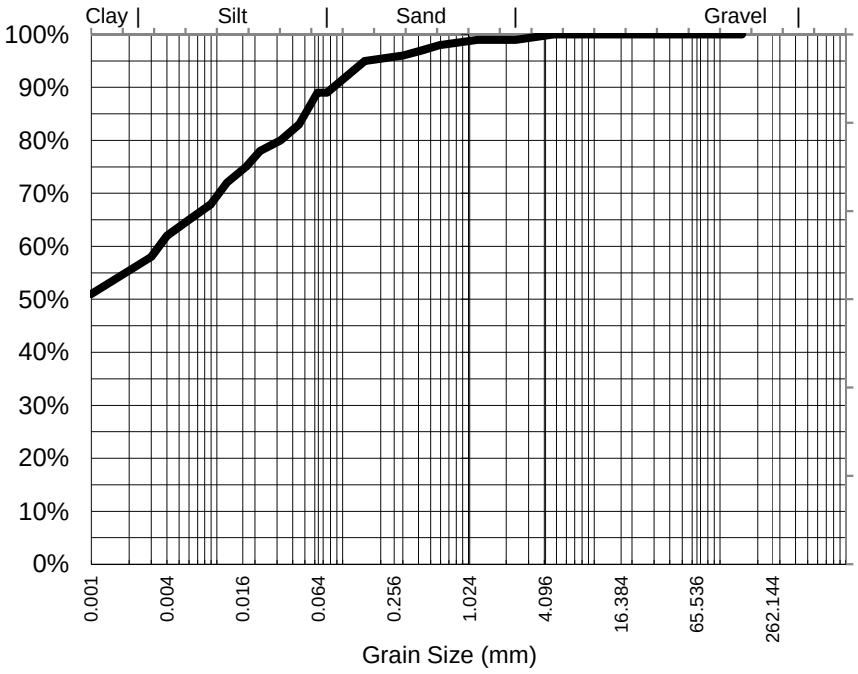
fax 02 4968 0349
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	19-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	23-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504301-029 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	EB20 0.0-0.6B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	99%
1.18	99%
0.600	98%
0.425	97%
0.300	96%
0.150	95%
0.075	89%
Particle Size (microns)	
63	89%
45	83%
32	80%
17	75%
9	68%
4	62%
1	51%

Median Particle Size (mm)*	<0.001

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Analysed: 11-Mar-15

Loss on Pretreatment NA

Limit of Reporting: 1%

Sample Description: SAND, CLAY, SHELL

Dispersion Method Shaker

Test Method: AS1289.3.6.3 2003

Hydrometer Type ASTM E100

Soil Particle Density (<2.36mm) 2.63 g/cm3

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Dianne Blane
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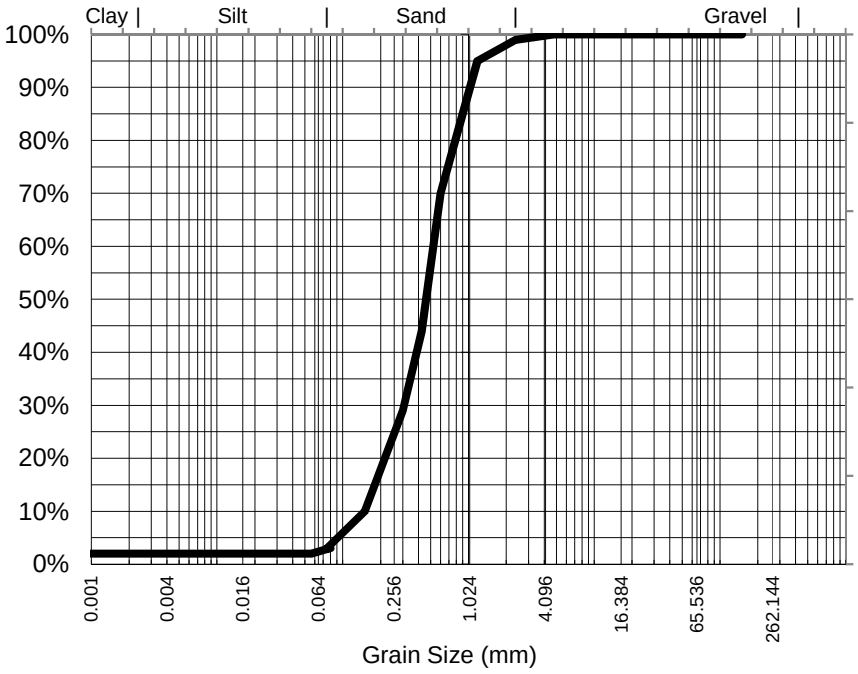
ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	19-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	23-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504301-033 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	EB21 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	99%
1.18	95%
0.600	70%
0.425	44%
0.300	29%
0.150	10%
0.075	3%
Particle Size (microns)	
80	3%
57	2%
40	2%
20	2%
10	2%
5	2%
1	2%

Samples analysed as received.

Median Particle Size (mm)*	0.465

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	11-Mar-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SHELL, FINES	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.64 g/cm3

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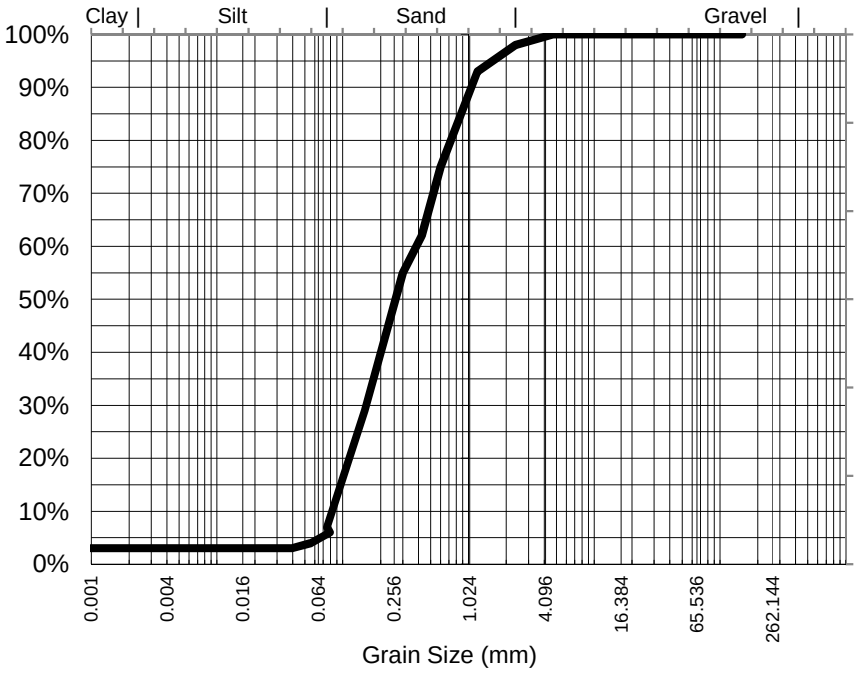
CLIENT:	Sally Leyland	**DATE REPORTED:**	19-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	23-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504301-034 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	EB21 0.5-1.0 B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	98%
1.18	93%
0.600	75%
0.425	62%
0.300	55%
0.150	29%
0.075	7%
Particle Size (microns)	
79	6%
56	4%
39	3%
20	3%
10	3%
5	3%
1	3%

Samples analysed as received.

Median Particle Size (mm)*	0.271

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	11-Mar-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SHELL, FINES	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.66 g/cm3

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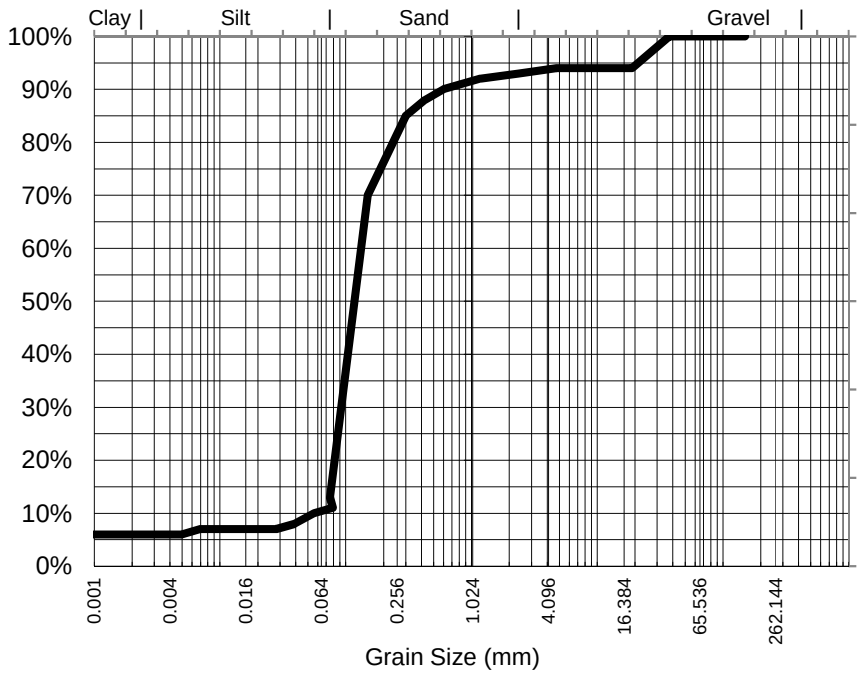
CLIENT:	Sally Leyland	**DATE REPORTED:**	19-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	23-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504301-039 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	EB23 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
37.5	100%
19.0	94%
9.50	94%
4.75	94%
2.36	93%
1.18	92%
0.600	90%
0.425	88%
0.300	85%
0.150	70%
0.075	13%
Particle Size (microns)	
79	11%
56	10%
39	8%
20	7%
10	7%
5	6%
1	6%

Samples analysed as received.

Median Particle Size (mm)*	0.124

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SAND, SILT, GRAVEL, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.68 g/cm3

Analysed: 11-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

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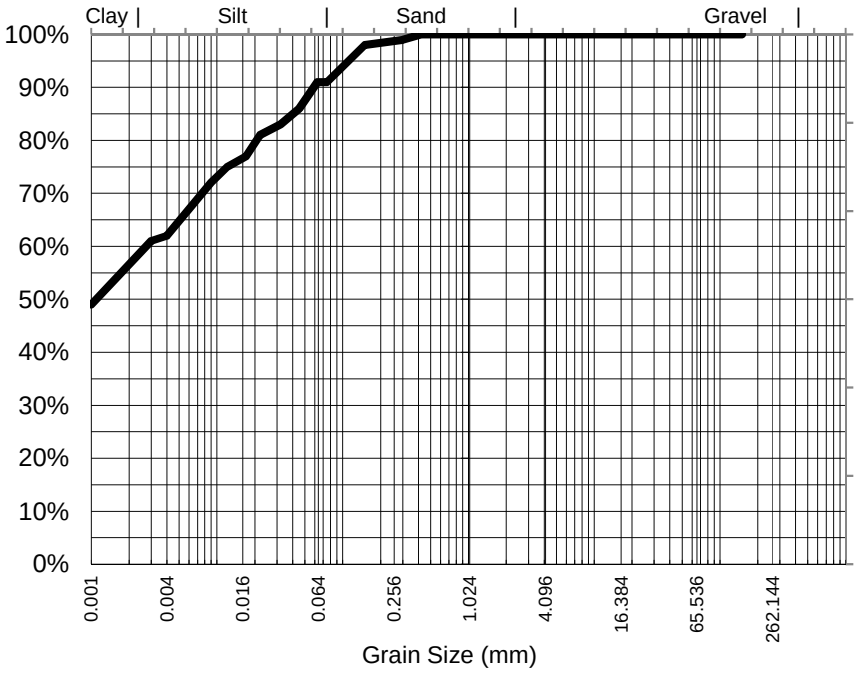
CLIENT:	Sally Leyland	**DATE REPORTED:**	19-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	23-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504301-040 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	EB23 0.5-1.0 B

Particle Size Distribution



Particle Size (mm)	Percent Passing
0.425	100%
0.300	99%
0.150	98%
0.075	91%
Particle Size (microns)	
63	91%
45	86%
32	83%
17	77%
9	72%
4	62%
1	49%

Median Particle Size (mm)*	0.001

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SAND, CLAY, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.61 g/cm3

Analysed: 11-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

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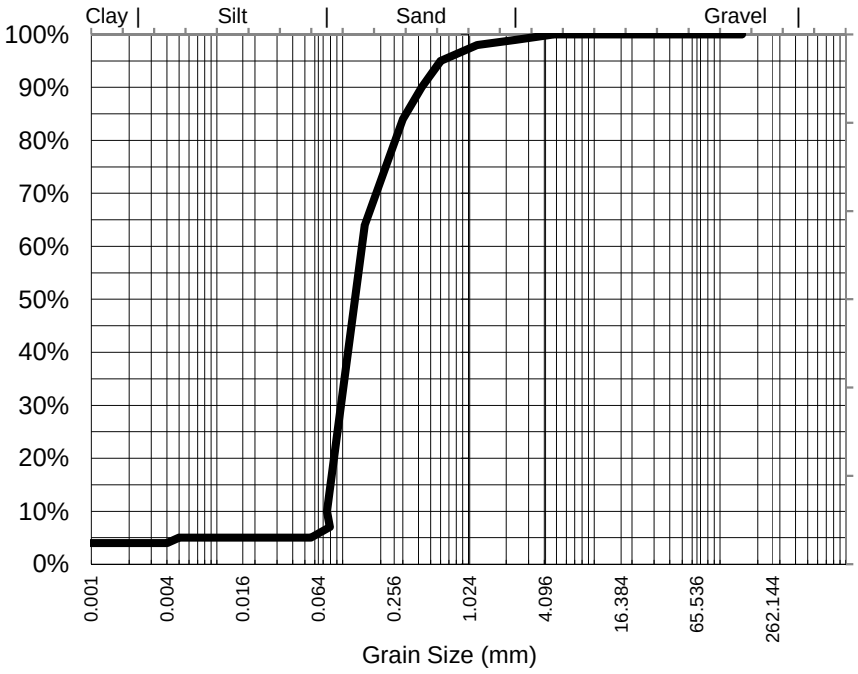
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	23-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504301-045 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	EB24 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	99%
1.18	98%
0.600	95%
0.425	90%
0.300	84%
0.150	64%
0.075	10%
Particle Size (microns)	
79	7%
56	5%
39	5%
20	5%
10	5%
5	5%
1	4%

Samples analysed as received.

Median Particle Size (mm)*	0.131

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:	AS1289.3.6.3 states that this method is not applicable for samples containing <10% fines (<75um). Results should be assessed accordingly	**Analysed:**	11-Mar-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SAND, SILT, GRAVEL, SHELL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.67 g/cm3

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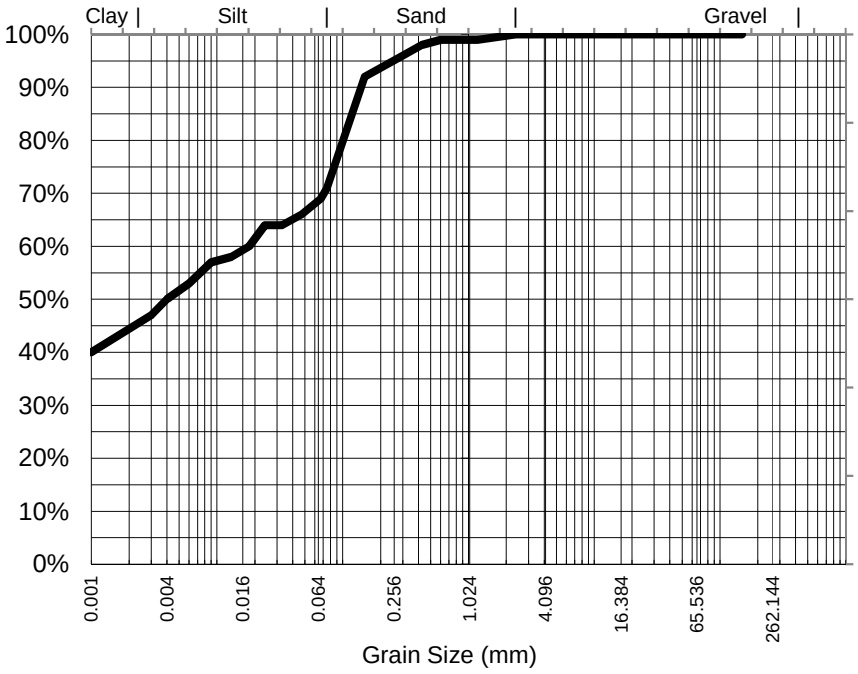
CLIENT:	Sally Leyland	**DATE REPORTED:**	19-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	23-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504301-046 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	EB24 0.5-1.0 B

Particle Size Distribution



Particle Size (mm)	Percent Passing
2.36	100%
1.18	99%
0.600	99%
0.425	98%
0.300	96%
0.150	92%
0.075	71%
Particle Size (microns)	
67	69%
47	66%
33	64%
18	60%
9	57%
4	50%
1	40%

Samples analysed as received.

Median Particle Size (mm)*	0.004

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SAND, CLAY, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.6 g/cm3

Analysed: 11-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

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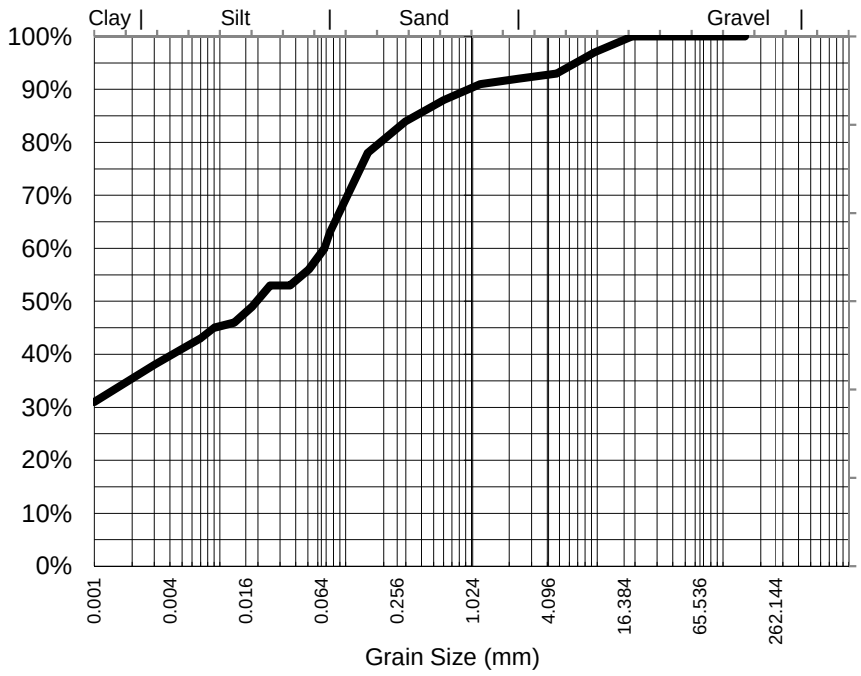
CLIENT:	Sally Leyland	**DATE REPORTED:**	19-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	23-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504301-050 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	EB25 0.0-0.6B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	97%
4.75	93%
2.36	92%
1.18	91%
0.600	88%
0.425	86%
0.300	84%
0.150	78%
0.075	63%
Particle Size (microns)	
68	60%
51	56%
36	53%
18	49%
9	45%
5	41%
1	31%

Samples analysed as received.

Median Particle Size (mm)*	0.020

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SAND, CLAY, GRAVEL, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.59 g/cm3

Analysed: 11-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

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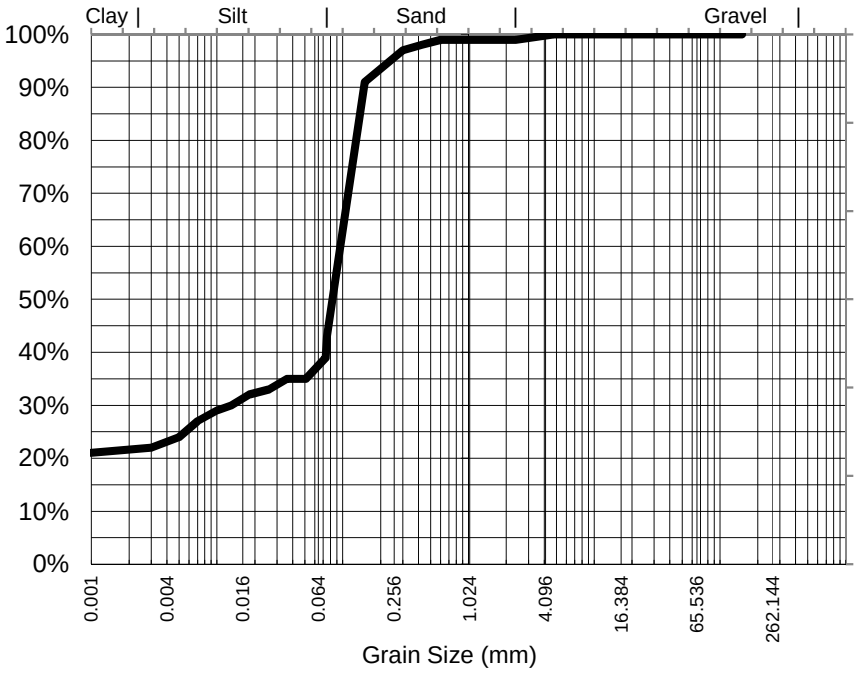
CLIENT:	Sally Leyland	**DATE REPORTED:**	19-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	23-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504301-053 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	EB29 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	99%
1.18	99%
0.600	99%
0.425	98%
0.300	97%
0.150	91%
0.075	43%
Particle Size (microns)	
73	39%
51	35%
36	35%
18	32%
10	29%
5	24%
1	21%

Samples analysed as received.

Median Particle Size (mm)*	0.086

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:		**Analysed:**	11-Mar-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	SILT, SAND, CLAY, SHELL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.66 g/cm3

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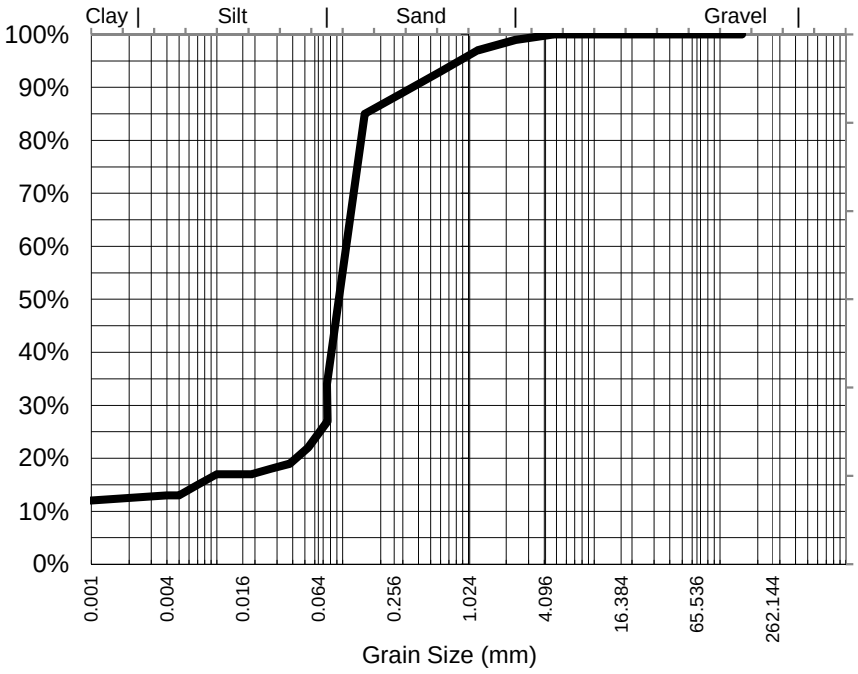
CLIENT:	Sally Leyland	**DATE REPORTED:**	19-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	23-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504301-057 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	EB30 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
4.75	100%
2.36	99%
1.18	97%
0.600	93%
0.425	91%
0.300	89%
0.150	85%
0.075	34%
Particle Size (microns)	
76	27%
53	22%
38	19%
19	17%
10	17%
5	13%
1	12%

Samples analysed as received.

Median Particle Size (mm)*	0.099

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SAND, SILT, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.65 g/cm3

Analysed: 11-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

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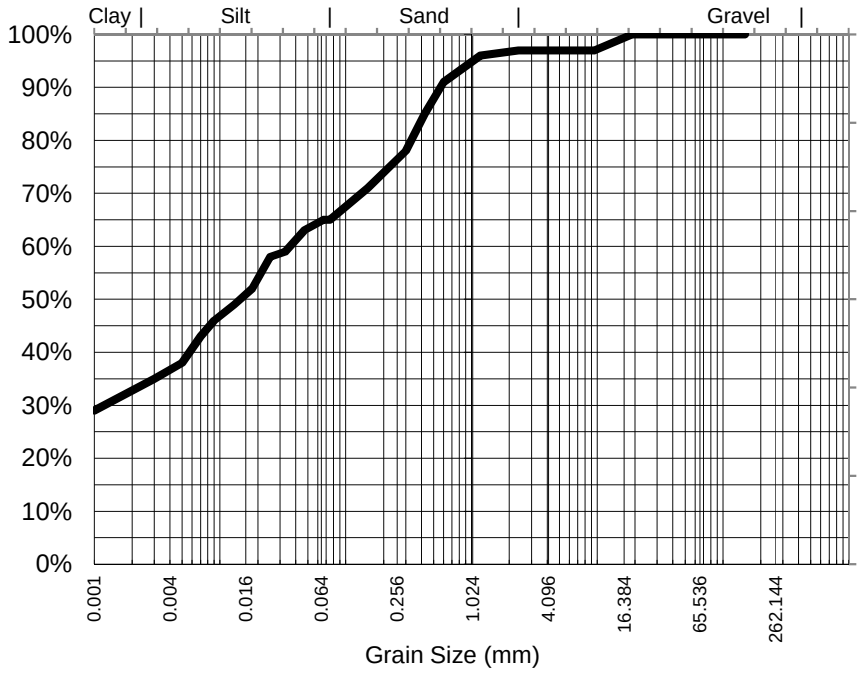
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	23-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504301-058 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	EB30 0.5-1.0 B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	97%
4.75	97%
2.36	97%
1.18	96%
0.600	91%
0.425	85%
0.300	78%
0.150	71%
0.075	65%
Particle Size (microns)	
67	65%
47	63%
33	59%
18	52%
9	46%
5	38%
1	29%

Samples analysed as received.

Median Particle Size (mm)*	0.015

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: CLAY, SAND, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.61 g/cm3

Analysed: 11-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
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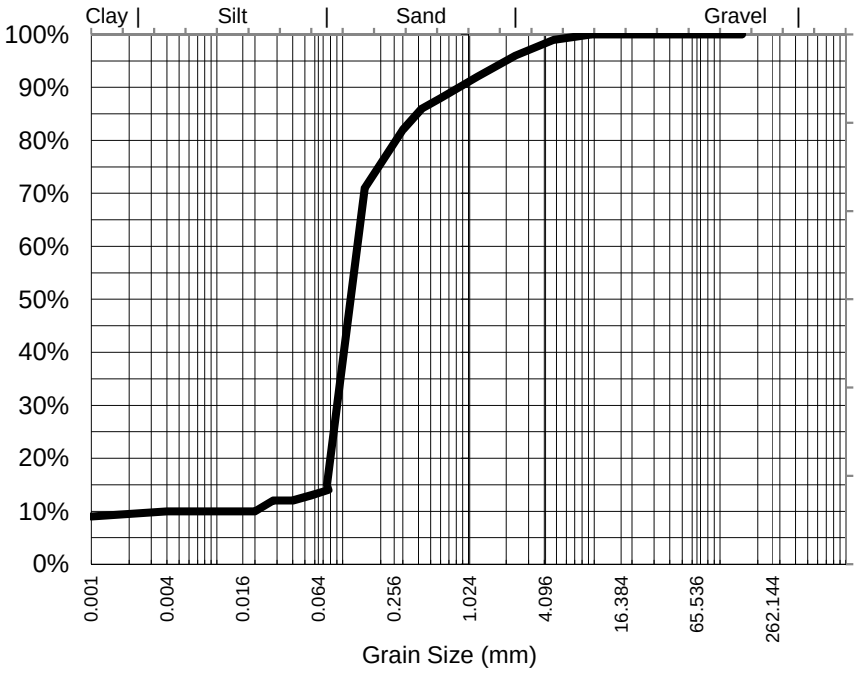
CLIENT:	Sally Leyland	**DATE REPORTED:**	19-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	23-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504301-063 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	EB35 0.0-0.5B

Particle Size Distribution



Particle Size (mm)	Percent Passing
9.50	100%
4.75	99%
2.36	96%
1.18	92%
0.600	88%
0.425	86%
0.300	82%
0.150	71%
0.075	15%
Particle Size (microns)	
77	14%
56	13%
40	12%
20	10%
10	10%
5	10%
1	9%

Median Particle Size (mm)*	0.122

Samples analysed as received.

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:		**Analysed:**	11-Mar-15
Loss on Pretreatment	NA	**Limit of Reporting:**	1%
Sample Description:	CLAY, SAND, SHELL, GRAVEL	**Dispersion Method**	Shaker
Test Method:	AS1289.3.6.3 2003	**Hydrometer Type**	ASTM E100

Soil Particle Density (<2.36mm) 2.67 g/cm3

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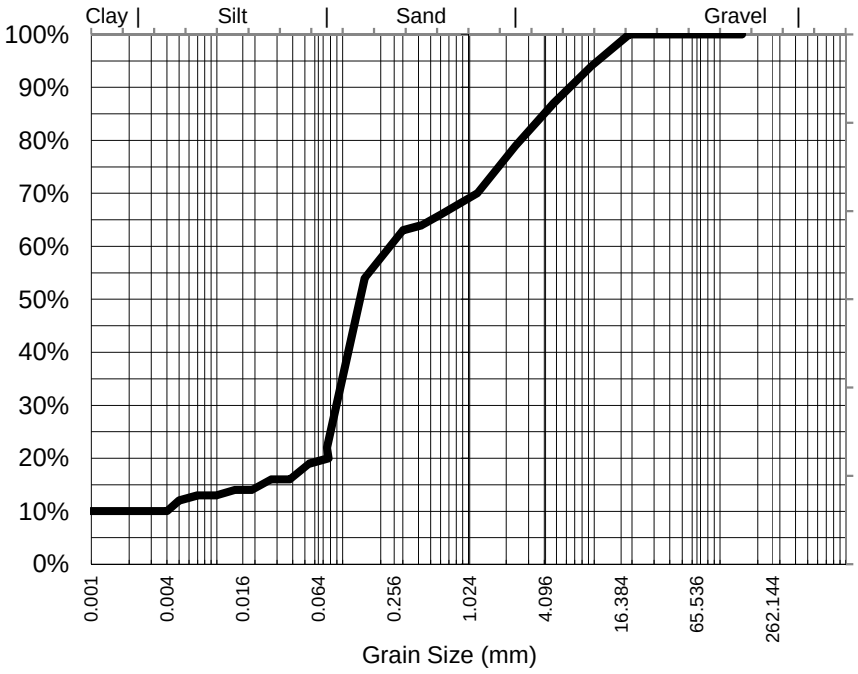
pH 02 4014 2500
fax 02 4968 0349
samples.newcastle@alsenviro.com

ALS Environmental

Newcastle, NSW

CLIENT:	Sally Leyland	**DATE REPORTED:**	19-Mar-2015
COMPANY:	Aurecon Australasia Pty Ltd	**DATE RECEIVED:**	23-Feb-2015
ADDRESS:	Locked Bag 331 32 Turbot Street Brisbane, Qld, Australia 4001	**REPORT NO:**	ES1504301-064 / PSD
PROJECT:	GPC Geochemical Investigation	**SAMPLE ID:**	EB35 0.5-1.0 B

Particle Size Distribution



Particle Size (mm)	Percent Passing
19.0	100%
9.50	94%
4.75	87%
2.36	79%
1.18	70%
0.600	66%
0.425	64%
0.300	63%
0.150	54%
0.075	22%
Particle Size (microns)	
77	20%
54	19%
38	16%
19	14%
10	13%
5	12%
1	10%

Samples analysed as received.

Median Particle Size (mm)*	0.141

Median Particle Size is not covered under the current scope of ALS's NATA accreditation.

Sample Comments:

Loss on Pretreatment NA

Sample Description: SAND, SILT, GRAVEL, SHELL

Test Method: AS1289.3.6.3 2003

Soil Particle Density (<2.36mm) 2.65 g/cm3

Analysed: 11-Mar-15

Limit of Reporting: 1%

Dispersion Method Shaker

Hydrometer Type ASTM E100

NATA Accreditation: 825 Site: Newcastle
This document is issued in accordance with NATA's accreditation requirements. Accredited for compliance with ISO/IEC 17025. This document shall not be reproduced, except in full.

Dianne Blane
Inorganic Coordinator Newcastle
Authorised Signatory

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date):	5 day turnaround
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact?	Yes	No	N/A
Free ice / frozen ice brick present upon receipt?	Yes	No	N/A
Random Sample Temperature on receipt			
Other comment			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	Kelly Schafer	KSchafer	
DATE/TIME: 27-Feb-15	DATE/TIME: 27-Feb-15 1730	DATE/TIME: 2-3-15 1600	DATE/TIME: 3-3-15 09:15

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	BH24 0.0 C	27/02/2015	S	Bag (Green label)	1					1				
				TOTAL	1					1				

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Environmental Division
Brisbane
Work Order Reference
EB1513874

Telephone : +61-7-3243 7222

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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 27-Feb-15	DATE/TIME: 27-Feb-15
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: DATE/TIME: 2/3/15 16:00	RECEIVED BY: DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION	ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
2	BH26 0.0 C	27/02/2015	S	Bag (Green label)	1					1				
				TOTAL	1					1				

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		27-Feb-15	27-Feb-15

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 2/3/15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION	ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
3	BH31 0.0 C	27/02/2015	S	Bag (Green label)	1					1				
4	BH31 0.25C	27/02/2015	S	Bag (Green label)	1						1			
	~~BH31 0.5 C~~	~~27/02/2015~~	~~S~~	~~Bag (Green label)~~	~~1~~					~~1~~				~~Delete this row if sample is missing (not recorded in BH log)~~
5	BH31 0.75C	27/02/2015	S	Bag (Green label)	1						1			
6	BH31 1.0 C	27/02/2015	S	Bag (Green label)	1					1				
7	BH31 1.25 C	27/02/2015	S	Bag (Green label)	1						1			
				TOTAL	6					3	3			

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circled)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		**Yes - Non Standard or urgent TAT (List due date):** **5 day turnaround**	
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	
ORDER NUMBER: 245553		COC: 1 2 3 (4) 5 6 7	
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (7)	
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		27-Feb-15	27-Feb-15

RELINQUISHED BY:	**RECEIVED BY:**
DATE/TIME:	DATE/TIME:
2/3/15 16:00	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
8	BH33 0.0 C	27/02/2015	S	Bag (Green label)	1					1				
9	BH33 0.25C	27/02/2015	S	Bag (Green label)	1						1			
10	BH33 0.5C	27/02/2015	S	Bag (Green label)	1					1				
11	BH33 0.75C	27/02/2015	S	Bag (Green label)	1						1			
12	BH33 1.0 C	27/02/2015	S	Bag (Green label)	1					1				
13	BH33 1.25 C	27/02/2015	S	Bag (Green label)	1						1			
14	BH33 1.5C	27/02/2015	S	Bag (Green label)	1					1				
15	BH33 1.75C	27/02/2015	S	Bag (Green label)	1						1			
				TOTAL	8					4	4			

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
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PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 (7)	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
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Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 2/3/15 16:00	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS – MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
16	BH34 0.0 C	27/02/2015	S	Bag (Green label)	1					1				
17	BH34 0.25 C	27/02/2015	S	Bag (Green label)	1						1			
18	BH34 0.5 C	27/02/2015	S	Bag (Green label)	1					1				
19	BH34 0.75 C	27/02/2015	S	Bag (Green label)	1						1			
20	BH34 1.0C	27/02/2015	S	Bag (Green label)	1					1				
21	BH34 1.25 C	27/02/2015	S	Bag (Green label)	1						1			
22	BH34 1.5 C	27/02/2015	S	Bag (Green label)	1					1				
				TOTAL	7					4	3	#REF!	#REF!	

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

FOR LABORATORY USE ONLY (Circle)

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	Kelly Schafer		
DATE/TIME: 27-Feb-15	DATE/TIME: 27-Feb-15	DATE/TIME: 2/3/15 16:00	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
23	BH35 0.0 C	27/02/2015	S	Bag (Green label)	1					1				
24	BH35 0.25 C	27/02/2015	S	Bag (Green label)	1						1			
25	BH35 0.5 C	27/02/2015	S	Bag (Green label)	1					1				
				TOTAL	3					2	1	#REF!	#REF!	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		**Yes - Non Standard or urgent TAT (List due date):**	**5 day turnaround**
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 7	
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 27-Feb-15	DATE/TIME: 27-Feb-15
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	**RECEIVED BY:**
DATE/TIME: 2/3/15 16:00	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
26	BH36 0.0 C	27/02/2015	S	Bag (Green label)	1					1				
27	BH36 0.25 C	27/02/2015	S	Bag (Green label)	1						1			
				TOTAL	2					1	1			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 27-Feb-15	DATE/TIME: 27-Feb-15
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY:	RECEIVED BY:
		DATE/TIME: 2/3/15 16:00	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
28	BH39 0.0 C	27/02/2015	S	Bag (Green label)	1					1				
29	BH39 0.25 C	27/02/2015	S	Bag (Green label)	1						1			
30	BH39 0.5 C	27/02/2015	S	Bag (Green label)	1					1				
31	BH39 0.75 C	27/02/2015	S	Bag (Green label)	1						1			
32	BH39 1.0 C	27/02/2015	S	Bag (Green label)	1					1				
33	BH39 1.25 C	27/02/2015	S	Bag (Green label)	1						1			
34	BH39 1.5 C	27/02/2015	S	Bag (Green label)	1					1				
35	BH39 1.75 C	27/02/2015	S	Bag (Green label)	1						1			
				TOTAL	8					4	4			

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph. 07 4796 0600 E. townsville.environmental@alsglobal.com
☐WOLLONGONG 90 Kenny Street Wollongong NSW 2500
Ph. 02 4225 3125 E. portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	[redacted]
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	DATE/TIME: 27-Feb-15	DATE/TIME: 27-Feb-15
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY:	RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 2/3/15 16:00	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
36	BH40 0.0 C	27/02/2015	S	Bag (Green label)	1					1				
37	BH40 0.25 C	27/02/2015	S	Bag (Green label)	1						1			
38	BH40 0.5 C	27/02/2015	S	Bag (Green label)	1					1				
39	BH40 0.75 C	27/02/2015	S	Bag (Green label)	1						1			
40	BH40 1.0 C	27/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes; P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	
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PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 27-Feb-15	DATE/TIME: 27-Feb-15
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 2/3/15 16:00	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
41	BH41 0.0 C	27/02/2015	S	Bag (Green label)	1					1				
42	BH41 0.25 C	27/02/2015	S	Bag (Green label)	1						1			
43	BH41 0.5 C	27/02/2015	S	Bag (Green label)	1					1				
				TOTAL	3					2	1			

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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ORDER NUMBER: 245553		COC: 1 2 3 4 5 6	
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6	
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		27-Feb-15	27-Feb-15

RELINQUISHED BY:	**RECEIVED BY:**		
DATE/TIME: 2/3/15 16:00	DATE/TIME:		

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ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Additional Information
44	BH43 0.0 C	27/02/2015	S	Bag (Green label)	1					1				
45	BH43 0.25 C	27/02/2015	S	Bag (Green label)	1						1			
46	BH43 0.5 C	27/02/2015	S	Bag (Green label)	1					1				
				TOTAL	3					2	1			

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date):	5 day turnaround
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.:	SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (12) (13) OF: 1 2 3 4 5 6
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 27-Feb-15	DATE/TIME: 27-Feb-15
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 2/3/15 16:00	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: SOIL (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
47	BH45 0.0 C	27/02/2015	S	Bag (Green label)	1					1				
48	BH45 0.25 C	27/02/2015	S	Bag (Green label)	1						1			
49	BH45 0.5 C	27/02/2015	S	Bag (Green label)	1					1				
50	BH45 0.75 C	27/02/2015	S	Bag (Green label)	1						1			
				TOTAL	4					2	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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Ph: 07 3243 7222 E: samplesreceipt.brisbane@alsglobal.com.au
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
ORANGE 4/13 Geary Place North Nowra NSW 2541
Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
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Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT (List due date):	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date):	5 day turnaround
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:**	SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)** COC: 1 2 3 4 5 6 (13) OF: 1 2 3 4 5 6 (14)
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006		
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		27-Feb-15	27-Feb-15

RELINQUISHED BY:	**RECEIVED BY:**
DATE/TIME:	DATE/TIME:
2/3/15 16:00	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

LAB ONLY	SAMPLE DETAILS (MATRIX: SOIL (S) WATER (W))			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
51	BH46 0.0 C	27/02/2015	S	Bag (Green label)	1					1				
52	BH46 0.25 C	27/02/2015	S	Bag (Green label)	1						1			
53	BH46 0.5 C	27/02/2015	S	Bag (Green label)	1					1				
				TOTAL	3					2	1			

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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Ph: 08 8359 0890 E: adelaide@alsglobal.com
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SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):						
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due dste): * 5 day turnaround					
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)					
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6					
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6					
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:		
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*				
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:		
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		27-Feb-15	27-Feb-15	2/3/15 16:00			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS (MATRIX: SOIL (S) WATER (W))			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
54	ASS DUPLICATE 40	27/02/2015	S	Bag (Green label)	1					1				
				TOTAL	1					1				

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CERTIFICATE OF ANALYSIS

Work Order	: **EB1513874**	Page	: 1 of 24
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: sally.leyland@aurecongroup.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61-7-3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553	Date Samples Received	: 03-Feb-2015 09:15
C-O-C number	: ----	Date Analysis Commenced	: 05-Mar-2015
Sampler	: GEORGINA KERR	Issue Date	: 10-Mar-2015 12:11
Site	: ----		
		No. of samples received	: 54
Quote number	: ----	No. of samples analysed	: 54

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.

- ASS: EA029 (SPOCAS): Retained Acidity not required because pH KCl greater than or equal to 4.5
- ASS: EA037 (Rapid Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme
- EA037 ASS Field Screening: NATA accreditation does not cover performance of this service.
- ASS: EA029 (SPOCAS): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime ($CaCO_3$) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from kg/t dry weight to kg/m3 in-situ soil, multiply reported results x wet bulk density of soil in t/m3.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH24 0.0 C	BH26 0.0 C	BH31 0.0 C	BH31 0.25C	BH31 0.75C
			Client sampling date / time	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513874-001	EB1513874-002	EB1513874-003	EB1513874-004	EB1513874-005
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	**9.3**	**9.5**	**9.6**	----	----
pH OX (23B)	----	0.1	pH Unit	**9.2**	**9.0**	**9.1**	----	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	<2	----	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	<2	----	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	<2	----	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	<0.02	----	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	<0.02	----	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	<0.02	----	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	**0.05**	**0.02**	**0.04**	----	----
Peroxide Sulfur (23De)	----	0.02	% S	**0.08**	**0.03**	**0.05**	----	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	**0.04**	<0.02	<0.02	----	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	**22**	<10	<10	----	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	**0.18**	**0.14**	**0.15**	----	----
Peroxide Calcium (23Wh)	----	0.02	% Ca	**3.95**	**2.81**	**2.48**	----	----
Acid Reacted Calcium (23X)	----	0.02	% Ca	**3.77**	**2.67**	**2.34**	----	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	**1880**	**1330**	**1160**	----	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	**3.02**	**2.14**	**1.87**	----	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	**0.03**	<0.02	**0.02**	----	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg	**0.15**	**0.09**	**0.05**	----	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg	**0.13**	**0.09**	**0.03**	----	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	**104**	**76**	**23**	----	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	**0.17**	**0.12**	**0.04**	----	----
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	**10.6**	**7.38**	**6.26**	----	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	**2120**	**1480**	**1250**	----	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	**3.40**	**2.36**	**2.00**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH24 0.0 C	BH26 0.0 C	BH31 0.0 C	BH31 0.25C	BH31 0.75C
				Client sampling date / time	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513874-001	EB1513874-002	EB1513874-003	EB1513874-004	EB1513874-005
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**1.5**	**1.5**	**----**	**----**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	<0.02	<0.02	**----**	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	<10	<10	**----**	**----**
Liming Rate	----	1	kg CaCO3/t		<1	<1	<1	**----**	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**----**	**----**	**8.6**	**8.3**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**----**	**----**	**6.7**	**5.9**
ø **Reaction Rate**	----	1	-		**----**	**----**	**----**	**2**	**2**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH31 1.0 C	BH31 1.25 C	BH33 0.0 C	BH33 0.25C	BH33 0.5C
				Client sampling date / time	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513874-006	EB1513874-007	EB1513874-008	EB1513874-009	EB1513874-010
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		9.2	----	9.5	----	9.4
pH OX (23B)	----	0.1	pH Unit		7.4	----	9.6	----	9.4
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		<0.02	----	0.04	----	0.09
Peroxide Sulfur (23De)	----	0.02	% S		<0.02	----	0.12	----	0.14
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		<0.02	----	0.08	----	0.04
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		<10	----	47	----	27
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		0.09	----	0.17	----	0.17
Peroxide Calcium (23Wh)	----	0.02	% Ca		0.13	----	7.84	----	6.71
Acid Reacted Calcium (23X)	----	0.02	% Ca		0.04	----	7.66	----	6.54
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		20	----	3820	----	3260
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		0.03	----	6.13	----	5.23
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		0.02	----	0.03	----	0.03
Peroxide Magnesium (23Tm)	----	0.02	% Mg		0.04	----	0.14	----	0.17
Acid Reacted Magnesium (23U)	----	0.02	% Mg		0.02	----	0.10	----	0.14
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		18	----	86	----	112
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		0.03	----	0.14	----	0.18
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		0.44	----	19.4	----	15.7
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		87	----	3880	----	3140
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		0.14	----	6.21	----	5.02

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH31 1.0 C	BH31 1.25 C	BH33 0.0 C	BH33 0.25C	BH33 0.5C
				Client sampling date / time	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513874-006	EB1513874-007	EB1513874-008	EB1513874-009	EB1513874-010
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.0**	**----**	**8.6**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**6.7**	**----**	**7.1**	**----**
ø **Reaction Rate**	----	1	-		**----**	**2**	**----**	**2**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH33 0.75C	BH33 1.0 C	BH33 1.25 C	BH33 1.5C	BH33 1.75C
				Client sampling date / time	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513874-011	EB1513874-012	EB1513874-013	EB1513874-014	EB1513874-015
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		----	9.5	----	9.4	----
pH OX (23B)	----	0.1	pH Unit		----	9.6	----	8.8	----
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		----	<2	----	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		----	<2	----	<2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		----	<2	----	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		----	<0.02	----	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		----	<0.02	----	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		----	<0.02	----	<0.02	----
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		----	0.06	----	0.06	----
Peroxide Sulfur (23De)	----	0.02	% S		----	0.07	----	0.05	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		----	<0.02	----	<0.02	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		----	<10	----	<10	----
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		----	0.15	----	0.14	----
Peroxide Calcium (23Wh)	----	0.02	% Ca		----	3.71	----	0.72	----
Acid Reacted Calcium (23X)	----	0.02	% Ca		----	3.55	----	0.58	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		----	1770	----	287	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		----	2.84	----	0.46	----
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		----	0.02	----	0.04	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg		----	0.09	----	0.11	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg		----	0.07	----	0.08	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		----	57	----	63	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		----	0.09	----	0.10	----
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		----	8.82	----	2.02	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		----	1760	----	405	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		----	2.82	----	0.65	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH33 0.75C	BH33 1.0 C	BH33 1.25 C	BH33 1.5C	BH33 1.75C
				Client sampling date / time	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513874-011	EB1513874-012	EB1513874-013	EB1513874-014	EB1513874-015
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**----**	**1.5**	**----**	**1.5**	**----**
Net Acidity (sulfur units)	----	0.02	% S		**----**	<0.02	**----**	<0.02	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		**----**	<10	**----**	<10	**----**
Liming Rate	----	1	kg CaCO3/t		**----**	<1	**----**	<1	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**8.6**	**----**	**8.7**	**----**	**8.8**
ø **pH (Fox)**	----	0.1	pH Unit		**7.2**	**----**	**7.2**	**----**	**6.2**
ø **Reaction Rate**	----	1	-		**3**	**----**	**2**	**----**	**3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH34 0.0 C	BH34 0.25 C	BH34 0.5 C	BH34 0.75 C	BH34 1.0C
			Client sampling date / time	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513874-016	EB1513874-017	EB1513874-018	EB1513874-019	EB1513874-020
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	9.5	----	9.3	----	9.4
pH OX (23B)	----	0.1	pH Unit	9.6	----	9.1	----	8.7
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.05	----	0.10	----	0.08
Peroxide Sulfur (23De)	----	0.02	% S	0.06	----	0.20	----	0.09
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	0.10	----	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	60	----	<10
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.16	----	0.16	----	0.14
Peroxide Calcium (23Wh)	----	0.02	% Ca	3.86	----	2.61	----	0.63
Acid Reacted Calcium (23X)	----	0.02	% Ca	3.70	----	2.45	----	0.49
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	1850	----	1220	----	243
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	2.96	----	1.96	----	0.39
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.03	----	0.03	----	0.03
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.09	----	0.12	----	0.10
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.06	----	0.09	----	0.07
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	52	----	77	----	59
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.08	----	0.12	----	0.09
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	11.8	----	5.88	----	1.90
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	2350	----	1180	----	379
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	3.76	----	1.88	----	0.61

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH34 0.0 C	BH34 0.25 C	BH34 0.5 C	BH34 0.75 C	BH34 1.0C
				Client sampling date / time	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513874-016	EB1513874-017	EB1513874-018	EB1513874-019	EB1513874-020
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.9**	**----**	**8.5**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**7.0**	**----**	**7.2**	**----**
ø **Reaction Rate**	----	1	-		**----**	**2**	**----**	**3**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH34 1.25 C	BH34 1.5 C	BH35 0.0 C	BH35 0.25 C	BH35 0.5 C
				Client sampling date / time	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513874-021	EB1513874-022	EB1513874-023	EB1513874-024	EB1513874-025
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		----	9.4	9.5	----	9.4
pH OX (23B)	----	0.1	pH Unit		----	7.8	9.6	----	9.1
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		----	<2	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		----	<2	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		----	<2	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		----	<0.02	<0.02	----	<0.02
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		----	0.04	0.04	----	0.10
Peroxide Sulfur (23De)	----	0.02	% S		----	0.04	0.07	----	0.13
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		----	<0.02	0.02	----	0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		----	<10	16	----	16
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		----	0.11	0.15	----	0.17
Peroxide Calcium (23Wh)	----	0.02	% Ca		----	0.22	5.51	----	4.35
Acid Reacted Calcium (23X)	----	0.02	% Ca		----	0.11	5.36	----	4.18
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		----	54	2680	----	2090
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		----	0.09	4.29	----	3.34
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		----	0.03	0.03	----	0.04
Peroxide Magnesium (23Tm)	----	0.02	% Mg		----	0.06	0.11	----	0.12
Acid Reacted Magnesium (23U)	----	0.02	% Mg		----	0.03	0.09	----	0.08
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		----	26	71	----	65
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		----	0.04	0.11	----	0.10
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		----	0.77	13.1	----	11.0
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		----	154	2620	----	2200
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		----	0.25	4.20	----	3.52

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH34 1.25 C	BH34 1.5 C	BH35 0.0 C	BH35 0.25 C	BH35 0.5 C
				Client sampling date / time	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513874-021	EB1513874-022	EB1513874-023	EB1513874-024	EB1513874-025
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**----**	**1.5**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		**----**	<0.02	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		**----**	<10	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		**----**	<1	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**8.2**	**----**	**----**	**8.8**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**5.9**	**----**	**----**	**7.0**	**----**
ø **Reaction Rate**	----	1	-		**2**	**----**	**----**	**3**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH36 0.0 C	BH36 0.25 C	BH39 0.0 C	BH39 0.25 C	BH39 0.5 C
			Client sampling date / time	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513874-026	EB1513874-027	EB1513874-028	EB1513874-029	EB1513874-030
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	9.5	----	9.4	----	9.1
pH OX (23B)	----	0.1	pH Unit	9.4	----	9.4	----	8.6
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.06	----	0.05	----	0.08
Peroxide Sulfur (23De)	----	0.02	% S	0.09	----	0.08	----	0.22
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.03	----	0.03	----	0.14
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	21	----	17	----	90
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.15	----	0.16	----	0.18
Peroxide Calcium (23Wh)	----	0.02	% Ca	5.28	----	4.93	----	1.44
Acid Reacted Calcium (23X)	----	0.02	% Ca	5.12	----	4.78	----	1.26
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	2560	----	2380	----	628
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	4.10	----	3.82	----	1.01
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.03	----	0.03	----	0.06
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.13	----	0.16	----	0.17
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.10	----	0.13	----	0.11
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	85	----	104	----	90
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.14	----	0.17	----	0.14
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	13.1	----	12.4	----	3.25
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	2620	----	2480	----	650
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	4.20	----	3.96	----	1.04

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH36 0.0 C	BH36 0.25 C	BH39 0.0 C	BH39 0.25 C	BH39 0.5 C
				Client sampling date / time	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513874-026	EB1513874-027	EB1513874-028	EB1513874-029	EB1513874-030
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.8**	**----**	**8.7**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**6.5**	**----**	**7.1**	**----**
ø **Reaction Rate**	----	1	-		**----**	**3**	**----**	**3**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH39 0.75 C	BH39 1.0 C	BH39 1.25 C	BH39 1.5 C	BH39 1.75 C
				Client sampling date / time	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513874-031	EB1513874-032	EB1513874-033	EB1513874-034	EB1513874-035
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		----	9.0	----	4.5	----
pH OX (23B)	----	0.1	pH Unit		----	8.1	----	2.0	----
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		----	<2	----	68	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		----	<2	----	3260	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		----	<2	----	3190	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		----	<0.02	----	0.11	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		----	<0.02	----	5.22	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		----	<0.02	----	5.11	----
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		----	0.08	----	0.63	----
Peroxide Sulfur (23De)	----	0.02	% S		----	0.12	----	5.75	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		----	0.04	----	5.12	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		----	27	----	3190	----
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		----	0.17	----	0.33	----
Peroxide Calcium (23Wh)	----	0.02	% Ca		----	0.36	----	0.33	----
Acid Reacted Calcium (23X)	----	0.02	% Ca		----	0.19	----	<0.02	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		----	96	----	<10	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		----	0.15	----	<0.02	----
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		----	0.07	----	0.25	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg		----	0.11	----	0.28	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg		----	0.04	----	0.03	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		----	32	----	23	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		----	0.05	----	0.04	----
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		----	0.98	----	----	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		----	195	----	----	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		----	0.31	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH39 0.75 C	BH39 1.0 C	BH39 1.25 C	BH39 1.5 C	BH39 1.75 C
				Client sampling date / time	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513874-031	EB1513874-032	EB1513874-033	EB1513874-034	EB1513874-035
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**----**	**1.5**	**----**	**1.5**	**----**
Net Acidity (sulfur units)	----	0.02	% S		**----**	<0.02	**----**	**5.23**	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		**----**	<10	**----**	**3260**	**----**
Liming Rate	----	1	kg CaCO3/t		**----**	<1	**----**	**245**	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**9.0**	**----**	**8.8**	**----**	**8.8**
ø **pH (Fox)**	----	0.1	pH Unit		**6.6**	**----**	**2.1**	**----**	**2.3**
ø **Reaction Rate**	----	1	-		**3**	**----**	**4**	**----**	**2**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH40 0.0 C	BH40 0.25 C	BH40 0.5 C	BH40 0.75 C	BH40 1.0 C
			Client sampling date / time	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513874-036	EB1513874-037	EB1513874-038	EB1513874-039	EB1513874-040
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	9.4	----	8.9	----	9.5
pH OX (23B)	----	0.1	pH Unit	9.3	----	8.2	----	9.4
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.08	----	0.12	----	0.05
Peroxide Sulfur (23De)	----	0.02	% S	0.10	----	0.34	----	0.04
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.03	----	0.23	----	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	18	----	141	----	<10
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.18	----	0.18	----	0.12
Peroxide Calcium (23Wh)	----	0.02	% Ca	4.06	----	1.45	----	0.46
Acid Reacted Calcium (23X)	----	0.02	% Ca	3.88	----	1.27	----	0.34
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	1940	----	632	----	168
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	3.11	----	1.01	----	0.27
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.05	----	0.05	----	0.03
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.18	----	0.18	----	0.07
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.13	----	0.12	----	0.04
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	109	----	103	----	33
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.18	----	0.16	----	0.05
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	10.0	----	3.39	----	1.27
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	2000	----	678	----	254
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	3.20	----	1.08	----	0.41

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH40 0.0 C	BH40 0.25 C	BH40 0.5 C	BH40 0.75 C	BH40 1.0 C
				Client sampling date / time	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513874-036	EB1513874-037	EB1513874-038	EB1513874-039	EB1513874-040
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.7**	**----**	**8.5**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**7.0**	**----**	**6.7**	**----**
ø **Reaction Rate**	----	1	-		**----**	**3**	**----**	**3**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH41 0.0 C	BH41 0.25 C	BH41 0.5 C	BH43 0.0 C	BH43 0.25 C
			Client sampling date / time	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513874-041	EB1513874-042	EB1513874-043	EB1513874-044	EB1513874-045
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	9.3	----	8.4	9.0	----
pH OX (23B)	----	0.1	pH Unit	9.0	----	8.8	8.8	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	<2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	<0.02	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.07	----	0.04	0.07	----
Peroxide Sulfur (23De)	----	0.02	% S	0.11	----	0.03	0.12	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.04	----	<0.02	0.05	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	23	----	<10	30	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.16	----	0.21	0.21	----
Peroxide Calcium (23Wh)	----	0.02	% Ca	3.06	----	0.29	3.58	----
Acid Reacted Calcium (23X)	----	0.02	% Ca	2.90	----	0.08	3.37	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	1440	----	42	1680	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	2.32	----	0.07	2.69	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.04	----	0.12	0.08	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.10	----	0.15	0.22	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.06	----	0.03	0.13	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	48	----	27	110	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.08	----	0.04	0.18	----
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	7.13	----	0.86	8.76	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	1420	----	171	1750	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	2.28	----	0.27	2.80	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH41 0.0 C	BH41 0.25 C	BH41 0.5 C	BH43 0.0 C	BH43 0.25 C
				Client sampling date / time	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513874-041	EB1513874-042	EB1513874-043	EB1513874-044	EB1513874-045
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**1.5**	**----**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	<0.02	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	<10	**----**
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	<1	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.4**	**----**	**----**	**3.0**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**7.5**	**----**	**----**	**6.0**
ø **Reaction Rate**	----	1	-		**----**	**3**	**----**	**----**	**2**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH43 0.5 C	BH45 0.0 C	BH45 0.25 C	BH45 0.5 C	BH45 0.75 C
			Client sampling date / time	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513874-046	EB1513874-047	EB1513874-048	EB1513874-049	EB1513874-050
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	7.3	9.3	----	8.2	----
pH OX (23B)	----	0.1	pH Unit	8.0	9.0	----	8.1	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	----	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	----	<2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	----	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	----	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	----	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	----	<0.02	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.03	0.07	----	0.03	----
Peroxide Sulfur (23De)	----	0.02	% S	0.03	0.12	----	0.02	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	0.04	----	<0.02	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	28	----	<10	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.13	0.18	----	0.11	----
Peroxide Calcium (23Wh)	----	0.02	% Ca	0.16	5.51	----	0.16	----
Acid Reacted Calcium (23X)	----	0.02	% Ca	0.03	5.33	----	0.04	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	17	2660	----	22	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	0.03	4.27	----	0.03	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.13	0.05	----	0.08	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.15	0.13	----	0.10	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	0.08	----	<0.02	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	13	68	----	13	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.02	0.11	----	0.02	----
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	0.56	12.0	----	0.43	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	112	2400	----	86	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	0.18	3.84	----	0.14	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH43 0.5 C	BH45 0.0 C	BH45 0.25 C	BH45 0.5 C	BH45 0.75 C
				Client sampling date / time	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513874-046	EB1513874-047	EB1513874-048	EB1513874-049	EB1513874-050
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**1.5**	**----**	**1.5**	**----**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	<0.02	**----**	<0.02	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	<10	**----**	<10	**----**
Liming Rate	----	1	kg CaCO3/t		<1	<1	**----**	<1	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**----**	**8.6**	**----**	**8.3**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**----**	**7.1**	**----**	**6.2**
ø **Reaction Rate**	----	1	-		**----**	**----**	**3**	**----**	**2**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH46 0.0 C	BH46 0.25 C	BH46 0.5 C	ASS DUPLICATE 40	----
			Client sampling date / time	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	----
Compound	CAS Number	LOR	Unit	EB1513874-051	EB1513874-052	EB1513874-053	EB1513874-054	--------
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	**9.5**	----	**7.8**	**9.0**	----
pH OX (23B)	----	0.1	pH Unit	**9.5**	----	**8.1**	**8.8**	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	<2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	<0.02	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	**0.06**	----	**0.04**	**0.12**	----
Peroxide Sulfur (23De)	----	0.02	% S	**0.10**	----	**0.04**	**0.22**	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	**0.04**	----	<0.02	**0.10**	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	**24**	----	<10	**66**	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	**0.15**	----	**0.12**	**0.18**	----
Peroxide Calcium (23Wh)	----	0.02	% Ca	**7.00**	----	**0.21**	**1.63**	----
Acid Reacted Calcium (23X)	----	0.02	% Ca	**6.84**	----	**0.10**	**1.45**	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	**3420**	----	**48**	**723**	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	**5.48**	----	**0.08**	**1.16**	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	**0.03**	----	**0.12**	**0.07**	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg	**0.16**	----	**0.15**	**0.18**	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg	**0.12**	----	**0.03**	**0.11**	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	**101**	----	**22**	**93**	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	**0.16**	----	**0.04**	**0.15**	----
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	**16.9**	----	**0.41**	**4.23**	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	**3380**	----	**82**	**846**	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	**5.40**	----	**0.13**	**1.35**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH46 0.0 C	BH46 0.25 C	BH46 0.5 C	ASS DUPLICATE 40	----
				Client sampling date / time	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	[27-Feb-2015]	----
Compound	CAS Number	LOR	Unit		EB1513874-051	EB1513874-052	EB1513874-053	EB1513874-054	--------
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**1.5**	**----**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	<0.02	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	<10	**----**
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	<1	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**9.1**	**----**	**----**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**7.8**	**----**	**----**	**----**
ø **Reaction Rate**	----	1	-		**----**	**3**	**----**	**----**	**----**

QUALITY CONTROL REPORT

Work Order	: **EB1513874**	Page	: 1 of 10
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: sally.leyland@aurecongroup.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61-7-3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553	Date Samples Received	: 03-Feb-2015
C-O-C number	: ----	Date Analysis Commenced	: 05-Mar-2015
Sampler	: GEORGINA KERR	Issue Date	: 10-Mar-2015
Site	: ----	No. of samples received	: 54
Quote number	: ----	No. of samples analysed	: 54

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out ir compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-A: pH Measurements (QC Lot: 70868)									
EB1513874-001	BH24 0.0 C	EA029: pH KCl (23A)	----	0.1	pH Unit	9.3	9.4	1.07	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	9.2	9.3	1.08	0% - 20%
EB1513874-020	BH34 1.0C	EA029: pH KCl (23A)	----	0.1	pH Unit	9.4	9.4	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	8.7	8.8	1.14	0% - 20%
EA029-A: pH Measurements (QC Lot: 70869)									
EB1513874-038	BH40 0.5 C	EA029: pH KCl (23A)	----	0.1	pH Unit	8.9	8.9	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	8.2	8.4	2.41	0% - 20%
EB1513874-054	ASS DUPLICATE 40	EA029: pH KCl (23A)	----	0.1	pH Unit	9.0	9.0	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	8.8	8.9	1.13	0% - 20%
EA029-B: Acidity Trail (QC Lot: 70868)									
EB1513874-001	BH24 0.0 C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EB1513874-020	BH34 1.0C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EA029-B: Acidity Trail (QC Lot: 70869)									
EB1513874-038	BH40 0.5 C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EB1513874-054	ASS DUPLICATE 40	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-B: Acidity Trail (QC Lot: 70869) - continued									
EB1513874-054	ASS DUPLICATE 40	EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EA029-C: Sulfur Trail (QC Lot: 70868)									
EB1513874-001	BH24 0.0 C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.05	0.05	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.04	0.03	0.00	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.08	0.08	0.00	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	22	19	16.8	No Limit
EB1513874-020	BH34 1.0C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.08	0.08	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.09	0.09	0.00	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA029-C: Sulfur Trail (QC Lot: 70869)									
EB1513874-038	BH40 0.5 C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.12	0.11	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.23	0.24	8.13	0% - 50%
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.34	0.36	5.02	0% - 50%
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	141	153	8.13	0% - 50%
EB1513874-054	ASS DUPLICATE 40	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.12	0.12	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.10	0.09	13.6	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.22	0.21	7.26	0% - 50%
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	66	58	13.6	No Limit
EA029-D: Calcium Values (QC Lot: 70868)									
EB1513874-001	BH24 0.0 C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	3.77	3.61	4.40	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.18	0.17	0.00	No Limit
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	3.95	3.78	4.30	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	3.02	2.89	4.40	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	1880	1800	4.40	0% - 20%
EB1513874-020	BH34 1.0C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	0.49	0.52	6.44	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.14	0.14	0.00	No Limit
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	0.63	0.66	5.10	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	0.39	0.42	6.44	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	243	259	6.44	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-D: Calcium Values (QC Lot: 70869)									
EB1513874-038	BH40 0.5 C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	1.27	1.17	7.58	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.18	0.18	0.00	No Limit
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	1.45	1.36	6.77	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	1.01	0.94	7.58	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	632	586	7.58	0% - 20%
EB1513874-054	ASS DUPLICATE 40	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	1.45	1.40	3.24	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.18	0.17	0.00	No Limit
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	1.63	1.58	3.18	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	1.16	1.12	3.24	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	723	700	3.24	0% - 20%
EA029-E: Magnesium Values (QC Lot: 70868)									
EB1513874-001	BH24 0.0 C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.13	0.13	0.00	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.03	0.03	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.15	0.16	0.00	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.17	0.17	0.00	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	104	108	3.68	0% - 50%
EB1513874-020	BH34 1.0C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.07	0.08	0.00	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.03	0.03	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.10	0.11	0.00	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.09	0.10	10.1	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	59	65	10.1	No Limit
EA029-E: Magnesium Values (QC Lot: 70869)									
EB1513874-038	BH40 0.5 C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.12	0.14	9.23	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.05	0.05	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.18	0.19	5.96	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.16	0.18	9.23	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	103	112	9.23	0% - 50%
EB1513874-054	ASS DUPLICATE 40	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.11	0.11	0.00	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.07	0.06	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.18	0.18	0.00	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.15	0.15	0.00	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	93	92	1.21	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-F: Excess Acid Neutralising Capacity (QC Lot: 70868)									
EB1513874-001	BH24 0.0 C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	10.6	10.6	0.00	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	3.40	3.40	0.00	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	2120	2120	0.00	0% - 20%
EB1513874-020	BH34 1.0C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	1.90	1.87	1.34	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	0.61	0.60	0.00	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	379	374	1.34	0% - 20%
EA029-F: Excess Acid Neutralising Capacity (QC Lot: 70869)									
EB1513874-038	BH40 0.5 C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	3.39	3.44	1.23	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	1.08	1.10	1.23	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	678	686	1.23	0% - 20%
EB1513874-054	ASS DUPLICATE 40	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	4.23	4.18	1.30	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	1.35	1.34	1.30	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	846	835	1.30	0% - 20%
EA029-H: Acid Base Accounting (QC Lot: 70868)									
EB1513874-001	BH24 0.0 C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EB1513874-020	BH34 1.0C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA029-H: Acid Base Accounting (QC Lot: 70869)									
EB1513874-038	BH40 0.5 C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EB1513874-054	ASS DUPLICATE 40	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA037: Ass Field Screening Analysis (QC Lot: 71348)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA037: Ass Field Screening Analysis (QC Lot: 71348) - continued									
EB1513874-004	BH31 0.25C	EA037: pH (F)	----	0.1	pH Unit	8.6	8.6	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	6.7	6.7	0.00	0% - 20%
EB1513874-024	BH35 0.25 C	EA037: pH (F)	----	0.1	pH Unit	8.8	8.8	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	7.0	6.9	1.44	0% - 20%
EA037: Ass Field Screening Analysis (QC Lot: 71349)									
EB1513874-048	BH45 0.25 C	EA037: pH (F)	----	0.1	pH Unit	8.6	8.7	1.16	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	7.1	7.1	0.00	0% - 20%

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EA029-A: pH Measurements (QCLot: 70868)								
EA029: pH KCl (23A)	----	0.1	pH Unit	<0.1	4.9 pH Unit	98.0	70	130
EA029: pH OX (23B)	----	0.1	pH Unit	<0.1	4.4 pH Unit	93.2	70	130
EA029-A: pH Measurements (QCLot: 70869)								
EA029: pH KCl (23A)	----	0.1	pH Unit	<0.1	4.9 pH Unit	100	70	130
EA029: pH OX (23B)	----	0.1	pH Unit	<0.1	4.4 pH Unit	90.9	70	130
EA029-B: Acidity Trail (QCLot: 70868)								
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	14.32 mole H+ / t	94.3	70	130
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	68 mole H+ / t	102	70	130
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
EA029-B: Acidity Trail (QCLot: 70869)								
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	14.32 mole H+ / t	94.0	70	130
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	68 mole H+ / t	96.6	70	130
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
EA029-C: Sulfur Trail (QCLot: 70868)								
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.069 % S	91.9	70	130
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	----	----	----
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	0.204 % S	98.0	70	130
EA029-C: Sulfur Trail (QCLot: 70869)								
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.069 % S	91.3	70	130
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	----	----	----
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	0.204 % S	102	70	130
EA029-D: Calcium Values (QCLot: 70868)								
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.02	0.125 % Ca	94.7	70	130
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.02	0.289 % Ca	104	70	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EA029-D: Calcium Values (QCLot: 70868) - continued								
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.02	----	----	----	----
EA029-D: Calcium Values (QCLot: 70869)								
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.02	0.125 % Ca	97.1	70	130
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.02	0.289 % Ca	106	70	130
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.02	----	----	----	----
EA029-E: Magnesium Values (QCLot: 70868)								
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	0.285 % Mg	106	70	130
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	0.285 % Mg	96.3	70	130
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	----	----	----
EA029-E: Magnesium Values (QCLot: 70869)								
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	0.285 % Mg	105	70	130
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	0.285 % Mg	100	70	130
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	----	----	----
EA029-F: Excess Acid Neutralising Capacity (QCLot: 70868)								
EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	<0.02	----	----	----	----
EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	<0.02	----	----	----	----
EA029-F: Excess Acid Neutralising Capacity (QCLot: 70869)								
EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	<0.02	----	----	----	----
EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	<0.02	----	----	----	----
EA029-H: Acid Base Accounting (QCLot: 70868)								
EA029: ANC Fineness Factor	----	0.5	-	<0.5	----	----	----	----
EA029: Liming Rate	----	1	kg CaCO3/t	<1	----	----	----	----
EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	----	----	----	----
EA029-H: Acid Base Accounting (QCLot: 70869)								
EA029: ANC Fineness Factor	----	0.5	-	<0.5	----	----	----	----
EA029: Liming Rate	----	1	kg CaCO3/t	<1	----	----	----	----
EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	----	----	----	----

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EA029-H: Acid Base Accounting (QCLot: 70869) - continued								
EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

QA/QC Compliance Assessment for DQO Reporting

Work Order	: **EB1513874**	Page	: 1 of 5
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Telephone	: +61-7-3243 7222
Project	: GPC Geochemical Investigation	Date Samples Received	: 03-Feb-2015
Site	: ----	Issue Date	: 10-Mar-2015
Sampler	: GEORGINA KERR	No. of samples received	: 54
Order number	: 245553	No. of samples analysed	: 54

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA029-H: Acid Base Accounting								
Snap Lock Bag - frozen on receipt at ALS (EA029)								
BH31 0.0 C,	BH33 0.0 C,	**27-Feb-2015**	**05-Mar-2015**	27-Feb-2016	✓	**10-Mar-2015**	03-Jun-2015	✓
BH33 0.5C								
EA029-B: Acidity Trail								
Snap Lock Bag - frozen on receipt at ALS (EA029)								
BH24 0.0 C,	BH26 0.0 C,	**27-Feb-2015**	**05-Mar-2015**	27-Feb-2016	✓	**10-Mar-2015**	03-Jun-2015	✓
BH45 0.5 C,	BH46 0.0 C,							
BH46 0.5 C								
EA029-D: Calcium Values								
Snap Lock Bag - frozen on receipt at ALS (EA029)								
BH31 1.0 C,	BH33 1.5C	**27-Feb-2015**	**05-Mar-2015**	27-Feb-2016	✓	**10-Mar-2015**	03-Jun-2015	✓
EA029-E: Magnesium Values								
Snap Lock Bag - frozen on receipt at ALS (EA029)								
BH33 1.0 C		**27-Feb-2015**	**05-Mar-2015**	27-Feb-2016	✓	**10-Mar-2015**	03-Jun-2015	✓
EA029-A: pH Measurements								
Snap Lock Bag - frozen on receipt at ALS (EA029)								
BH34 0.0 C,	BH34 0.5 C,	**27-Feb-2015**	**05-Mar-2015**	27-Feb-2016	✓	**10-Mar-2015**	03-Jun-2015	✓
BH34 1.0C,	BH34 1.5 C,							
BH35 0.0 C,	BH35 0.5 C,							
BH36 0.0 C,	BH39 0.0 C,							
BH39 0.5 C,	BH39 1.0 C,							
BH39 1.5 C,	BH40 0.0 C,							
BH40 0.5 C,	BH40 1.0 C,							
BH41 0.0 C,	BH41 0.5 C,							
BH43 0.0 C,	BH43 0.5 C,							
BH45 0.0 C,	ASS DUPLICATE 40							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA037: Ass Field Screening Analysis							
Snap Lock Bag - frozen on receipt at ALS (EA037)							
BH31 0.25C, BH31 0.75C, BH31 1.25 C, BH33 0.25C, BH33 0.75C, BH33 1.25 C, BH33 1.75C, BH34 0.25 C, BH34 0.75 C, BH34 1.25 C, BH35 0.25 C, BH36 0.25 C, BH39 0.25 C, BH39 0.75 C, BH39 1.25 C, BH39 1.75 C, BH40 0.25 C, BH40 0.75 C, BH41 0.25 C, BH43 0.25 C, BH45 0.25 C, BH45 0.75 C, BH46 0.25 C	**27-Feb-2015**	**06-Mar-2015**	26-Aug-2015	✓	**10-Mar-2015**	26-Aug-2015	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
ASS Field Screening Analysis	EA037	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	SOIL	In house: Referenced to Ahern et al 2004 - a suspension peroxide oxidation method following the 'sulfur trail' by determining the level of 1M KCL extractable sulfur and the sulfur level after oxidation of soil sulphides. The 'acidity trail' is followed by measurement of TAA, TPA and TSA. Liming Rate is based on results for samples as submitted and incorporates a minimum safety factor of 1.5.
ASS Field Screening Analysis	* EA037	SOIL	In house: Referenced to Acid Sulfate Soils Laboratory Methods Guidelines, version 2.1 June 2004. As received samples are tested for pH field and pH fox and assessed for a reaction rating.

Preparation Methods	Method	Matrix	Method Descriptions
Drying only	EN020D	SOIL	In House
Drying at 85 degrees, bagging and labelling (ASS)	EN020PR	SOIL	In house

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer* KS.	KS	000 01
DATE/TIME: 3 February 2015	DATE/TIME: 3 February 2015	DATE/TIME: 4-2-15	DATE/TIME: 5/2/15 8:35

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	ASS DUPLICATE 1	3/02/2015	S	Glass Jar (250 ml)	1					1				
2	ASS DUPLICATE 2	3/02/2015	S	Glass Jar (250 ml)	1					1				
3	ASS DUPLICATE 3	3/02/2015	S	Glass Jar (250 ml)	1					1				
				TOTAL	3					3				

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Brisbane
Work Order Reference
EB1512125

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2 of 4

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comment:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		3 February 2015	3 February 2015		

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
4	WB2 1.0C	3/02/2015	S							1				
5	WB2 0.5 C	3/02/2015	S							1				
6	WB2 0.0 C	3/02/2015	S							1				
7	WB2 0.75 C	3/02/2015	S								1			
8	WB2 0.25 C	3/02/2015	S								1			
				TOTAL						3	2			

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g.. Ultra Trace Organics) — Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 245553	**COC SEQUENCE NUMBER (Circle)** COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland — **CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comments:	
SAMPLER: Georgina Kerr — **SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:** Georgina Kerr	**RECEIVED BY:** Kelly Schafer	**RELINQUISHED BY:**
COC emailed to ALS? (YES / ~~NO~~) — **EDD FORMAT (or default):**	DATE/TIME: 3 February 2015	DATE/TIME: 3 February 2015	DATE/TIME:
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			**RECEIVED BY:**
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
9	WB1 1.0C	3/02/2015	S							1				
10	WB1 0.75C	3/02/2015	S								1			
11	WB1 0.5C	3/02/2015	S							1				
12	WB1 0.0C	3/02/2015	S							1				
13	WB1 0.25 C	3/02/2015	S								1			
				TOTAL						3	2			

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NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.earth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice brick present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*		
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
3 February 2015	3 February 2015		

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
14	PC4 0.5C	3/02/2015	S							1				
15	PC4 0.0C	3/02/2015	S							1				
16	PC4 1.0C	3/02/2015	S							1				
17	PC4 0.25C	3/02/2015	S								1			
18	PC4 0.75C	3/02/2015	S								1			
				TOTAL						3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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GLADSTONE 46 Callemondah Drive Clinton QLD 4680
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MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 24 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
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NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 02 4421 0629 E: nowra@alsglobal.com
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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comment:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		3 February 2015	3 February 2015

RELINQUISHED BY:	RECEIVED BY:	
DATE/TIME:	DATE/TIME:	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
19	PC3 0.5C	3/02/2015	S							1				
20	PC3 0.0C	3/02/2015	S							1				
21	PC3 0.75C	3/02/2015	S								1			
22	PC3 1.0C	3/02/2015	S							1				
23	PC3 0.25C	3/02/2015	S								1			
				TOTAL						3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*		
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
3 February 2015	3 February 2015		

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
24	PC2 0.0 C	3/02/2015	S	Bag (Green label)						1				
25	PC2 0.25C	3/02/2015	S	Bag (Green label)							1			
26	PC2 0.5C	3/02/2015	S	Bag (Green label)						1				
27	PC2 0.75C	3/02/2015	S	Bag (Green label)							1			
28	PC2 1.0 C	3/02/2015	S	Bag (Green label)						1				
				TOTAL						3	2			

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT **(List due date):**		**FOR LABORATORY USE ONLY (Circle)**
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PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Preserved where applicable on receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comments:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 3 February 2015	DATE/TIME: 3 February 2015
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		**RELINQUISHED BY:** DATE/TIME:	**RECEIVED BY:** DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
29	PC1 0.0C	3/02/2015	S	Bag (Green label)	1					1				
30	PC1 0.25C	3/02/2015	S	Bag (Green label)	1						1			
31	PC1 0.5C	3/02/2015	S	Bag (Green label)	1					1				
32	PC1 0.75C	3/02/2015	S	Bag (Green label)	1						1			
33	PC1 1.0 C	3/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CERTIFICATE OF ANALYSIS

Work Order	: **EB1512125**	Page	: 1 of 16
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: sally.leyland@aurecongroup.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61-7-3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553	Date Samples Received	: 05-Feb-2015 08:35
C-O-C number	: ----	Date Analysis Commenced	: 10-Feb-2015
Sampler	: GEORGINA KERR	Issue Date	: 12-Feb-2015 11:41
Site	: ----		
		No. of samples received	: 33
Quote number	: ----	No. of samples analysed	: 33

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Kim McCabe	Senior Inorganic Chemist	Brisbane Acid Sulphate Soils

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.

- ASS: EA029 (SPOCAS): Retained Acidity not required because pH KCl greater than or equal to 4.5
- ASS: EA029 (SPOCAS): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO3) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from kg/t dry weight to kg/m3 in-situ soil, multiply reported results x wet bulk density of soil in t/m3.
- ASS: EA003 (NATA Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	ASS Duplicate 1C	ASS Duplicate 2C	ASS Duplicate 3C	WB2-1.0C	WB2-0.5C
			Client sampling date / time	[03-Feb-2015]	[03-Feb-2015]	[03-Feb-2015]	[03-Feb-2015]	[03-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512125-001	EB1512125-002	EB1512125-003	EB1512125-004	EB1512125-005
				Result	Result	Result	Result	Result
EA003 :pH (field/fox)								
pH (F)	----	0.1	pH Unit	----	----	----	----	----
pH (Fox)	----	0.1	pH Unit	----	----	----	----	----
Reaction Rate	----	1	Reaction Unit	----	----	----	----	----
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	**9.0**	**9.0**	**9.6**	**9.6**	**9.7**
pH OX (23B)	----	0.1	pH Unit	**8.2**	**8.2**	**9.1**	**9.7**	**10.2**
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	<2	<2	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	<2	<2	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	<2	<2	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	<0.02	<0.02	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	<0.02	<0.02	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	<0.02	<0.02	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	**0.14**	**0.11**	**0.08**	**0.06**	**0.04**
Peroxide Sulfur (23De)	----	0.02	% S	**0.39**	**0.33**	**0.08**	**0.07**	**0.04**
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	**0.25**	**0.22**	<0.02	<0.02	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	**158**	**136**	<10	<10	<10
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	**0.26**	**0.27**	**0.17**	**0.17**	**0.15**
Peroxide Calcium (23Wh)	----	0.02	% Ca	**3.67**	**3.98**	**2.52**	**2.18**	**2.46**
Acid Reacted Calcium (23X)	----	0.02	% Ca	**3.41**	**3.71**	**2.34**	**2.02**	**2.30**
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	**1700**	**1850**	**1170**	**1010**	**1150**
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	**2.72**	**2.96**	**1.88**	**1.61**	**1.84**
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	**0.10**	**0.11**	**0.04**	**0.04**	**0.03**
Peroxide Magnesium (23Tm)	----	0.02	% Mg	**0.37**	**0.38**	**0.12**	**0.08**	**0.10**
Acid Reacted Magnesium (23U)	----	0.02	% Mg	**0.26**	**0.28**	**0.08**	**0.05**	**0.07**
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	**216**	**228**	**69**	**39**	**61**
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	**0.35**	**0.36**	**0.11**	**0.06**	**0.10**
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	**8.76**	**10.0**	**6.13**	**5.00**	**6.26**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	ASS Duplicate 1C	ASS Duplicate 2C	ASS Duplicate 3C	WB2-1.0C	WB2-0.5C
				Client sampling date / time	[03-Feb-2015]	[03-Feb-2015]	[03-Feb-2015]	[03-Feb-2015]	[03-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512125-001	EB1512125-002	EB1512125-003	EB1512125-004	EB1512125-005
					Result	Result	Result	Result	Result
EA029-F: Excess Acid Neutralising Capacity - Continued									
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		**1750**	**2000**	**1220**	**1000**	**1250**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		**2.80**	**3.20**	**1.96**	**1.60**	**2.00**
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**1.5**	**1.5**	**1.5**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	<0.02	<0.02	<0.02	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	<10	<10	<10	<10
Liming Rate	----	1	kg CaCO3/t		<1	<1	<1	<1	<1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB2-0.0C	WB2-0.75C	WB2-0.25C	WB1-1.0C	WB1-0.75C
			Client sampling date / time	[03-Feb-2015]	[03-Feb-2015]	[03-Feb-2015]	[03-Feb-2015]	[03-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512125-006	EB1512125-007	EB1512125-008	EB1512125-009	EB1512125-010
				Result	Result	Result	Result	Result
EA003 :pH (field/fox)								
pH (F)	----	0.1	pH Unit	----	8.4	8.6	----	9.0
pH (Fox)	----	0.1	pH Unit	----	7.1	9.0	----	7.1
Reaction Rate	----	1	Reaction Unit	----	3	3	----	3
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	9.6	----	----	9.6	----
pH OX (23B)	----	0.1	pH Unit	10.0	----	----	10.2	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	----	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	----	<2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	<0.02	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.04	----	----	0.06	----
Peroxide Sulfur (23De)	----	0.02	% S	0.04	----	----	0.06	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	----	<0.02	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	<10	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.16	----	----	0.16	----
Peroxide Calcium (23Wh)	----	0.02	% Ca	2.78	----	----	3.65	----
Acid Reacted Calcium (23X)	----	0.02	% Ca	2.62	----	----	3.49	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	1310	----	----	1740	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	2.10	----	----	2.79	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.03	----	----	0.03	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.13	----	----	0.14	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.09	----	----	0.11	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	76	----	----	94	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.12	----	----	0.15	----
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	6.76	----	----	9.51	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB2-0.0C	WB2-0.75C	WB2-0.25C	WB1-1.0C	WB1-0.75C
				Client sampling date / time	[03-Feb-2015]	[03-Feb-2015]	[03-Feb-2015]	[03-Feb-2015]	[03-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512125-006	EB1512125-007	EB1512125-008	EB1512125-009	EB1512125-010
					Result	Result	Result	Result	Result
EA029-F: Excess Acid Neutralising Capacity - Continued									
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		**1350**	**----**	**----**	**1900**	**----**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		**2.16**	**----**	**----**	**3.04**	**----**
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**----**	**1.5**	**----**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	**----**	<0.02	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	**----**	<10	**----**
Liming Rate	----	1	kg CaCO3/t		<1	**----**	**----**	<1	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB1-0.5C	WB1-0.0C	WB1-0.25C	PC4-0.5C	PC4-0.0C
			Client sampling date / time	[03-Feb-2015]	[03-Feb-2015]	[03-Feb-2015]	[03-Feb-2015]	[03-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512125-011	EB1512125-012	EB1512125-013	EB1512125-014	EB1512125-015
				Result	Result	Result	Result	Result
EA003 :pH (field/fox)								
pH (F)	----	0.1	pH Unit	----	----	9.0	----	----
pH (Fox)	----	0.1	pH Unit	----	----	6.9	----	----
Reaction Rate	----	1	Reaction Unit	----	----	3	----	----
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	9.7	9.7	----	9.0	8.5
pH OX (23B)	----	0.1	pH Unit	10.2	10.7	----	8.0	7.9
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	----	<2	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	----	<2	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	----	<2	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	----	<0.02	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	----	<0.02	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	----	<0.02	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.02	0.04	----	0.11	0.17
Peroxide Sulfur (23De)	----	0.02	% S	0.04	0.05	----	0.39	0.44
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	<0.02	----	0.28	0.27
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	<10	----	172	168
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.15	0.15	----	0.28	0.35
Peroxide Calcium (23Wh)	----	0.02	% Ca	2.07	3.79	----	3.64	1.40
Acid Reacted Calcium (23X)	----	0.02	% Ca	1.92	3.64	----	3.37	1.04
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	960	1820	----	1680	522
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	1.54	2.91	----	2.69	0.84
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.03	0.02	----	0.12	0.23
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.06	0.09	----	0.39	0.40
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.04	0.06	----	0.26	0.16
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	31	53	----	215	136
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.05	0.08	----	0.34	0.22
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	5.00	9.88	----	9.26	2.92

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB1-0.5C	WB1-0.0C	WB1-0.25C	PC4-0.5C	PC4-0.0C
				Client sampling date / time	[03-Feb-2015]	[03-Feb-2015]	[03-Feb-2015]	[03-Feb-2015]	[03-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512125-011	EB1512125-012	EB1512125-013	EB1512125-014	EB1512125-015
					Result	Result	Result	Result	Result
EA029-F: Excess Acid Neutralising Capacity - Continued									
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		**1000**	**1980**	**----**	**1850**	**583**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		**1.60**	**3.16**	**----**	**2.96**	**0.93**
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**1.5**	**----**	**1.5**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	<0.02	**----**	<0.02	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	<10	**----**	<10	<10
Liming Rate	----	1	kg CaCO3/t		<1	<1	**----**	<1	<1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	PC4-1.0C	PC4-0.25C	PC4-0.75C	PC3-0.5C	PC3-0.0C
			Client sampling date / time	[03-Feb-2015]	[03-Feb-2015]	[03-Feb-2015]	[03-Feb-2015]	[03-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512125-016	EB1512125-017	EB1512125-018	EB1512125-019	EB1512125-020
				Result	Result	Result	Result	Result
EA003 :pH (field/fox)								
pH (F)	----	0.1	pH Unit	----	8.6	9.0	----	----
pH (Fox)	----	0.1	pH Unit	----	7.6	7.2	----	----
Reaction Rate	----	1	Reaction Unit	----	4	3	----	----
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	8.7	----	----	9.3	8.8
pH OX (23B)	----	0.1	pH Unit	7.8	----	----	8.5	8.0
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	----	<2	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	----	<2	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	<2	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	<0.02	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	<0.02	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	<0.02	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.15	----	----	0.12	0.15
Peroxide Sulfur (23De)	----	0.02	% S	0.66	----	----	0.33	0.44
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.52	----	----	0.21	0.29
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	322	----	----	130	181
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.29	----	----	0.22	0.33
Peroxide Calcium (23Wh)	----	0.02	% Ca	2.04	----	----	4.06	2.63
Acid Reacted Calcium (23X)	----	0.02	% Ca	1.76	----	----	3.84	2.30
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	876	----	----	1920	1150
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	1.40	----	----	3.07	1.84
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.16	----	----	0.06	0.15
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.36	----	----	0.15	0.38
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.20	----	----	0.09	0.23
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	165	----	----	74	187
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.26	----	----	0.12	0.30
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	3.98	----	----	8.76	5.85

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	PC4-1.0C	PC4-0.25C	PC4-0.75C	PC3-0.5C	PC3-0.0C
				Client sampling date / time	[03-Feb-2015]	[03-Feb-2015]	[03-Feb-2015]	[03-Feb-2015]	[03-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512125-016	EB1512125-017	EB1512125-018	EB1512125-019	EB1512125-020
					Result	Result	Result	Result	Result
EA029-F: Excess Acid Neutralising Capacity - Continued									
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		**796**	**----**	**----**	**1750**	**1170**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		**1.28**	**----**	**----**	**2.80**	**1.87**
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**----**	**1.5**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	**----**	<0.02	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	**----**	<10	<10
Liming Rate	----	1	kg CaCO3/t		<1	**----**	**----**	<1	<1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	PC3-0.75C	PC3-1.0C	PC3-0.25C	PC2-0.0C	PC2-0.25C
			Client sampling date / time	[03-Feb-2015]	[03-Feb-2015]	[03-Feb-2015]	[03-Feb-2015]	[03-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512125-021	EB1512125-022	EB1512125-023	EB1512125-024	EB1512125-025
				Result	Result	Result	Result	Result
EA003 :pH (field/fox)								
pH (F)	----	0.1	pH Unit	8.9	----	8.9	----	9.0
pH (Fox)	----	0.1	pH Unit	7.1	----	7.2	----	7.1
Reaction Rate	----	1	Reaction Unit	3	----	3	----	3
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	----	9.2	----	9.0	----
pH OX (23B)	----	0.1	pH Unit	----	8.4	----	8.2	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	----	<2	----	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	----	<2	----	<2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	----	<2	----	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	----	<0.02	----	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	----	<0.02	----	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	----	<0.02	----	<0.02	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	----	0.14	----	0.15	----
Peroxide Sulfur (23De)	----	0.02	% S	----	0.40	----	0.38	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	----	0.26	----	0.24	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	----	161	----	147	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	----	0.23	----	0.30	----
Peroxide Calcium (23Wh)	----	0.02	% Ca	----	4.38	----	3.44	----
Acid Reacted Calcium (23X)	----	0.02	% Ca	----	4.16	----	3.14	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	----	2070	----	1560	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	----	3.32	----	2.51	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	----	0.07	----	0.12	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg	----	0.20	----	0.39	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg	----	0.14	----	0.28	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	----	114	----	227	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	----	0.18	----	0.36	----
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	----	9.76	----	8.92	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	PC3-0.75C	PC3-1.0C	PC3-0.25C	PC2-0.0C	PC2-0.25C
				Client sampling date / time	[03-Feb-2015]	[03-Feb-2015]	[03-Feb-2015]	[03-Feb-2015]	[03-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512125-021	EB1512125-022	EB1512125-023	EB1512125-024	EB1512125-025
					Result	Result	Result	Result	Result
EA029-F: Excess Acid Neutralising Capacity - Continued									
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		**----**	**1950**	**----**	**1780**	**----**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		**----**	**3.12**	**----**	**2.85**	**----**
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**----**	**1.5**	**----**	**1.5**	**----**
Net Acidity (sulfur units)	----	0.02	% S		**----**	<0.02	**----**	<0.02	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		**----**	<10	**----**	<10	**----**
Liming Rate	----	1	kg CaCO3/t		**----**	<1	**----**	<1	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	PC2-0.5C	PC2-0.75C	PC2-1.0C	PC1-0.0C	PC1-0.25C
			Client sampling date / time	[03-Feb-2015]	[03-Feb-2015]	[03-Feb-2015]	[03-Feb-2015]	[03-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512125-026	EB1512125-027	EB1512125-028	EB1512125-029	EB1512125-030
				Result	Result	Result	Result	Result
EA003 :pH (field/fox)								
pH (F)	----	0.1	pH Unit	----	8.8	----	----	9.0
pH (Fox)	----	0.1	pH Unit	----	7.4	----	----	7.5
Reaction Rate	----	1	Reaction Unit	----	3	----	----	3
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	9.1	----	9.3	9.1	----
pH OX (23B)	----	0.1	pH Unit	8.2	----	8.6	8.5	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	<2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	<0.02	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.13	----	0.13	0.10	----
Peroxide Sulfur (23De)	----	0.02	% S	0.54	----	0.32	0.21	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.40	----	0.19	0.11	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	252	----	120	69	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.25	----	0.22	0.24	----
Peroxide Calcium (23Wh)	----	0.02	% Ca	3.87	----	4.60	3.10	----
Acid Reacted Calcium (23X)	----	0.02	% Ca	3.61	----	4.38	2.86	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	1800	----	2190	1430	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	2.89	----	3.51	2.29	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.11	----	0.06	0.10	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.37	----	0.24	0.23	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.26	----	0.18	0.14	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	218	----	145	112	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.35	----	0.23	0.18	----
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	8.76	----	11.9	8.13	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	PC2-0.5C	PC2-0.75C	PC2-1.0C	PC1-0.0C	PC1-0.25C
				Client sampling date / time	[03-Feb-2015]	[03-Feb-2015]	[03-Feb-2015]	[03-Feb-2015]	[03-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512125-026	EB1512125-027	EB1512125-028	EB1512125-029	EB1512125-030
					Result	Result	Result	Result	Result
EA029-F: Excess Acid Neutralising Capacity - Continued									
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		**1750**	**----**	**2380**	**1620**	**----**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		**2.80**	**----**	**3.80**	**2.60**	**----**
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**1.5**	**----**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	<0.02	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	<10	**----**
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	<1	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	PC1-0.5C	PC1-0.75C	PC1-1.0C	----	----
			Client sampling date / time	[03-Feb-2015]	[03-Feb-2015]	[03-Feb-2015]	----	----
Compound	CAS Number	LOR	Unit	EB1512125-031	EB1512125-032	EB1512125-033	--------	--------
				Result	Result	Result	Result	Result
EA003 :pH (field/fox)								
pH (F)	----	0.1	pH Unit	----	9.2	----	----	----
pH (Fox)	----	0.1	pH Unit	----	7.0	----	----	----
Reaction Rate	----	1	Reaction Unit	----	3	----	----	----
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	9.1	----	9.2	----	----
pH OX (23B)	----	0.1	pH Unit	8.3	----	9.2	----	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	----	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	----	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	----	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	----	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.15	----	0.10	----	----
Peroxide Sulfur (23De)	----	0.02	% S	0.51	----	0.24	----	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.36	----	0.14	----	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	228	----	85	----	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.23	----	0.20	----	----
Peroxide Calcium (23Wh)	----	0.02	% Ca	4.83	----	2.87	----	----
Acid Reacted Calcium (23X)	----	0.02	% Ca	4.60	----	2.67	----	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	2300	----	1330	----	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	3.68	----	2.13	----	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.08	----	0.06	----	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.31	----	0.18	----	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.23	----	0.11	----	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	189	----	92	----	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.30	----	0.15	----	----
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	11.3	----	6.63	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	PC1-0.5C	PC1-0.75C	PC1-1.0C	----	----
				Client sampling date / time	[03-Feb-2015]	[03-Feb-2015]	[03-Feb-2015]	----	----
Compound	CAS Number	LOR	Unit		EB1512125-031	EB1512125-032	EB1512125-033	--------	--------
					Result	Result	Result	Result	Result
EA029-F: Excess Acid Neutralising Capacity - Continued									
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		**2250**	----	**1320**	----	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		**3.60**	----	**2.12**	----	----
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	----	**1.5**	----	----
Net Acidity (sulfur units)	----	0.02	% S		<0.02	----	<0.02	----	----
Net Acidity (acidity units)	----	10	mole H+ / t		<10	----	<10	----	----
Liming Rate	----	1	kg CaCO3/t		<1	----	<1	----	----

QUALITY CONTROL REPORT

Work Order	: **EB1512125**	Page	: 1 of 9
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: sally.leyland@aurecongroup.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61-7-3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553	Date Samples Received	: 05-Feb-2015
C-O-C number	: ----	Date Analysis Commenced	: 10-Feb-2015
Sampler	: GEORGINA KERR	Issue Date	: 12-Feb-2015
Site	: ----	No. of samples received	: 33
Quote number	: ----	No. of samples analysed	: 33

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out ir compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Kim McCabe	Senior Inorganic Chemist	Brisbane Acid Sulphate Soils

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA003 :pH (field/fox) (QC Lot: 62709)									
EB1512125-007	WB2-0.75C	EA003: pH (F)	----	0.1	pH Unit	8.4	8.6	2.35	0% - 20%
		EA003: pH (Fox)	----	0.1	pH Unit	7.1	7.0	1.42	0% - 20%
EB1512125-027	PC2-0.75C	EA003: pH (F)	----	0.1	pH Unit	8.8	8.8	0.00	0% - 20%
		EA003: pH (Fox)	----	0.1	pH Unit	7.4	7.6	2.67	0% - 20%
EA029-A: pH Measurements (QC Lot: 62721)									
EB1512125-001	ASS Duplicate 1C	EA029: pH KCl (23A)	----	0.1	pH Unit	9.0	9.0	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	8.2	8.2	0.00	0% - 20%
EB1512125-015	PC4-0.0C	EA029: pH KCl (23A)	----	0.1	pH Unit	8.5	8.6	1.17	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	7.9	7.8	1.27	0% - 20%
EA029-A: pH Measurements (QC Lot: 62722)									
EB1512125-033	PC1-1.0C	EA029: pH KCl (23A)	----	0.1	pH Unit	9.2	9.2	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	9.2	9.1	1.09	0% - 20%
EA029-B: Acidity Trail (QC Lot: 62721)									
EB1512125-001	ASS Duplicate 1C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EB1512125-015	PC4-0.0C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EA029-B: Acidity Trail (QC Lot: 62722)									
EB1512125-033	PC1-1.0C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-B: Acidity Trail (QC Lot: 62722) - continued									
EB1512125-033	PC1-1.0C	EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EA029-C: Sulfur Trail (QC Lot: 62721)									
EB1512125-001	ASS Duplicate 1C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.14	0.13	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.25	0.24	0.00	0% - 50%
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.39	0.37	3.57	0% - 50%
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	158	152	3.67	0% - 50%
EB1512125-015	PC4-0.0C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.17	0.18	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.27	0.24	12.5	0% - 50%
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.44	0.42	5.68	0% - 20%
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	168	148	12.5	0% - 50%
EA029-C: Sulfur Trail (QC Lot: 62722)									
EB1512125-033	PC1-1.0C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.10	0.11	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.14	0.10	30.7	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.24	0.21	13.8	0% - 50%
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	85	62	30.7	No Limit
EA029-D: Calcium Values (QC Lot: 62721)									
EB1512125-001	ASS Duplicate 1C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	3.41	3.29	3.47	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.26	0.26	0.00	0% - 50%
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	3.67	3.55	3.21	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	2.72	2.63	3.47	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	1700	1640	3.47	0% - 20%
EB1512125-015	PC4-0.0C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	1.04	0.96	8.70	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.35	0.36	0.00	0% - 50%
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	1.40	1.32	6.04	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	0.84	0.77	8.70	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	522	478	8.70	0% - 20%
EA029-D: Calcium Values (QC Lot: 62722)									
EB1512125-033	PC1-1.0C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	2.67	2.41	10.0	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.20	0.20	0.00	0% - 50%
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	2.87	2.62	9.29	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	2.13	1.93	10.0	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	1330	1200	10.0	0% - 20%
EA029-E: Magnesium Values (QC Lot: 62721)									
EB1512125-001	ASS Duplicate 1C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.26	0.23	11.7	0% - 50%
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.10	0.11	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.37	0.34	8.03	0% - 50%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-E: Magnesium Values (QC Lot: 62721) - continued									
EB1512125-001	ASS Duplicate 1C	EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.35	0.31	11.7	0% - 50%
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	216	192	11.7	0% - 20%
EB1512125-015	PC4-0.0C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.16	0.13	21.6	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.23	0.24	0.00	0% - 50%
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.40	0.37	6.78	0% - 50%
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.22	0.18	21.6	0% - 50%
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	136	109	21.6	0% - 50%
EA029-E: Magnesium Values (QC Lot: 62722)									
EB1512125-033	PC1-1.0C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.11	0.09	17.8	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.06	0.06	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.18	0.16	11.3	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.15	0.12	17.8	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	92	77	17.8	No Limit
EA029-F: Excess Acid Neutralising Capacity (QC Lot: 62721)									
EB1512125-001	ASS Duplicate 1C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	8.76	8.82	0.712	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	2.80	2.82	0.712	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	1750	1760	0.712	0% - 20%
EB1512125-015	PC4-0.0C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	2.92	2.92	0.00	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	0.93	0.93	0.00	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	583	584	0.00	0% - 20%
EA029-F: Excess Acid Neutralising Capacity (QC Lot: 62722)									
EB1512125-033	PC1-1.0C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	6.63	6.69	0.939	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	2.12	2.14	0.939	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	1320	1340	0.939	0% - 20%
EA029-H: Acid Base Accounting (QC Lot: 62721)									
EB1512125-001	ASS Duplicate 1C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-H: Acid Base Accounting (QC Lot: 62721) - continued									
EB1512125-001	ASS Duplicate 1C	EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EB1512125-015	PC4-0.0C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA029-H: Acid Base Accounting (QC Lot: 62722)									
EB1512125-033	PC1-1.0C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EA029-A: pH Measurements (QCLot: 62721)								
EA029: pH KCl (23A)	----	0.1	pH Unit	<0.1	4.9 pH Unit	100	70	130
EA029: pH OX (23B)	----	0.1	pH Unit	<0.1	4.4 pH Unit	90.9	70	130
EA029-A: pH Measurements (QCLot: 62722)								
EA029: pH KCl (23A)	----	0.1	pH Unit	<0.1	4.9 pH Unit	100	70	130
EA029: pH OX (23B)	----	0.1	pH Unit	<0.1	4.4 pH Unit	90.9	70	130
EA029-B: Acidity Trail (QCLot: 62721)								
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	13.2 mole H+ / t	104	70	130
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	72.53 mole H+ / t	97.1	70	130
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
EA029-B: Acidity Trail (QCLot: 62722)								
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	13.2 mole H+ / t	104	70	130
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	72.53 mole H+ / t	94.8	70	130
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
EA029-C: Sulfur Trail (QCLot: 62721)								
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.053 % S	106	70	130
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	----	----	----
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	0.204 % S	100	70	130
EA029-C: Sulfur Trail (QCLot: 62722)								
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.053 % S	104	70	130
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	----	----	----
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	0.204 % S	101	70	130
EA029-D: Calcium Values (QCLot: 62721)								
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.02	0.125 % Ca	97.8	70	130
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.02	0.289 % Ca	98.0	70	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EA029-D: Calcium Values (QCLot: 62721) - continued								
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.02	----	----	----	----
EA029-D: Calcium Values (QCLot: 62722)								
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.02	0.125 % Ca	97.0	70	130
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.02	0.289 % Ca	98.3	70	130
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.02	----	----	----	----
EA029-E: Magnesium Values (QCLot: 62721)								
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	0.285 % Mg	105	70	130
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	0.285 % Mg	99.4	70	130
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	----	----	----
EA029-E: Magnesium Values (QCLot: 62722)								
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	0.285 % Mg	108	70	130
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	0.285 % Mg	98.7	70	130
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	----	----	----
EA029-F: Excess Acid Neutralising Capacity (QCLot: 62721)								
EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	<0.02	----	----	----	----
EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	<0.02	----	----	----	----
EA029-F: Excess Acid Neutralising Capacity (QCLot: 62722)								
EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	<0.02	----	----	----	----
EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	<0.02	----	----	----	----
EA029-H: Acid Base Accounting (QCLot: 62721)								
EA029: ANC Fineness Factor	----	0.5	-	<0.5	----	----	----	----
EA029: Liming Rate	----	1	kg CaCO3/t	<1	----	----	----	----
EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	----	----	----	----
EA029-H: Acid Base Accounting (QCLot: 62722)								
EA029: ANC Fineness Factor	----	0.5	-	<0.5	----	----	----	----
EA029: Liming Rate	----	1	kg CaCO3/t	<1	----	----	----	----
EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	----	----	----	----

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EA029-H: Acid Base Accounting (QCLot: 62722) - continued								
EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

QA/QC Compliance Assessment for DQO Reporting

Work Order	: **EB1512125**	Page	: 1 of 4
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Telephone	: +61-7-3243 7222
Project	: GPC Geochemical Investigation	Date Samples Received	: 05-Feb-2015
Site	: ----	Issue Date	: 12-Feb-2015
Sampler	: GEORGINA KERR	No. of samples received	: 33
Order number	: 245553	No. of samples analysed	: 33

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA003 :pH (field/fox)							
Snap Lock Bag - frozen on receipt at ALS (EA003)							
WB2-0.75C, WB2-0.25C, WB1-0.75C, WB1-0.25C, PC4-0.25C, PC4-0.75C, PC3-0.75C, PC3-0.25C, PC2-0.25C, PC2-0.75C, PC1-0.25C, PC1-0.75C	**03-Feb-2015**	**10-Feb-2015**	03-Feb-2016	✓	**12-Feb-2015**	11-May-2015	✓
EA029-A: pH Measurements							
Snap Lock Bag - frozen on receipt at ALS (EA029)							
ASS Duplicate 1C, ASS Duplicate 2C, ASS Duplicate 3C, WB2-1.0C, WB2-0.5C, WB2-0.0C, WB1-1.0C, WB1-0.5C, WB1-0.0C, PC4-0.5C, PC4-0.0C, PC4-1.0C, PC3-0.5C, PC3-0.0C, PC3-1.0C, PC2-0.0C, PC2-0.5C, PC2-1.0C, PC1-0.0C, PC1-0.5C, PC1-1.0C	**03-Feb-2015**	**10-Feb-2015**	03-Feb-2016	✓	**12-Feb-2015**	11-May-2015	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
pH field/fox	EA003	2	12	**16.67**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
pH field/fox	EA003	SOIL	In house: Referenced to Ahern et al 1998 - determined on a 1:5 soil/water extract designed to simulate field measured pH and pH after the extract has been oxidised with peroxide.
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	SOIL	In house: Referenced to Ahern et al 2004 - a suspension peroxide oxidation method following the 'sulfur trail' by determining the level of 1M KCL extractable sulfur and the sulfur level after oxidation of soil sulphides. The 'acidity trail' is followed by measurement of TAA, TPA and TSA. Liming Rate is based on results for samples as submitted and incorporates a minimum safety factor of 1.5.

Preparation Methods	Method	Matrix	Method Descriptions
Drying only	EN020D	SOIL	In House
Drying at 85 degrees, bagging and labelling (ASS)	EN020PR	SOIL	In house

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) **Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround		Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free Ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: 245553		COC: (1) 2 3 4 5 6 7	Random Sample Temperature on Receipt: 6
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comment:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	KSchafer	OMO AY
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
4 February 2015	4 February 2015	5.2.15 1600	6/2/15 8:20

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
	WB3 0.75C ✓	4/02/2015	S	Bag (Green label)	1					1				
	WB3 0.5C ✓	4/02/2015	S	Bag (Green label)	1						1			
				TOTAL	2					1	1			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Pr Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Environmental Division Brisbane
Work Order Reference
EB1512224

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT **(List due date):**	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		**Yes - Non Standard or urgent TAT (List due date):** **5 day turnaround**	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 (2) 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comments:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
Georgina Kerr	*Kelly Schafer*		
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
4 February 2015	4 February 2015	5-2-15 1600	6/2/15 8:20

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS: MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
	WB4 0.0 C ✓	4/02/2015	S	Bag (Green label)	1					1				
	WB4 0.25C ✓	4/02/2015	S	Bag (Green label)	1						1			
	WB4 0.5C ✓	4/02/2015	S	Bag (Green label)	1					1				
	WB4 0.75C ✓	4/02/2015	S	Bag (Green label)	1						1			
	WB4 1.0 C ✓	4/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice packs present upon receipt? Yes / No
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt:
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comments:

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME: 5-2-15 1600
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		4 February 2015	4 February 2015	

RECEIVED BY:	**Additional Information**
DATE/TIME: 6/2/15 8:20	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
	WB5 0.0C ✓	4/02/2015	S	Bag (Green label)	1					1				
	WB5 0.25C ✓	4/02/2015	S	Bag (Green label)	1						1			
	WB5 0.5C ✓	4/02/2015	S	Bag (Green label)	1					1				
	WB5 0.75C ✓	4/02/2015	S	Bag (Green label)	1						1			
	WB5 1.0C ✓	4/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 16 Callemondah Drive Clinton QLD 4680
Ph: 07 7471 5800 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 6735 E: mudgee mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		**Yes - Non Standard or urgent TAT (List due date):** **5 day turnaround**	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / Frozen Coolants present on arrival? Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 2 3 (4) 5 6	Random Sample Temperature on Receipt
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6	Other comments:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	KS	0700 04
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
4 February 2015	4 February 2015	5.2.15 1600	6/2/15 8:20

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
	WB8 0.0C ✓	4/02/2015	S	Bag (Green label)	1					1				
	WB8 0.25C ✓	4/02/2015	S	Bag (Green label)	1						1			
	WB8 0.5C ✓	4/02/2015	S	Bag (Green label)	1					1				
	WB8 0.75C ✓	4/02/2015	S	Bag (Green label)	1						1			
	WB8 1.0C ✓	4/02/2015	S	Bag (Green label)	1					1				
					5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 07 7471 5600 E: gladstone@alsglobal.com
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Ph: 02 6372 6735 E: mudgee mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT **(List due date):**	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		**Yes - Non Standard or urgent TAT (List due date):** **5 day turnaround**	Quarantine Time
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Temp: 2.7 °C
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6	Cooling: Ice / Gel
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6	Security Seal Intact: Yes / No
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		Free ice / cubes present: Yes / No
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		Custody Seal Intact: Yes / No
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			Free of Headspace: Yes / No
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			Other comments:

RELINQUISHED BY:	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
Georgina Kerr	*Kelly Schafer*		
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
4 February 2015	4 February 2015	5-2-15 1600	6/2/15 8:20

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
	WB9 0.0C ✓	4/02/2015	S	Bag (Green label)	1					1				
	WB9 0.25 C ✓	4/02/2015	S	Bag (Green label)	1						1			
	WB9 0.5C ✓	4/02/2015	S	Bag (Green label)	1					1				
	WB9 0.75C ✓	4/02/2015	S	Bag (Green label)	1						1			
	WB9 1.0C ✓	4/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circled)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		**Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround	Temperature on Receipt (°C)
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6	
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	KS	ooo oy
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
4 February 2015	4 February 2015	5-2-15 1600	6/2/15 8:20

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
	WB12 0.0 C	4/02/2015	S	Bag (Green label)	1					1				
	WB12 0.25 C	4/02/2015	S	Bag (Green label)	1						1			
	WB12 0.5 C	4/02/2015	S	Bag (Green label)	1					1				
	WB12 0.75 C	4/02/2015	S	Bag (Green label)	1						1			
	WB12 1.0C	4/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): **5 day turnaround**	Security Seal Intact / Broken / None
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Ice Bricks Present / Absent on receipt
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6	Cooling Method:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		Custody Seal Intact / Broken / None
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	AS	0000 04
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
4 February 2015	4 February 2015	5·2·15 1600	6/2/15 8:20

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS - MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
	WB13 0.0 C	4/02/2015	S	Bag (Green label)	1					1				
	WB13 0.25 C	4/02/2015	S	Bag (Green label)	1						1			
	WB13 0.5 C	4/02/2015	S	Bag (Green label)	1					1				
	WB13 0.75 C	4/02/2015	S	Bag (Green label)	1						1			
	WB13 1.0C	4/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circled)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6	
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6	
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		4 February 2015	4 February 2015

RELINQUISHED BY:	**RECEIVED BY:**
	000 04
DATE/TIME: 5.2.15 1600	DATE/TIME: 6/2/15 8:20

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS (S=SOIL (S) WATER (W))			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
	WB16 0.0 C	4/02/2015	S	Bag (Green label)	1					1				
	WB16 0.25 C	4/02/2015	S	Bag (Green label)	1						1			
	WB16 0.5 C	4/02/2015	S	Bag (Green label)	1					1				
	WB16 0.75 C	4/02/2015	S	Bag (Green label)	1						1			
	WB16 1.0C	4/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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Ph: 07 7471 5600 E: gladstone@alsglobal.com

MACKAY 78 Harbour Road Mackay QLD 4740
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Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
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Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
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Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date):	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		**Yes - Non Standard or urgent TAT (List due date):**	**5 day turnaround**
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:**	**SY - 1021-14 V2**	**COC SEQUENCE NUMBER (Circle)** COC: 1 2 3 4 5 6 OF: 1 2 3 4 5 6
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006		
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		4 February 2015	4 February 2015

RELINQUISHED BY:	**RECEIVED BY:**
DATE/TIME: 5-2-15 1600	DATE/TIME: 6/2/15 8:20

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Additional Information
	WB18 0.0 C	4/02/2015	S	Bag (Green label)	1					1				
	WB18 0.25 C	4/02/2015	S	Bag (Green label)	1						1			
	WB18 0.5 C	4/02/2015	S	Bag (Green label)	1					1				
	WB18 0.75 C	4/02/2015	S	Bag (Green label)	1						1			
	WB18 1.0C	4/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
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Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com

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NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com

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Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT **(List due date):**	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		**Yes - Non Standard or urgent TAT (List due date):**	**5 day turnaround**
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:**	**SY - 1021-14 V2**	**COC SEQUENCE NUMBER (Circle)** COC: 1 2 3 4 5 6 OF: 1 2 3 4 5 6
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006		
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		4 February 2015	4 February 2015

RELINQUISHED BY:	**RECEIVED BY:**
DATE/TIME: 5-2-15 1600	DATE/TIME: 6/2/15 8:20

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Additional Information
	ASS DUPLICATE 4	4/02/2015	S	Bag (Green label)	1					1				
	ASS DUPLICATE 5	4/02/2015	S	Bag (Green label)	1					1				
	ASS DUPLICATE 6	4/02/2015	S	Bag (Green label)	1					1				
				TOTAL	3					3				

ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CERTIFICATE OF ANALYSIS

Work Order	: **EB1512224**	Page	: 1 of 20
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: sally.leyland@aurecongroup.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61-7-3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553	Date Samples Received	: 06-Feb-2015 09:00
C-O-C number	: ----	Date Analysis Commenced	: 10-Feb-2015
Sampler	: GEORGINA KERR	Issue Date	: 13-Feb-2015 12:42
Site	: ----		
		No. of samples received	: 45
Quote number	: ----	No. of samples analysed	: 45

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.

- ASS: EA029 (SPOCAS): Retained Acidity not required because pH KCl greater than or equal to 4.5
- ASS: EA029 (SPOCAS): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO3) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from kg/t dry weight to kg/m3 in-situ soil, multiply reported results x wet bulk density of soil in t/m3.
- ASS: EA003 (NATA Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB3 0.75C	WB3 0.5C	WB4 0.0 C	WB4 0.25C	WB4 0.5C
			Client sampling date / time	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512224-001	EB1512224-002	EB1512224-003	EB1512224-004	EB1512224-005
				Result	Result	Result	Result	Result
EA003 :pH (field/fox)								
pH (F)	----	0.1	pH Unit	----	8.6	----	8.9	----
pH (Fox)	----	0.1	pH Unit	----	8.9	----	7.2	----
Reaction Rate	----	1	Reaction Unit	----	2	----	2	----
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	9.7	----	9.6	----	9.6
pH OX (23B)	----	0.1	pH Unit	8.5	----	8.2	----	8.4
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.04	----	0.06	----	0.04
Peroxide Sulfur (23De)	----	0.02	% S	0.04	----	0.07	----	0.04
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	<0.02	----	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	11	----	<10
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.15	----	0.16	----	0.16
Peroxide Calcium (23Wh)	----	0.02	% Ca	2.41	----	2.76	----	3.16
Acid Reacted Calcium (23X)	----	0.02	% Ca	2.26	----	2.59	----	3.00
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	1130	----	1290	----	1500
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	1.81	----	2.08	----	2.40
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.04	----	0.03	----	0.02
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.13	----	0.10	----	0.06
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.09	----	0.07	----	0.04
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	76	----	58	----	32
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.12	----	0.09	----	0.05
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	7.01	----	6.19	----	7.63

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB3 0.75C	WB3 0.5C	WB4 0.0 C	WB4 0.25C	WB4 0.5C
				Client sampling date / time	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512224-001	EB1512224-002	EB1512224-003	EB1512224-004	EB1512224-005
					Result	Result	Result	Result	Result
EA029-F: Excess Acid Neutralising Capacity - Continued									
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		**1400**	**----**	**1240**	**----**	**1520**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		**2.24**	**----**	**1.98**	**----**	**2.44**
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	<1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB4 0.75C	WB4 1.0C	WB5 0.0C	WB5 0.25C	WB5 0.5C
			Client sampling date / time	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512224-006	EB1512224-007	EB1512224-008	EB1512224-009	EB1512224-010
				Result	Result	Result	Result	Result
EA003 :pH (field/fox)								
pH (F)	----	0.1	pH Unit	8.8	----	----	8.8	----
pH (Fox)	----	0.1	pH Unit	8.9	----	----	9.0	----
Reaction Rate	----	1	Reaction Unit	2	----	----	2	----
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	----	9.6	9.6	----	9.4
pH OX (23B)	----	0.1	pH Unit	----	8.0	8.9	----	7.7
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	----	<2	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	----	<2	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	----	<2	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	----	0.05	0.04	----	0.11
Peroxide Sulfur (23De)	----	0.02	% S	----	0.06	0.06	----	0.23
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	----	<0.02	<0.02	----	0.12
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	----	<10	<10	----	77
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	----	0.16	0.17	----	0.20
Peroxide Calcium (23Wh)	----	0.02	% Ca	----	3.57	3.49	----	4.30
Acid Reacted Calcium (23X)	----	0.02	% Ca	----	3.41	3.32	----	4.09
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	----	1700	1660	----	2040
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	----	2.73	2.66	----	3.27
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	----	0.03	0.04	----	0.05
Peroxide Magnesium (23Tm)	----	0.02	% Mg	----	0.16	0.16	----	0.19
Acid Reacted Magnesium (23U)	----	0.02	% Mg	----	0.14	0.12	----	0.14
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	----	113	104	----	119
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	----	0.18	0.16	----	0.19
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	----	9.04	8.13	----	10.3

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB4 0.75C	WB4 1.0C	WB5 0.0C	WB5 0.25C	WB5 0.5C
				Client sampling date / time	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512224-006	EB1512224-007	EB1512224-008	EB1512224-009	EB1512224-010
					Result	Result	Result	Result	Result
EA029-F: Excess Acid Neutralising Capacity - Continued									
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		**----**	**1800**	**1620**	**----**	**2050**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		**----**	**2.89**	**2.60**	**----**	**3.28**
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**----**	**1.5**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		**----**	<0.02	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		**----**	<10	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		**----**	<1	<1	**----**	<1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB5 0.75C	WB5 1.0C	WB8 0.0C	WB8 0.25C	WB8 0.5C
			Client sampling date / time	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512224-011	EB1512224-012	EB1512224-013	EB1512224-014	EB1512224-015
				Result	Result	Result	Result	Result
EA003 :pH (field/fox)								
pH (F)	----	0.1	pH Unit	8.9	----	----	8.9	----
pH (Fox)	----	0.1	pH Unit	7.1	----	----	8.0	----
Reaction Rate	----	1	Reaction Unit	3	----	----	3	----
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	----	9.0	9.0	----	9.1
pH OX (23B)	----	0.1	pH Unit	----	7.3	8.0	----	7.7
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	----	<2	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	----	<2	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	----	<2	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	----	0.14	0.12	----	0.12
Peroxide Sulfur (23De)	----	0.02	% S	----	0.59	0.43	----	0.41
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	----	0.45	0.32	----	0.28
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	----	279	197	----	178
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	----	0.23	0.25	----	0.19
Peroxide Calcium (23Wh)	----	0.02	% Ca	----	2.27	2.48	----	2.01
Acid Reacted Calcium (23X)	----	0.02	% Ca	----	2.04	2.22	----	1.81
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	----	1020	1110	----	905
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	----	1.63	1.78	----	1.45
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	----	0.08	0.11	----	0.08
Peroxide Magnesium (23Tm)	----	0.02	% Mg	----	0.22	0.33	----	0.25
Acid Reacted Magnesium (23U)	----	0.02	% Mg	----	0.14	0.22	----	0.17
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	----	116	181	----	143
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	----	0.19	0.29	----	0.23
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	----	4.37	5.63	----	4.67

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB5 0.75C	WB5 1.0C	WB8 0.0C	WB8 0.25C	WB8 0.5C
				Client sampling date / time	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512224-011	EB1512224-012	EB1512224-013	EB1512224-014	EB1512224-015
					Result	Result	Result	Result	Result
EA029-F: Excess Acid Neutralising Capacity - Continued									
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		**----**	**872**	**1120**	**----**	**933**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		**----**	**1.40**	**1.80**	**----**	**1.49**
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**----**	**1.5**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		**----**	<0.02	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		**----**	<10	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		**----**	<1	<1	**----**	<1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB8 0.75C	WB8 1.0C	WB9 0.0C	WB9 0.25 C	WB9 0.5C
			Client sampling date / time	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512224-016	EB1512224-017	EB1512224-018	EB1512224-019	EB1512224-020
				Result	Result	Result	Result	Result
EA003 :pH (field/fox)								
pH (F)	----	0.1	pH Unit	8.8	----	----	8.8	----
pH (Fox)	----	0.1	pH Unit	8.4	----	----	9.0	----
Reaction Rate	----	1	Reaction Unit	3	----	----	2	----
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	----	9.4	9.4	----	9.6
pH OX (23B)	----	0.1	pH Unit	----	7.8	8.5	----	8.3
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	----	<2	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	----	<2	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	----	<2	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	----	0.06	0.08	----	0.04
Peroxide Sulfur (23De)	----	0.02	% S	----	0.10	0.11	----	0.05
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	----	0.04	0.04	----	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	----	26	24	----	<10
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	----	0.17	0.20	----	0.16
Peroxide Calcium (23Wh)	----	0.02	% Ca	----	1.80	2.91	----	2.35
Acid Reacted Calcium (23X)	----	0.02	% Ca	----	1.63	2.71	----	2.19
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	----	814	1350	----	1100
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	----	1.30	2.17	----	1.76
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	----	0.04	0.05	----	0.04
Peroxide Magnesium (23Tm)	----	0.02	% Mg	----	0.13	0.22	----	0.14
Acid Reacted Magnesium (23U)	----	0.02	% Mg	----	0.09	0.17	----	0.11
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	----	72	138	----	88
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	----	0.12	0.22	----	0.14
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	----	4.38	8.26	----	5.57

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB8 0.75C	WB8 1.0C	WB9 0.0C	WB9 0.25 C	WB9 0.5C
				Client sampling date / time	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512224-016	EB1512224-017	EB1512224-018	EB1512224-019	EB1512224-020
					Result	Result	Result	Result	Result
EA029-F: Excess Acid Neutralising Capacity - Continued									
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		**----**	**875**	**1650**	**----**	**1110**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		**----**	**1.40**	**2.64**	**----**	**1.78**
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**----**	**1.5**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		**----**	<0.02	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		**----**	<10	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		**----**	<1	<1	**----**	<1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB9 0.75C	WB9 1.0C	WB12 0.0 C	WB12 0.25 C	WB12 0.5 C
				Client sampling date / time	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512224-021	EB1512224-022	EB1512224-023	EB1512224-024	EB1512224-025
					Result	Result	Result	Result	Result
EA003 :pH (field/fox)									
pH (F)	----	0.1	pH Unit		9.1	----	----	8.5	----
pH (Fox)	----	0.1	pH Unit		7.0	----	----	8.3	----
Reaction Rate	----	1	Reaction Unit		2	----	----	2	----
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		----	9.3	9.6	----	9.5
pH OX (23B)	----	0.1	pH Unit		----	8.1	8.6	----	8.2
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		----	<2	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		----	<2	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		----	<2	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		----	<0.02	<0.02	----	<0.02
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		----	<0.02	0.04	----	0.05
Peroxide Sulfur (23De)	----	0.02	% S		----	0.02	0.04	----	0.05
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		----	0.02	<0.02	----	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		----	15	<10	----	<10
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		----	0.12	0.16	----	0.16
Peroxide Calcium (23Wh)	----	0.02	% Ca		----	0.26	1.57	----	1.31
Acid Reacted Calcium (23X)	----	0.02	% Ca		----	0.14	1.41	----	1.15
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		----	69	704	----	574
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		----	0.11	1.13	----	0.92
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		----	0.04	0.03	----	0.03
Peroxide Magnesium (23Tm)	----	0.02	% Mg		----	0.08	0.15	----	0.07
Acid Reacted Magnesium (23U)	----	0.02	% Mg		----	0.05	0.12	----	0.04
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		----	38	96	----	30
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		----	0.06	0.15	----	0.05
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		----	0.80	4.79	----	3.57

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB9 0.75C	WB9 1.0C	WB12 0.0 C	WB12 0.25 C	WB12 0.5 C
				Client sampling date / time	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512224-021	EB1512224-022	EB1512224-023	EB1512224-024	EB1512224-025
					Result	Result	Result	Result	Result
EA029-F: Excess Acid Neutralising Capacity - Continued									
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		**----**	**160**	**956**	**----**	**712**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		**----**	**0.26**	**1.53**	**----**	**1.14**
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**----**	**1.5**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		**----**	<0.02	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		**----**	<10	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		**----**	<1	<1	**----**	<1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB12 0.75 C	WB12 1.0C	WB13 0.0 C	WB13 0.25 C	WB13 0.5 C
			Client sampling date / time	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512224-026	EB1512224-027	EB1512224-028	EB1512224-029	EB1512224-030
				Result	Result	Result	Result	Result
EA003 :pH (field/fox)								
pH (F)	----	0.1	pH Unit	8.7	----	----	8.7	----
pH (Fox)	----	0.1	pH Unit	8.6	----	----	8.9	----
Reaction Rate	----	1	Reaction Unit	2	----	----	2	----
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	----	9.5	9.6	----	9.6
pH OX (23B)	----	0.1	pH Unit	----	8.6	8.5	----	8.6
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	----	<2	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	----	<2	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	----	<2	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	----	0.05	0.04	----	0.04
Peroxide Sulfur (23De)	----	0.02	% S	----	0.05	0.05	----	0.04
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	----	<0.02	<0.02	----	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	----	<10	<10	----	<10
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	----	0.19	0.16	----	0.16
Peroxide Calcium (23Wh)	----	0.02	% Ca	----	1.67	1.72	----	1.52
Acid Reacted Calcium (23X)	----	0.02	% Ca	----	1.48	1.57	----	1.37
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	----	740	782	----	682
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	----	1.19	1.25	----	1.09
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	----	0.04	0.04	----	0.03
Peroxide Magnesium (23Tm)	----	0.02	% Mg	----	0.18	0.10	----	0.12
Acid Reacted Magnesium (23U)	----	0.02	% Mg	----	0.14	0.06	----	0.08
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	----	114	54	----	70
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	----	0.18	0.08	----	0.11
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	----	4.79	3.88	----	3.75

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB12 0.75 C	WB12 1.0C	WB13 0.0 C	WB13 0.25 C	WB13 0.5 C
				Client sampling date / time	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512224-026	EB1512224-027	EB1512224-028	EB1512224-029	EB1512224-030
					Result	Result	Result	Result	Result
EA029-F: Excess Acid Neutralising Capacity - Continued									
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		**----**	**957**	**775**	**----**	**750**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		**----**	**1.53**	**1.24**	**----**	**1.20**
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**----**	**1.5**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		**----**	<0.02	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		**----**	<10	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		**----**	<1	<1	**----**	<1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB13 0.75 C	WB13 1.0C	WB16 0.0 C	WB16 0.25 C	WB16 0.5 C
			Client sampling date / time	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512224-031	EB1512224-032	EB1512224-033	EB1512224-034	EB1512224-035
				Result	Result	Result	Result	Result
EA003 :pH (field/fox)								
pH (F)	----	0.1	pH Unit	8.7	----	----	8.6	----
pH (Fox)	----	0.1	pH Unit	8.9	----	----	8.4	----
Reaction Rate	----	1	Reaction Unit	2	----	----	2	----
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	----	9.6	9.6	----	9.6
pH OX (23B)	----	0.1	pH Unit	----	8.4	8.6	----	8.8
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	----	<2	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	----	<2	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	----	<2	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	----	0.04	0.05	----	0.05
Peroxide Sulfur (23De)	----	0.02	% S	----	0.04	0.05	----	0.05
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	----	<0.02	<0.02	----	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	----	<10	<10	----	<10
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	----	0.15	0.18	----	0.16
Peroxide Calcium (23Wh)	----	0.02	% Ca	----	1.63	2.08	----	1.92
Acid Reacted Calcium (23X)	----	0.02	% Ca	----	1.48	1.89	----	1.76
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	----	741	946	----	878
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	----	1.19	1.52	----	1.41
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	----	0.03	0.04	----	0.03
Peroxide Magnesium (23Tm)	----	0.02	% Mg	----	0.12	0.18	----	0.15
Acid Reacted Magnesium (23U)	----	0.02	% Mg	----	0.09	0.14	----	0.12
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	----	76	116	----	100
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	----	0.12	0.19	----	0.16
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	----	3.88	5.42	----	5.07

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB13 0.75 C	WB13 1.0C	WB16 0.0 C	WB16 0.25 C	WB16 0.5 C
				Client sampling date / time	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512224-031	EB1512224-032	EB1512224-033	EB1512224-034	EB1512224-035
					Result	Result	Result	Result	Result
EA029-F: Excess Acid Neutralising Capacity - Continued									
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		**----**	**775**	**1080**	**----**	**1010**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		**----**	**1.24**	**1.73**	**----**	**1.62**
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**----**	**1.5**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		**----**	<0.02	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		**----**	<10	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		**----**	<1	<1	**----**	<1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB16 0.75 C	WB16 1.0C	WB18 0.0 C	WB18 0.25 C	WB18 0.5 C
			Client sampling date / time	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512224-036	EB1512224-037	EB1512224-038	EB1512224-039	EB1512224-040
				Result	Result	Result	Result	Result
EA003 :pH (field/fox)								
pH (F)	----	0.1	pH Unit	8.6	----	----	8.7	----
pH (Fox)	----	0.1	pH Unit	7.8	----	----	9.0	----
Reaction Rate	----	1	Reaction Unit	2	----	----	2	----
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	----	9.6	9.6	----	9.6
pH OX (23B)	----	0.1	pH Unit	----	8.6	8.9	----	8.7
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	----	<2	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	----	<2	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	----	<2	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	----	0.05	0.04	----	0.04
Peroxide Sulfur (23De)	----	0.02	% S	----	0.05	0.04	----	0.04
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	----	<0.02	<0.02	----	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	----	<10	<10	----	<10
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	----	0.17	0.16	----	0.15
Peroxide Calcium (23Wh)	----	0.02	% Ca	----	1.92	1.86	----	1.36
Acid Reacted Calcium (23X)	----	0.02	% Ca	----	1.75	1.69	----	1.21
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	----	872	844	----	602
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	----	1.40	1.35	----	0.96
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	----	0.03	0.04	----	0.03
Peroxide Magnesium (23Tm)	----	0.02	% Mg	----	0.13	0.13	----	0.12
Acid Reacted Magnesium (23U)	----	0.02	% Mg	----	0.09	0.09	----	0.09
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	----	76	77	----	76
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	----	0.12	0.12	----	0.12
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	----	5.19	6.13	----	4.10

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB16 0.75 C	WB16 1.0C	WB18 0.0 C	WB18 0.25 C	WB18 0.5 C
				Client sampling date / time	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512224-036	EB1512224-037	EB1512224-038	EB1512224-039	EB1512224-040
					Result	Result	Result	Result	Result
EA029-F: Excess Acid Neutralising Capacity - Continued									
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		**----**	**1040**	**1220**	**----**	**819**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		**----**	**1.66**	**1.96**	**----**	**1.31**
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**----**	**1.5**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		**----**	<0.02	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		**----**	<10	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		**----**	<1	<1	**----**	<1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB18 0.75 C	WB18 1.0C	ASS DUPLICATE 4	ASS DUPLICATE 5	ASS DUPLICATE 6
			Client sampling date / time	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512224-041	EB1512224-042	EB1512224-043	EB1512224-044	EB1512224-045
				Result	Result	Result	Result	Result
EA003 :pH (field/fox)								
pH (F)	----	0.1	pH Unit	8.5	----	----	----	----
pH (Fox)	----	0.1	pH Unit	9.0	----	----	----	----
Reaction Rate	----	1	Reaction Unit	4	----	----	----	----
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	----	9.6	9.6	9.5	9.6
pH OX (23B)	----	0.1	pH Unit	----	9.0	9.0	8.6	8.7
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	----	<2	<2	<2	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	----	<2	<2	<2	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	----	<2	<2	<2	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	----	<0.02	<0.02	<0.02	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	----	<0.02	<0.02	<0.02	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	----	<0.02	<0.02	<0.02	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	----	0.06	0.06	0.04	0.03
Peroxide Sulfur (23De)	----	0.02	% S	----	0.07	0.07	0.08	0.04
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	----	<0.02	<0.02	0.03	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	----	<10	10	20	<10
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	----	0.18	0.16	0.17	0.14
Peroxide Calcium (23Wh)	----	0.02	% Ca	----	2.77	4.58	2.68	1.53
Acid Reacted Calcium (23X)	----	0.02	% Ca	----	2.59	4.42	2.51	1.39
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	----	1290	2210	1250	692
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	----	2.07	3.54	2.01	1.11
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	----	0.03	0.02	0.03	0.03
Peroxide Magnesium (23Tm)	----	0.02	% Mg	----	0.20	0.14	0.19	0.11
Acid Reacted Magnesium (23U)	----	0.02	% Mg	----	0.16	0.11	0.16	0.08
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	----	136	92	131	71
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	----	0.22	0.15	0.21	0.11
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	----	7.80	14.7	8.06	4.00

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB18 0.75 C	WB18 1.0C	ASS DUPLICATE 4	ASS DUPLICATE 5	ASS DUPLICATE 6
				Client sampling date / time	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]	[04-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512224-041	EB1512224-042	EB1512224-043	EB1512224-044	EB1512224-045
					Result	Result	Result	Result	Result
EA029-F: Excess Acid Neutralising Capacity - Continued									
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		**----**	**1560**	**2940**	**1610**	**800**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		**----**	**2.50**	**4.70**	**2.58**	**1.28**
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**----**	**1.5**	**1.5**	**1.5**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		**----**	<0.02	<0.02	<0.02	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		**----**	<10	<10	<10	<10
Liming Rate	----	1	kg CaCO3/t		**----**	<1	<1	<1	<1

QUALITY CONTROL REPORT

Work Order	: **EB1512224**	Page	: 1 of 10
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: sally.leyland@aurecongroup.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61-7-3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553	Date Samples Received	: 06-Feb-2015
C-O-C number	: ----	Date Analysis Commenced	: 10-Feb-2015
Sampler	: GEORGINA KERR	Issue Date	: 13-Feb-2015
Site	: ----	No. of samples received	: 45
Quote number	: ----	No. of samples analysed	: 45

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out ir compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA003 :pH (field/fox) (QC Lot: 62710)									
EB1512224-002	WB3 0.5C	EA003: pH (F)	----	0.1	pH Unit	8.6	8.6	0.00	0% - 20%
		EA003: pH (Fox)	----	0.1	pH Unit	8.9	9.0	1.12	0% - 20%
EB1512224-024	WB12 0.25 C	EA003: pH (F)	----	0.1	pH Unit	8.5	8.6	1.17	0% - 20%
		EA003: pH (Fox)	----	0.1	pH Unit	8.3	8.6	3.55	0% - 20%
EA029-A: pH Measurements (QC Lot: 63220)									
EB1512224-001	WB3 0.75C	EA029: pH KCl (23A)	----	0.1	pH Unit	9.7	9.6	1.04	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	8.5	8.5	0.00	0% - 20%
EB1512224-018	WB9 0.0C	EA029: pH KCl (23A)	----	0.1	pH Unit	9.4	9.4	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	8.5	8.4	1.18	0% - 20%
EA029-A: pH Measurements (QC Lot: 63221)									
EB1512224-035	WB16 0.5 C	EA029: pH KCl (23A)	----	0.1	pH Unit	9.6	9.6	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	8.8	8.8	0.00	0% - 20%
EB1512308-003	Anonymous	EA029: pH KCl (23A)	----	0.1	pH Unit	9.2	9.2	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	8.6	8.5	1.17	0% - 20%
EA029-B: Acidity Trail (QC Lot: 63220)									
EB1512224-001	WB3 0.75C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EB1512224-018	WB9 0.0C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EA029-B: Acidity Trail (QC Lot: 63221)									
EB1512224-035	WB16 0.5 C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-B: Acidity Trail (QC Lot: 63221) - continued									
EB1512224-035	WB16 0.5 C	EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EB1512308-003	Anonymous	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EA029-C: Sulfur Trail (QC Lot: 63220)									
EB1512224-001	WB3 0.75C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.04	0.04	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.04	0.04	0.00	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EB1512224-018	WB9 0.0C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.08	0.07	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.04	0.04	0.00	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.11	0.12	0.00	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	24	28	15.4	No Limit
EA029-C: Sulfur Trail (QC Lot: 63221)									
EB1512224-035	WB16 0.5 C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.05	0.05	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.05	0.05	0.00	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EB1512308-003	Anonymous	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA029-D: Calcium Values (QC Lot: 63220)									
EB1512224-001	WB3 0.75C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	2.26	2.46	8.69	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.15	0.17	12.4	No Limit
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	2.41	2.63	8.93	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	1.81	1.97	8.69	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-D: Calcium Values (QC Lot: 63220) - continued									
EB1512224-001	WB3 0.75C	EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	1130	1230	8.69	0% - 20%
EB1512224-018	WB9 0.0C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	2.71	2.67	1.79	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.20	0.20	0.00	No Limit
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	2.91	2.86	1.66	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	2.17	2.13	1.79	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	1350	1330	1.79	0% - 20%
EA029-D: Calcium Values (QC Lot: 63221)									
EB1512224-035	WB16 0.5 C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	1.76	1.72	2.43	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.16	0.16	0.00	No Limit
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	1.92	1.88	2.05	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	1.41	1.37	2.43	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	878	857	2.43	0% - 20%
EB1512308-003	Anonymous	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	0.40	0.32	22.5	0% - 50%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.17	0.17	0.00	No Limit
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	0.56	0.49	15.0	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	0.32	0.25	22.5	0% - 50%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	199	159	22.5	0% - 50%
EA029-E: Magnesium Values (QC Lot: 63220)									
EB1512224-001	WB3 0.75C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.09	0.10	0.00	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.04	0.04	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.13	0.15	10.1	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.12	0.13	8.83	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	76	83	8.83	No Limit
EB1512224-018	WB9 0.0C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.17	0.18	6.81	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.05	0.05	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.22	0.23	5.68	0% - 50%
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.22	0.24	6.81	0% - 50%
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	138	147	6.81	0% - 50%
EA029-E: Magnesium Values (QC Lot: 63221)									
EB1512224-035	WB16 0.5 C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.12	0.11	9.68	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.03	0.03	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.15	0.14	8.54	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.16	0.14	9.68	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	100	91	9.68	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-E: Magnesium Values (QC Lot: 63221) - continued									
EB1512308-003	Anonymous	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	<0.02	0.00	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	<0.02	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA029-F: Excess Acid Neutralising Capacity (QC Lot: 63220)									
EB1512224-001	WB3 0.75C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	7.01	6.94	1.01	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	2.24	2.22	1.01	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	1400	1380	1.01	0% - 20%
EB1512224-018	WB9 0.0C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	8.26	8.19	0.855	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	2.64	2.62	0.855	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	1650	1640	0.855	0% - 20%
EA029-F: Excess Acid Neutralising Capacity (QC Lot: 63221)									
EB1512224-035	WB16 0.5 C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	5.07	5.13	1.09	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	1.62	1.64	1.09	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	1010	1020	1.09	0% - 20%
EB1512308-003	Anonymous	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	0.94	0.94	0.00	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	0.30	0.30	0.00	0% - 50%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	188	188	0.00	0% - 50%
EA029-H: Acid Base Accounting (QC Lot: 63220)									
EB1512224-001	WB3 0.75C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EB1512224-018	WB9 0.0C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA029-H: Acid Base Accounting (QC Lot: 63221)									
EB1512224-035	WB16 0.5 C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-H: Acid Base Accounting (QC Lot: 63221) - continued									
EB1512224-035	WB16 0.5 C	EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EB1512308-003	Anonymous	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EA029-A: pH Measurements (QCLot: 63220)								
EA029: pH KCl (23A)	----	0.1	pH Unit	<0.1	4.9 pH Unit	102	70	130
EA029: pH OX (23B)	----	0.1	pH Unit	<0.1	4.4 pH Unit	97.7	70	130
EA029-A: pH Measurements (QCLot: 63221)								
EA029: pH KCl (23A)	----	0.1	pH Unit	<0.1	4.9 pH Unit	102	70	130
EA029: pH OX (23B)	----	0.1	pH Unit	<0.1	4.4 pH Unit	93.2	70	130
EA029-B: Acidity Trail (QCLot: 63220)								
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	13.2 mole H+ / t	101	70	130
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	72.53 mole H+ / t	97.8	70	130
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
EA029-B: Acidity Trail (QCLot: 63221)								
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	13.2 mole H+ / t	100	70	130
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	72.53 mole H+ / t	105	70	130
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
EA029-C: Sulfur Trail (QCLot: 63220)								
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.053 % S	114	70	130
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	----	----	----
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	0.204 % S	96.2	70	130
EA029-C: Sulfur Trail (QCLot: 63221)								
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.053 % S	109	70	130
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	----	----	----
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	0.204 % S	94.4	70	130
EA029-D: Calcium Values (QCLot: 63220)								
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.02	0.125 % Ca	97.7	70	130
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.02	0.289 % Ca	100	70	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EA029-D: Calcium Values (QCLot: 63220) - continued								
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.02	----	----	----	----
EA029-D: Calcium Values (QCLot: 63221)								
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.02	0.125 % Ca	91.4	70	130
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.02	0.289 % Ca	102	70	130
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.02	----	----	----	----
EA029-E: Magnesium Values (QCLot: 63220)								
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	0.285 % Mg	106	70	130
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	0.285 % Mg	95.3	70	130
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	----	----	----
EA029-E: Magnesium Values (QCLot: 63221)								
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	0.285 % Mg	102	70	130
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	0.285 % Mg	97.9	70	130
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	----	----	----
EA029-F: Excess Acid Neutralising Capacity (QCLot: 63220)								
EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	<0.02	----	----	----	----
EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	<0.02	----	----	----	----
EA029-F: Excess Acid Neutralising Capacity (QCLot: 63221)								
EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	<0.02	----	----	----	----
EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	<0.02	----	----	----	----
EA029-H: Acid Base Accounting (QCLot: 63220)								
EA029: ANC Fineness Factor	----	0.5	-	<0.5	----	----	----	----
EA029: Liming Rate	----	1	kg CaCO3/t	<1	----	----	----	----
EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	----	----	----	----
EA029-H: Acid Base Accounting (QCLot: 63221)								
EA029: ANC Fineness Factor	----	0.5	-	<0.5	----	----	----	----
EA029: Liming Rate	----	1	kg CaCO3/t	<1	----	----	----	----
EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	----	----	----	----

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EA029-H: Acid Base Accounting (QCLot: 63221) - continued								
EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

QA/QC Compliance Assessment for DQO Reporting

Work Order	: **EB1512224**	Page	: 1 of 4
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Telephone	: +61-7-3243 7222
Project	: GPC Geochemical Investigation	Date Samples Received	: 06-Feb-2015
Site	: ----	Issue Date	: 13-Feb-2015
Sampler	: GEORGINA KERR	No. of samples received	: 45
Order number	: 245553	No. of samples analysed	: 45

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA003 :pH (field/fox)							
Snap Lock Bag - frozen on receipt at ALS (EA003)							
WB3 0.5C, WB4 0.25C, WB4 0.75C, WB5 0.25C, WB5 0.75C, WB8 0.25C, WB8 0.75C, WB9 0.25 C, WB9 0.75C, WB12 0.25 C, WB12 0.75 C, WB13 0.25 C, WB13 0.75 C, WB16 0.25 C, WB16 0.75 C, WB18 0.25 C, WB18 0.75 C	**04-Feb-2015**	**10-Feb-2015**	04-Feb-2016	✓	**13-Feb-2015**	11-May-2015	✓
EA029-F: Excess Acid Neutralising Capacity							
Snap Lock Bag - frozen on receipt at ALS (EA029)							
WB5 0.5C	**04-Feb-2015**	**11-Feb-2015**	04-Feb-2016	✓	**13-Feb-2015**	12-May-2015	✓
EA029-A: pH Measurements							
Snap Lock Bag - frozen on receipt at ALS (EA029)							
WB4 1.0C, WB5 0.0C, WB5 1.0C, WB8 0.0C, WB8 0.5C, WB8 1.0C, WB9 0.0C, WB9 0.5C, WB9 1.0C, WB12 0.0 C, WB12 0.5 C, WB12 1.0C, WB13 0.0 C, WB13 0.5 C, WB13 1.0C, WB16 0.0 C, WB16 0.5 C, WB16 1.0C, WB18 0.0 C, WB18 0.5 C, WB18 1.0C, ASS DUPLICATE 4, ASS DUPLICATE 5, ASS DUPLICATE 6	**04-Feb-2015**	**11-Feb-2015**	04-Feb-2016	✓	**13-Feb-2015**	12-May-2015	✓
EA029-G: Retained Acidity							
Snap Lock Bag - frozen on receipt at ALS (EA029)							
WB3 0.75C, WB4 0.0 C, WB4 0.5C	**04-Feb-2015**	**11-Feb-2015**	04-Feb-2016	✓	**13-Feb-2015**	12-May-2015	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
pH field/fox	EA003	2	17	**11.76**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
pH field/fox	EA003	SOIL	In house: Referenced to Ahern et al 1998 - determined on a 1:5 soil/water extract designed to simulate field measured pH and pH after the extract has been oxidised with peroxide.
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	SOIL	In house: Referenced to Ahern et al 2004 - a suspension peroxide oxidation method following the 'sulfur trail' by determining the level of 1M KCL extractable sulfur and the sulfur level after oxidation of soil sulphides. The 'acidity trail' is followed by measurement of TAA, TPA and TSA. Liming Rate is based on results for samples as submitted and incorporates a minimum safety factor of 1.5.

Preparation Methods	Method	Matrix	Method Descriptions
Drying only	EN020D	SOIL	In House
Drying at 85 degrees, bagging and labelling (ASS)	EN020PR	SOIL	In house

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	X Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Cooler / Frozen Ice Bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: 245553		COC: (1) 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: (1) 2 3 4 5 6 7	Other comments:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*		
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
5 February 2015	5 February 2015	8/2/15 16:00.	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: S = Soil, W = Water			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	PC5 0.0C	5/02/2015	S	Bag (Green label)	1					1				
2	PC5 0.25C	5/02/2015	S	Bag (Green label)	1						1			
3	PC5 0.5C	5/02/2015	S	Bag (Green label)	1					1				
4	PC5 0.75C	5/02/2015	S	Bag (Green label)	1						1			
5	PC5 1.0C	5/02/2015	S	Bag (Green label)	1					1				
6	ASS DUPLICATE 7	5/02/2015	S	Bag (Green label)	1					1				
				TOTAL	6					4	2			

Environmental Division Brisbane
Work Order Reference
EB1512317

Telephone : +61-7-3243 7222

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CERTIFICATE OF ANALYSIS

Work Order	: **EB1512317**	Page	: 1 of 6
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: sally.leyland@aurecongroup.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61-7-3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553	Date Samples Received	: 10-Feb-2015 09:00
C-O-C number	: ----	Date Analysis Commenced	: 12-Feb-2015
Sampler	: GEORGINA KERR	Issue Date	: 17-Feb-2015 13:41
Site	: ----		
		No. of samples received	: 6
Quote number	: ----	No. of samples analysed	: 6

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.

- ASS: EA029 (SPOCAS): Retained Acidity not required because pH KCl greater than or equal to 4.5
- ASS: EA037 (Rapid Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme
- EA037 ASS Field Screening: NATA accreditation does not cover performance of this service.
- ASS: EA029 (SPOCAS): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime ($CaCO_3$) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from kg/t dry weight to kg/m3 in-situ soil, multiply reported results x wet bulk density of soil in t/m3.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	PC5 0.0C	PC5 0.25C	PC5 0.5C	PC5 0.75C	PC5 1.0C
			Client sampling date / time	[05-Feb-2015]	[05-Feb-2015]	[05-Feb-2015]	[05-Feb-2015]	[05-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512317-001	EB1512317-002	EB1512317-003	EB1512317-004	EB1512317-005
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	8.7	----	9.2	----	9.0
pH OX (23B)	----	0.1	pH Unit	7.8	----	7.9	----	7.7
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.17	----	0.11	----	0.12
Peroxide Sulfur (23De)	----	0.02	% S	0.56	----	0.40	----	0.54
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.39	----	0.28	----	0.41
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	245	----	176	----	257
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.39	----	0.22	----	0.23
Peroxide Calcium (23Wh)	----	0.02	% Ca	1.85	----	4.41	----	3.74
Acid Reacted Calcium (23X)	----	0.02	% Ca	1.46	----	4.18	----	3.51
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	728	----	2090	----	1750
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	1.17	----	3.35	----	2.81
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.23	----	0.09	----	0.14
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.41	----	0.42	----	0.44
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.18	----	0.33	----	0.30
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	149	----	269	----	248
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.24	----	0.43	----	0.40
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	3.97	----	11.4	----	9.36
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	793	----	2280	----	1870
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	1.27	----	3.66	----	2.99

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	PC5 0.0C	PC5 0.25C	PC5 0.5C	PC5 0.75C	PC5 1.0C
				Client sampling date / time	[05-Feb-2015]	[05-Feb-2015]	[05-Feb-2015]	[05-Feb-2015]	[05-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512317-001	EB1512317-002	EB1512317-003	EB1512317-004	EB1512317-005
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.7**	**----**	**8.7**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**6.5**	**----**	**6.2**	**----**
ø **Reaction Rate**	----	1	-		**----**	**3**	**----**	**3**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	ASS DUPLICATE	----	----	----	----
			Client sampling date / time	[05-Feb-2015]	----	----	----	----
Compound	CAS Number	LOR	Unit	EB1512317-006	--------	--------	--------	--------
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	**9.1**	----	----	----	----
pH OX (23B)	----	0.1	pH Unit	**7.9**	----	----	----	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	----	----	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	----	----	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	**0.12**	----	----	----	----
Peroxide Sulfur (23De)	----	0.02	% S	**0.38**	----	----	----	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	**0.27**	----	----	----	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	**168**	----	----	----	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	**0.29**	----	----	----	----
Peroxide Calcium (23Wh)	----	0.02	% Ca	**4.01**	----	----	----	----
Acid Reacted Calcium (23X)	----	0.02	% Ca	**3.72**	----	----	----	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	**1860**	----	----	----	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	**2.98**	----	----	----	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	**0.12**	----	----	----	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg	**0.41**	----	----	----	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg	**0.29**	----	----	----	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	**237**	----	----	----	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	**0.38**	----	----	----	----
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	**10.0**	----	----	----	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	**2000**	----	----	----	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	**3.21**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	ASS DUPLICATE	----	----	----	----
				Client sampling date / time	[05-Feb-2015]	----	----	----	----
Compound	CAS Number	LOR	Unit		EB1512317-006	--------	--------	--------	--------
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	----	----	----	----
Net Acidity (sulfur units)	----	0.02	% S		<0.02	----	----	----	----
Net Acidity (acidity units)	----	10	mole H+ / t		<10	----	----	----	----
Liming Rate	----	1	kg CaCO3/t		<1	----	----	----	----
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		----	----	----	----	----
ø **pH (Fox)**	----	0.1	pH Unit		----	----	----	----	----
ø **Reaction Rate**	----	1	-		----	----	----	----	----

QUALITY CONTROL REPORT

Work Order	: **EB1512317**	Page	: 1 of 7
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: sally.leyland@aurecongroup.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61-7-3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553	Date Samples Received	: 10-Feb-2015
C-O-C number	: ----	Date Analysis Commenced	: 12-Feb-2015
Sampler	: GEORGINA KERR	Issue Date	: 17-Feb-2015
Site	: ----	No. of samples received	: 6
Quote number	: ----	No. of samples analysed	: 6

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out ir compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-A: pH Measurements (QC Lot: 63670)									
EB1512317-001	PC5 0.0C	EA029: pH KCl (23A)	----	0.1	pH Unit	8.7	8.7	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	7.8	7.7	1.29	0% - 20%
EB1512412-011	Anonymous	EA029: pH KCl (23A)	----	0.1	pH Unit	8.8	8.8	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	7.5	7.6	1.32	0% - 20%
EA029-B: Acidity Trail (QC Lot: 63670)									
EB1512317-001	PC5 0.0C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EB1512412-011	Anonymous	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EA029-C: Sulfur Trail (QC Lot: 63670)									
EB1512317-001	PC5 0.0C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.17	0.16	7.06	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.39	0.45	14.3	0% - 20%
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.56	0.61	8.42	0% - 20%
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	245	283	14.3	0% - 20%
EB1512412-011	Anonymous	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.14	0.14	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.63	0.65	2.71	0% - 20%
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.77	0.79	2.18	0% - 20%
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	393	404	2.71	0% - 20%
EA029-D: Calcium Values (QC Lot: 63670)									
EB1512317-001	PC5 0.0C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	1.46	1.53	4.95	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.39	0.37	4.93	0% - 50%
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	1.85	1.90	2.95	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-D: Calcium Values (QC Lot: 63670) - continued									
EB1512317-001	PC5 0.0C	EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	1.17	1.23	4.95	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	728	766	4.95	0% - 20%
EB1512412-011	Anonymous	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	2.28	2.37	3.84	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.27	0.27	0.00	0% - 50%
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	2.55	2.64	3.46	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	1.82	1.90	3.84	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	1140	1180	3.84	0% - 20%
EA029-E: Magnesium Values (QC Lot: 63670)									
EB1512317-001	PC5 0.0C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.18	0.22	21.1	0% - 50%
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.23	0.21	6.06	0% - 50%
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.41	0.44	6.91	0% - 20%
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.24	0.30	21.1	0% - 50%
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	149	184	21.1	0% - 50%
EB1512412-011	Anonymous	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.14	0.14	0.00	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.11	0.11	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.25	0.26	0.00	0% - 50%
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.18	0.19	0.00	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	114	120	4.63	0% - 50%
EA029-F: Excess Acid Neutralising Capacity (QC Lot: 63670)									
EB1512317-001	PC5 0.0C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	3.97	3.86	2.83	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	1.27	1.23	2.83	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	793	770	2.83	0% - 20%
EB1512412-011	Anonymous	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	4.81	4.82	0.00	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	1.54	1.54	0.00	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	961	962	0.177	0% - 20%
EA029-H: Acid Base Accounting (QC Lot: 63670)									
EB1512317-001	PC5 0.0C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EB1512412-011	Anonymous	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-H: Acid Base Accounting (QC Lot: 63670) - continued									
EB1512412-011	Anonymous	EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA037: Ass Field Screening Analysis (QC Lot: 64039)									
EB1512317-002	PC5 0.25C	EA037: pH (F)	----	0.1	pH Unit	8.7	8.6	1.16	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	6.5	6.4	1.55	0% - 20%
EB1512412-022	Anonymous	EA037: pH (F)	----	0.1	pH Unit	8.9	8.9	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	6.2	6.1	1.63	0% - 20%

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EA029-A: pH Measurements (QCLot: 63670)								
EA029: pH KCl (23A)	----	0.1	pH Unit	<0.1	4.9 pH Unit	102	70	130
EA029: pH OX (23B)	----	0.1	pH Unit	<0.1	4.4 pH Unit	93.2	70	130
EA029-B: Acidity Trail (QCLot: 63670)								
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	14.32 mole H+ / t	107	70	130
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	68 mole H+ / t	105	70	130
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
EA029-C: Sulfur Trail (QCLot: 63670)								
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.69 % S	92.5	70	130
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	----	----	----
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	0.204 % S	105	70	130
EA029-D: Calcium Values (QCLot: 63670)								
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.02	0.125 % Ca	99.2	70	130
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.02	0.289 % Ca	109	70	130
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.02	----	----	----	----
EA029-E: Magnesium Values (QCLot: 63670)								
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	0.285 % Mg	107	70	130
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	0.285 % Mg	102	70	130
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	----	----	----
EA029-F: Excess Acid Neutralising Capacity (QCLot: 63670)								
EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	<0.02	----	----	----	----
EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	<0.02	----	----	----	----
EA029-H: Acid Base Accounting (QCLot: 63670)								
EA029: ANC Fineness Factor	----	0.5	-	<0.5	----	----	----	----
EA029: Liming Rate	----	1	kg CaCO3/t	<1	----	----	----	----

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EA029-H: Acid Base Accounting (QCLot: 63670) - continued								
EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

QA/QC Compliance Assessment for DQO Reporting

Work Order	: **EB1512317**	Page	: 1 of 4
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Telephone	: +61-7-3243 7222
Project	: GPC Geochemical Investigation	Date Samples Received	: 10-Feb-2015
Site	: ----	Issue Date	: 17-Feb-2015
Sampler	: GEORGINA KERR	No. of samples received	: 6
Order number	: 245553	No. of samples analysed	: 6

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA029-A: pH Measurements							
Snap Lock Bag - frozen (EA029)							
PC5 0.0C, PC5 0.5C, PC5 1.0C, ASS DUPLICATE	**05-Feb-2015**	**12-Feb-2015**	05-Feb-2016	✓	**17-Feb-2015**	13-May-2015	✓
EA037: Ass Field Screening Analysis							
Snap Lock Bag - frozen (EA037)							
PC5 0.25C, PC5 0.75C	**05-Feb-2015**	**13-Feb-2015**	04-Aug-2015	✓	**17-Feb-2015**	04-Aug-2015	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
ASS Field Screening Analysis	EA037	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	SOIL	In house: Referenced to Ahern et al 2004 - a suspension peroxide oxidation method following the 'sulfur trail' by determining the level of 1M KCL extractable sulfur and the sulfur level after oxidation of soil sulphides. The 'acidity trail' is followed by measurement of TAA, TPA and TSA. Liming Rate is based on results for samples as submitted and incorporates a minimum safety factor of 1.5.
ASS Field Screening Analysis	* EA037	SOIL	In house: Referenced to Acid Sulfate Soils Laboratory Methods Guidelines, version 2.1 June 2004. As received samples are tested for pH field and pH fox and assessed for a reaction rating.

Preparation Methods	Method	Matrix	Method Descriptions
Drying only	EN020D	SOIL	In House
Drying at 85 degrees, bagging and labelling (ASS)	EN020PR	SOIL	In house

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Receipt Temperature Compliance (Circle)
ORDER NUMBER: 245553		COC: (1) 2 3 4 5 6 7	Random Sample Temperature Compliance
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Cubes / Ice Pack?
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	*KSchafer*	
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
8 February 2015	8 February 2015 1845	9-2-15 16:00	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	PC6 0.0C	8/02/2015	S	Bag (Green label)	1					1				
2	PC6 0.25C	8/02/2015	S	Bag (Green label)	1						1			
3	PC6 0.5C	8/02/2015	S	Bag (Green label)	1					1				
4	PC6 0.75C	8/02/2015	S	Bag (Green label)	1						1			
5	PC6 1.0C	8/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plasti
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfur
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Environmental Division
Brisbane
Work Order Reference
EB1512412

Telephone : +61-7-3243 7222

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free Ice / Frozen Packs Present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 (2) 3 4 5 6 7	Random Sample Temperature on Receipt:
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comments:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 8 February 2015	DATE/TIME: 8 February 2015
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		**RELINQUISHED BY:** DATE/TIME:	**RECEIVED BY:** DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
6	PC7 0.0 C	8/02/2015	S	Bag (Green label)	1					1				
7	PC7 0.25C	8/02/2015	S	Bag (Green label)	1						1			
8	PC7 0.5C	8/02/2015	S	Bag (Green label)	1					1				
9	PC7 0.75C	8/02/2015	S	Bag (Green label)	1						1			
10	PC7 1.0 C	8/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		**Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 2 (3) 4 5 6	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 (6)	Other comment:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		8 February 2015	8 February 2015

RELINQUISHED BY:	**RECEIVED BY:**
DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
11	BE7 0.0 C	8/02/2015	S	Bag (Green label)	1					1				
12	BE7 0.25 C	8/02/2015	S	Bag (Green label)	1						1			
13	BE7 0.5 C	8/02/2015	S	Bag (Green label)	1					1				
14	BE7 0.75 C	8/02/2015	S	Bag (Green label)	1						1			
15	BE7 1.0C	8/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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BRISBANE 32 Shand Street Stafford QLD 4053
Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 24 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
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Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4-13 Geary Place North Nowra NSW 2541
Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 (4) 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comment:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		8 February 2015	8 February 2015

RELINQUISHED BY:	**RECEIVED BY:**
DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
16	BE10 0.0 C	8/02/2015	S	Bag (Green label)	1					1				
17	BE10 0.25 C	8/02/2015	S	Bag (Green label)	1						1			
18	BE10 0.5 C	8/02/2015	S	Bag (Green label)	1					1				
19	BE10 0.75 C	8/02/2015	S	Bag (Green label)	1						1			
20	BE10 1.0C	8/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 24 Jacobs Road Seaholme VIC 3171
Ph: 03 8536 9501 E: samples.melbourne@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4958 8433 E: samples.newcastle@alsglobal.com
ORANGE 1/19 Geary Place North Orange NSW 2800
Ph: 02 6362 5411 E: orange@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 (5) 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comment:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		8 February 2015	8 February 2015

RELINQUISHED BY:	**RECEIVED BY:**
DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
21	PC11 0.0C	8/02/2015	S	Bag (Green label)	1					1				
22	PC11 0.25C	8/02/2015	S	Bag (Green label)	1						1			
23	PC11 0.5C	8/02/2015	S	Bag (Green label)	1					1				
				TOTAL	3					2	1			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT **(List due date):**	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		**Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		8 February 2015	8 February 2015

RELINQUISHED BY:	**RECEIVED BY:**
KS	
DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
24	BE14 0.0 C	8/02/2015	S	Bag (Green label)	1					1				
25	BE14 0.25 C	8/02/2015	S	Bag (Green label)	1						1			
26	BE14 0.5 C	8/02/2015	S	Bag (Green label)	1					1				
27	BE14 0.75 C	8/02/2015	S	Bag (Green label)	1						1			
28	BE14 1.0C	8/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
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NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
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SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*		
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
8 February 2015	8 February 2015		

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
29	BE15 0.0 C	8/02/2015	S	Bag (Green label)	1					1				
30	BE15 0.25 C	8/02/2015	S	Bag (Green label)	1						1			
31	BE15 0.5 C	8/02/2015	S	Bag (Green label)	1					1				
32	BE15 0.75 C	8/02/2015	S	Bag (Green label)	1						1			
33	BE15 1.0C	8/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT **(List due date):**	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		**Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6	Other comment:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 8 February 2015	DATE/TIME: 8 February 2015
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		**RELINQUISHED BY:** DATE/TIME:	**RECEIVED BY:** DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
34	BE19 0.0 C	8/02/2015	S	Bag (Green label)	1					1				
35	BE19 0.25 C	8/02/2015	S	Bag (Green label)	1						1			
36	BE19 0.5 C	8/02/2015	S	Bag (Green label)	1					1				
				TOTAL	3					2	1	#REF!	#REF!	

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
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MUDGEE 27 Sydney Road Mudgee NSW 2850
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NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4 13 Geary Place North Nowra NSW 2541
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PERTH 10 Hod Way Malaga WA 6090
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OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6	9
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6	11
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comment:			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	AS	
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
8 February 2015	8 February 2015		

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
37	BE20 0.0C	8/02/2015	S	Bag (Green label)	1					1				
38	BE20 0.25 C	8/02/2015	S	Bag (Green label)	1						1			
39	BE20 0.5C	8/02/2015	S	Bag (Green label)	1					1				
40	BE20 0.75C	8/02/2015	S	Bag (Green label)	1						1			
41	BE20 1.0C	8/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ADELAIDE 21 Burma Road Pooraka SA 5095
Ph: 08 8359 0890 E: adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053
Ph: 07 7471 5800 E: samples.brisbane@alsglobal.com
CAIRNS 48 Chinchilla Street Smithfield QLD 4878
Ph: 07 7471 5800 E: cairns@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 24 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 02 4421 2069 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT **(List due date):**	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		**Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6	Random Sample Temperature on Receipt: 6 °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6	Other comment:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		8 February 2015	8 February 2015

RELINQUISHED BY:	**RECEIVED BY:**
DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
42	BE21 0.0C	8/02/2015	S	Bag (Green label)	1					1				
43	BE21 0.25C	8/02/2015	S	Bag (Green label)	1						1			
44	BE21 0.5C	8/02/2015	S	Bag (Green label)	1					1				
45	BE21 0.75C	8/02/2015	S	Bag (Green label)	1						1			
46	BE21 1.0C	8/02/2015	S	Bag (Green label)	1					1				
					5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ADELAIDE 21 Burma Road Pooraka SA 5095
Ph: 08 8359 0890 E: adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053
Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 46 C Kirkman Drive Clinton QLD 4680
Ph: 07 4971 5600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 24-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
NEWCASTLE 5 Road Gum Road Wakerdell NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4-19 Geary Place North Nowra NSW 2541
Ph: 02 4423 2063 E: nowra@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: samples.townsville@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT **(List due date):**		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	**Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6	Other comment:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		8 February 2015	8 February 2015

RELINQUISHED BY:	**RECEIVED BY:**
DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
47	ASS DUPLICATE 8	8/02/2015	S	Bag (Green label)	1					1				
48	ASS DUPLICATE 9	8/02/2015	S	Bag (Green label)	1					1				
49	ASS DUPLICATE 10	8/02/2015	S	Bag (Green label)	1					1				
50	ASS DUPLICATE 11	8/02/2015	S	Bag (Green label)	1					1				
51	ASS DUPLICATE 12	8/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					5				

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CERTIFICATE OF ANALYSIS

Work Order	: **EB1512412**	Page	: 1 of 24
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: sally.leyland@aurecongroup.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61-7-3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553	Date Samples Received	: 10-Feb-2015 08:55
C-O-C number	: ----	Date Analysis Commenced	: 12-Feb-2015
Sampler	: GEORGINA KERR	Issue Date	: 17-Feb-2015 14:22
Site	: ----		
		No. of samples received	: 51
Quote number	: ----	No. of samples analysed	: 51

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.

- ASS: EA029 (SPOCAS): Retained Acidity not required because pH KCl greater than or equal to 4.5
- ASS: EA037 (Rapid Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme
- EA037 ASS Field Screening: NATA accreditation does not cover performance of this service.
- ASS: EA029 (SPOCAS): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO3) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from kg/t dry weight to kg/m3 in-situ soil, multiply reported results x wet bulk density of soil in t/m3.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	PC6 0.0C	PC6 0.25C	PC6 0.5C	PC6 0.75C	PC6 1.0C
			Client sampling date / time	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512412-001	EB1512412-002	EB1512412-003	EB1512412-004	EB1512412-005
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	9.1	----	8.8	----	8.8
pH OX (23B)	----	0.1	pH Unit	7.7	----	7.4	----	7.4
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.13	----	0.19	----	0.22
Peroxide Sulfur (23De)	----	0.02	% S	0.53	----	1.07	----	1.06
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.39	----	0.88	----	0.84
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	246	----	550	----	524
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.23	----	0.28	----	0.34
Peroxide Calcium (23Wh)	----	0.02	% Ca	5.34	----	1.67	----	1.61
Acid Reacted Calcium (23X)	----	0.02	% Ca	5.11	----	1.38	----	1.26
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	2550	----	690	----	632
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	4.09	----	1.11	----	1.01
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.08	----	0.12	----	0.15
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.29	----	0.29	----	0.29
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.21	----	0.16	----	0.14
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	173	----	136	----	118
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.28	----	0.22	----	0.19
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	12.4	----	1.78	----	1.74
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	2470	----	356	----	348
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	3.96	----	0.57	----	0.56

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	PC6 0.0C	PC6 0.25C	PC6 0.5C	PC6 0.75C	PC6 1.0C
				Client sampling date / time	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512412-001	EB1512412-002	EB1512412-003	EB1512412-004	EB1512412-005
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.8**	**----**	**8.5**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**6.1**	**----**	**2.7**	**----**
ø **Reaction Rate**	----	1	-		**----**	**3**	**----**	**3**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	PC7 0.0C	PC7 0.25C	PC7 0.5C	PC7 0.7C	PC7 1.0C
			Client sampling date / time	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512412-006	EB1512412-007	EB1512412-008	EB1512412-009	EB1512412-010
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	9.2	----	8.8	----	8.7
pH OX (23B)	----	0.1	pH Unit	8.2	----	7.9	----	6.8
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.13	----	0.20	----	0.21
Peroxide Sulfur (23De)	----	0.02	% S	0.41	----	1.03	----	1.20
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.27	----	0.84	----	0.99
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	171	----	522	----	616
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.21	----	0.32	----	0.33
Peroxide Calcium (23Wh)	----	0.02	% Ca	3.35	----	1.85	----	1.54
Acid Reacted Calcium (23X)	----	0.02	% Ca	3.14	----	1.53	----	1.21
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	1570	----	764	----	603
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	2.51	----	1.22	----	0.97
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.07	----	0.13	----	0.15
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.30	----	0.31	----	0.28
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.23	----	0.18	----	0.13
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	188	----	149	----	107
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.30	----	0.24	----	0.17
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	8.38	----	2.43	----	1.22
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	1680	----	486	----	244
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	2.68	----	0.78	----	0.39

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	PC7 0.0C	PC7 0.25C	PC7 0.5C	PC7 0.7C	PC7 1.0C
				Client sampling date / time	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512412-006	EB1512412-007	EB1512412-008	EB1512412-009	EB1512412-010
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	**0.07**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	**43**
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	**3**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**9.0**	**----**	**8.8**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**6.3**	**----**	**5.6**	**----**
ø **Reaction Rate**	----	1	-		**----**	**3**	**----**	**3**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BE7 0.0C	BE7 0.25C	BE7 0.5C	BE7 0.75C	BE7 1.0C
			Client sampling date / time	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512412-011	EB1512412-012	EB1512412-013	EB1512412-014	EB1512412-015
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	8.8	----	8.7	----	8.6
pH OX (23B)	----	0.1	pH Unit	7.5	----	7.8	----	4.8
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	----	12
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	----	12
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.14	----	0.15	----	0.17
Peroxide Sulfur (23De)	----	0.02	% S	0.77	----	0.93	----	0.98
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.63	----	0.78	----	0.81
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	393	----	484	----	506
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.27	----	0.28	----	0.31
Peroxide Calcium (23Wh)	----	0.02	% Ca	2.55	----	1.92	----	0.93
Acid Reacted Calcium (23X)	----	0.02	% Ca	2.28	----	1.64	----	0.62
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	1140	----	817	----	312
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	1.82	----	1.31	----	0.50
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.11	----	0.12	----	0.15
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.25	----	0.29	----	0.22
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.14	----	0.16	----	0.07
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	114	----	134	----	59
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.18	----	0.22	----	0.10
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	4.81	----	2.92	----	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	961	----	584	----	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	1.54	----	0.94	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE7 0.0C	BE7 0.25C	BE7 0.5C	BE7 0.75C	BE7 1.0C
				Client sampling date / time	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512412-011	EB1512412-012	EB1512412-013	EB1512412-014	EB1512412-015
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	**0.28**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	**176**
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	**13**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**9.0**	**----**	**8.8**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**5.9**	**----**	**2.8**	**----**
ø **Reaction Rate**	----	1	-		**----**	**3**	**----**	**4**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE10 0.0C	BE10 0.25C	BE10 0.5C	BE10 0.75C	BE10 1.0C
				Client sampling date / time	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512412-016	EB1512412-017	EB1512412-018	EB1512412-019	EB1512412-020
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		9.1	----	7.6	----	8.3
pH OX (23B)	----	0.1	pH Unit		8.1	----	2.4	----	2.2
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		<2	----	836	----	752
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		<2	----	836	----	752
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		<0.02	----	1.34	----	1.21
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		<0.02	----	1.34	----	1.21
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		0.11	----	0.24	----	0.27
Peroxide Sulfur (23De)	----	0.02	% S		0.58	----	2.08	----	1.95
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		0.46	----	1.83	----	1.68
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		289	----	1140	----	1050
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		0.27	----	0.29	----	0.42
Peroxide Calcium (23Wh)	----	0.02	% Ca		13.7	----	0.42	----	0.90
Acid Reacted Calcium (23X)	----	0.02	% Ca		13.5	----	0.12	----	0.47
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		6720	----	62	----	235
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		10.8	----	0.10	----	0.38
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		0.07	----	0.18	----	0.22
Peroxide Magnesium (23Tm)	----	0.02	% Mg		0.26	----	0.24	----	0.29
Acid Reacted Magnesium (23U)	----	0.02	% Mg		0.19	----	0.06	----	0.07
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		157	----	49	----	59
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		0.25	----	0.08	----	0.09
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		32.8	----	----	----	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		6550	----	----	----	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		10.5	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE10 0.0C	BE10 0.25C	BE10 0.5C	BE10 0.75C	BE10 1.0C
				Client sampling date / time	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512412-016	EB1512412-017	EB1512412-018	EB1512412-019	EB1512412-020
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	**1.50**	**----**	**1.36**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	**939**	**----**	**851**
Liming Rate	----	1	kg CaCO3/t		<1	**----**	**70**	**----**	**64**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.6**	**----**	**8.2**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**2.8**	**----**	**1.9**	**----**
ø **Reaction Rate**	----	1	-		**----**	**3**	**----**	**4**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	PC11 0.0C	PC11 0.25C	PC11 0.5C	BE14 0.0C	PC14 0.25C
			Client sampling date / time	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512412-021	EB1512412-022	EB1512412-023	EB1512412-024	EB1512412-025
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	9.0	----	8.8	9.0	----
pH OX (23B)	----	0.1	pH Unit	8.2	----	7.8	8.1	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	<2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	<0.02	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.19	----	0.18	0.16	----
Peroxide Sulfur (23De)	----	0.02	% S	0.66	----	1.06	0.74	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.47	----	0.88	0.58	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	296	----	550	360	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.29	----	0.29	0.30	----
Peroxide Calcium (23Wh)	----	0.02	% Ca	4.27	----	2.08	11.9	----
Acid Reacted Calcium (23X)	----	0.02	% Ca	3.98	----	1.79	11.6	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	1980	----	891	5790	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	3.18	----	1.43	9.28	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.09	----	0.12	0.11	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.27	----	0.31	0.25	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.18	----	0.19	0.14	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	150	----	154	119	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.24	----	0.25	0.19	----
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	8.76	----	2.78	31.3	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	1750	----	556	6250	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	2.80	----	0.89	10.0	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	PC11 0.0C	PC11 0.25C	PC11 0.5C	BE14 0.0C	PC14 0.25C
				Client sampling date / time	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512412-021	EB1512412-022	EB1512412-023	EB1512412-024	EB1512412-025
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**1.5**	**----**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	<0.02	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	<10	**----**
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	<1	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.9**	**----**	**----**	**8.6**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**6.2**	**----**	**----**	**1.6**
ø **Reaction Rate**	----	1	-		**----**	**3**	**----**	**----**	**4**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	PC14 0.5C	PC14 0.75C	PC14 1.0C	BE15 0.0C	BE15 0.25C
			Client sampling date / time	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512412-026	EB1512412-027	EB1512412-028	EB1512412-029	EB1512412-030
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	8.4	----	8.2	8.7	----
pH OX (23B)	----	0.1	pH Unit	2.5	----	2.3	7.8	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	377	----	976	<2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	377	----	976	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	0.60	----	1.56	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	0.60	----	1.56	<0.02	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.16	----	0.22	0.15	----
Peroxide Sulfur (23De)	----	0.02	% S	1.28	----	2.39	0.64	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	1.12	----	2.16	0.49	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	700	----	1350	308	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.28	----	0.41	0.31	----
Peroxide Calcium (23Wh)	----	0.02	% Ca	0.42	----	0.58	1.43	----
Acid Reacted Calcium (23X)	----	0.02	% Ca	0.14	----	0.17	1.12	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	68	----	84	559	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	0.11	----	0.14	0.90	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.22	----	0.25	0.21	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.31	----	0.30	0.30	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.08	----	0.04	0.09	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	70	----	37	71	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.11	----	0.06	0.11	----
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	----	----	----	2.14	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	----	----	----	428	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	----	----	----	0.69	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	PC14 0.5C	PC14 0.75C	PC14 1.0C	BE15 0.0C	BE15 0.25C
				Client sampling date / time	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512412-026	EB1512412-027	EB1512412-028	EB1512412-029	EB1512412-030
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**1.5**	**----**
Net Acidity (sulfur units)	----	0.02	% S		**0.78**	**----**	**1.76**	<0.02	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		**484**	**----**	**1100**	<10	**----**
Liming Rate	----	1	kg CaCO3/t		**36**	**----**	**83**	<1	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.4**	**----**	**----**	**8.6**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**1.5**	**----**	**----**	**5.7**
ø **Reaction Rate**	----	1	-		**----**	**4**	**----**	**----**	**3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE15 0.5C	BE15 0.75C	BE15 1.0C	BE19 0.0C	BE19 0.25C
				Client sampling date / time	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512412-031	EB1512412-032	EB1512412-033	EB1512412-034	EB1512412-035
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		8.8	----	6.9	8.5	----
pH OX (23B)	----	0.1	pH Unit		7.7	----	2.1	8.1	----
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		<2	----	<2	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		<2	----	1780	<2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		<2	----	1780	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		<0.02	----	2.86	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		<0.02	----	2.86	<0.02	----
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		0.18	----	0.26	0.12	----
Peroxide Sulfur (23De)	----	0.02	% S		1.03	----	3.37	0.38	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		0.85	----	3.11	0.26	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		531	----	1940	164	----
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		0.31	----	0.22	0.31	----
Peroxide Calcium (23Wh)	----	0.02	% Ca		4.16	----	0.21	1.01	----
Acid Reacted Calcium (23X)	----	0.02	% Ca		3.85	----	<0.02	0.70	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		1920	----	<10	347	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		3.08	----	<0.02	0.56	----
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		0.15	----	0.33	0.18	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg		0.23	----	0.35	0.24	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg		0.08	----	<0.02	0.06	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		65	----	14	54	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		0.10	----	0.02	0.09	----
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		7.51	----	----	1.94	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		1500	----	----	389	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		2.40	----	----	0.62	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE15 0.5C	BE15 0.75C	BE15 1.0C	BE19 0.0C	BE19 0.25C
				Client sampling date / time	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512412-031	EB1512412-032	EB1512412-033	EB1512412-034	EB1512412-035
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**1.5**	**----**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	**2.95**	<0.02	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	**1840**	<10	**----**
Liming Rate	----	1	kg CaCO3/t		<1	**----**	**138**	<1	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.4**	**----**	**----**	**8.6**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**1.4**	**----**	**----**	**6.4**
ø **Reaction Rate**	----	1	-		**----**	**4**	**----**	**----**	**3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE19 0.5C	BE20 0.0C	BE20 0.25C	BE20 0.5C	BE20 0.75C
				Client sampling date / time	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512412-036	EB1512412-037	EB1512412-038	EB1512412-039	EB1512412-040
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		8.7	8.3	----	7.9	----
pH OX (23B)	----	0.1	pH Unit		7.1	6.1	----	7.6	----
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		<2	<2	----	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		<2	<2	----	<2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		<2	<2	----	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		<0.02	<0.02	----	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		<0.02	<0.02	----	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		<0.02	<0.02	----	<0.02	----
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		0.04	0.14	----	0.08	----
Peroxide Sulfur (23De)	----	0.02	% S		0.09	0.40	----	0.11	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		0.05	0.25	----	0.03	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		29	159	----	20	----
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		0.16	0.25	----	0.16	----
Peroxide Calcium (23Wh)	----	0.02	% Ca		0.19	0.30	----	0.19	----
Acid Reacted Calcium (23X)	----	0.02	% Ca		0.03	0.05	----	0.02	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		15	26	----	12	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		0.02	0.04	----	<0.02	----
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		0.05	0.24	----	0.19	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg		0.08	0.32	----	0.24	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg		0.03	0.08	----	0.04	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		27	68	----	38	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		0.04	0.11	----	0.06	----
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		0.43	----	----	0.35	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		87	----	----	70	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		0.14	----	----	0.11	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE19 0.5C	BE20 0.0C	BE20 0.25C	BE20 0.5C	BE20 0.75C
				Client sampling date / time	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512412-036	EB1512412-037	EB1512412-038	EB1512412-039	EB1512412-040
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**1.5**	**----**	**1.5**	**----**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**0.08**	**----**	<0.02	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**53**	**----**	<10	**----**
Liming Rate	----	1	kg CaCO3/t		<1	**4**	**----**	<1	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**----**	**8.2**	**----**	**7.9**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**----**	**6.7**	**----**	**6.1**
ø **Reaction Rate**	----	1	-		**----**	**----**	**3**	**----**	**3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE20 1.0C	BE21 0.0C	BE21 0.25C	BE21 0.5C	BE21 0.75C
				Client sampling date / time	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512412-041	EB1512412-042	EB1512412-043	EB1512412-044	EB1512412-045
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		7.4	7.9	----	8.6	----
pH OX (23B)	----	0.1	pH Unit		7.1	6.4	----	8.2	----
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		<2	<2	----	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		<2	<2	----	<2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		<2	<2	----	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		<0.02	<0.02	----	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		<0.02	<0.02	----	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		<0.02	<0.02	----	<0.02	----
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		0.06	0.13	----	0.13	----
Peroxide Sulfur (23De)	----	0.02	% S		0.10	0.32	----	0.44	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		0.04	0.20	----	0.31	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		25	123	----	192	----
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		0.12	0.19	----	0.30	----
Peroxide Calcium (23Wh)	----	0.02	% Ca		0.14	0.24	----	1.05	----
Acid Reacted Calcium (23X)	----	0.02	% Ca		0.02	0.04	----	0.75	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		12	22	----	373	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		0.02	0.04	----	0.60	----
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		0.18	0.23	----	0.19	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg		0.23	0.30	----	0.29	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg		0.05	0.07	----	0.10	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		43	56	----	83	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		0.07	0.09	----	0.13	----
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		0.36	----	----	1.85	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		72	----	----	369	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		0.12	----	----	0.59	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE20 1.0C	BE21 0.0C	BE21 0.25C	BE21 0.5C	BE21 0.75C
				Client sampling date / time	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512412-041	EB1512412-042	EB1512412-043	EB1512412-044	EB1512412-045
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**1.5**	**----**	**1.5**	**----**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**0.06**	**----**	<0.02	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**41**	**----**	<10	**----**
Liming Rate	----	1	kg CaCO3/t		<1	**3**	**----**	<1	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**----**	**8.1**	**----**	**8.8**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**----**	**6.4**	**----**	**4.0**
ø **Reaction Rate**	----	1	-		**----**	**----**	**3**	**----**	**3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BE21 1.0C	ASS DUPLICATE 8	ASS DUPLICATE 9	ASS DUPLICATE 10	ASS DUPLICATE 11
			Client sampling date / time	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512412-046	EB1512412-047	EB1512412-048	EB1512412-049	EB1512412-050
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	7.9	9.1	8.6	8.2	8.4
pH OX (23B)	----	0.1	pH Unit	8.1	8.5	7.8	2.4	7.6
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	<2	<2	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	<2	1320	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	<2	1320	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	<0.02	<0.02	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	<0.02	2.12	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	<0.02	2.12	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.05	0.13	0.11	0.21	0.24
Peroxide Sulfur (23De)	----	0.02	% S	0.07	0.39	0.51	3.03	2.05
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.03	0.26	0.40	2.82	1.80
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	17	162	251	1760	1120
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.08	0.23	0.27	0.40	0.40
Peroxide Calcium (23Wh)	----	0.02	% Ca	0.12	4.33	0.96	0.60	4.45
Acid Reacted Calcium (23X)	----	0.02	% Ca	0.04	4.09	0.69	0.20	4.05
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	20	2040	345	98	2020
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	0.03	3.27	0.55	0.16	3.24
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.14	0.07	0.16	0.29	0.22
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.22	0.24	0.27	0.37	0.33
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.07	0.16	0.11	0.08	0.11
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	61	136	91	63	90
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.10	0.22	0.14	0.10	0.14
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	0.94	11.6	1.47	----	5.83
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	187	2320	294	----	1160
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	0.30	3.72	0.47	----	1.86

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE21 1.0C	ASS DUPLICATE 8	ASS DUPLICATE 9	ASS DUPLICATE 10	ASS DUPLICATE 11
				Client sampling date / time	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]	[08-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512412-046	EB1512412-047	EB1512412-048	EB1512412-049	EB1512412-050
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**1.5**	**1.5**	**1.5**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	<0.02	<0.02	**2.35**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	<10	<10	**1470**	<10
Liming Rate	----	1	kg CaCO3/t		<1	<1	<1	**110**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**----**	**----**	**----**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**----**	**----**	**----**	**----**
ø **Reaction Rate**	----	1	-		**----**	**----**	**----**	**----**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	ASS DUPLICATE 12	----	----	----	----
			Client sampling date / time	[08-Feb-2015]	----	----	----	----
Compound	CAS Number	LOR	Unit	EB1512412-051	--------	--------	--------	--------
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	**8.9**	----	----	----	----
pH OX (23B)	----	0.1	pH Unit	**7.8**	----	----	----	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	----	----	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	----	----	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	**0.13**	----	----	----	----
Peroxide Sulfur (23De)	----	0.02	% S	**0.81**	----	----	----	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	**0.68**	----	----	----	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	**426**	----	----	----	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	**0.27**	----	----	----	----
Peroxide Calcium (23Wh)	----	0.02	% Ca	**5.94**	----	----	----	----
Acid Reacted Calcium (23X)	----	0.02	% Ca	**5.68**	----	----	----	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	**2830**	----	----	----	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	**4.54**	----	----	----	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	**0.10**	----	----	----	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg	**0.26**	----	----	----	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg	**0.16**	----	----	----	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	**134**	----	----	----	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	**0.21**	----	----	----	----
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	**12.7**	----	----	----	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	**2540**	----	----	----	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	**4.08**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	ASS DUPLICATE 12	----	----	----	----
				Client sampling date / time	[08-Feb-2015]	----	----	----	----
Compound	CAS Number	LOR	Unit		EB1512412-051	--------	--------	--------	--------
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	----	----	----	----
Net Acidity (sulfur units)	----	0.02	% S		<0.02	----	----	----	----
Net Acidity (acidity units)	----	10	mole H+ / t		<10	----	----	----	----
Liming Rate	----	1	kg CaCO3/t		<1	----	----	----	----
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		----	----	----	----	----
ø **pH (Fox)**	----	0.1	pH Unit		----	----	----	----	----
ø **Reaction Rate**	----	1	-		----	----	----	----	----

QUALITY CONTROL REPORT

Work Order	: **EB1512412**	Page	: 1 of 9
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: sally.leyland@aurecongroup.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61-7-3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553	Date Samples Received	: 10-Feb-2015
C-O-C number	: ----	Date Analysis Commenced	: 12-Feb-2015
Sampler	: GEORGINA KERR	Issue Date	: 17-Feb-2015
Site	: ----	No. of samples received	: 51
Quote number	: ----	No. of samples analysed	: 51

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out ir compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-A: pH Measurements (QC Lot: 63670)									
EB1512317-001	Anonymous	EA029: pH KCl (23A)	----	0.1	pH Unit	8.7	8.7	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	7.8	7.7	1.29	0% - 20%
EB1512412-011	BE7 0.0C	EA029: pH KCl (23A)	----	0.1	pH Unit	8.8	8.8	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	7.5	7.6	1.32	0% - 20%
EA029-A: pH Measurements (QC Lot: 63671)									
EB1512412-028	PC14 1.0C	EA029: pH KCl (23A)	----	0.1	pH Unit	8.2	8.2	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	2.3	2.3	0.00	0% - 20%
EB1512412-044	BE21 0.5C	EA029: pH KCl (23A)	----	0.1	pH Unit	8.6	8.6	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	8.2	8.2	0.00	0% - 20%
EA029-B: Acidity Trail (QC Lot: 63670)									
EB1512317-001	Anonymous	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EB1512412-011	BE7 0.0C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EA029-B: Acidity Trail (QC Lot: 63671)									
EB1512412-028	PC14 1.0C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	1.56	1.57	0.00	0% - 20%
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	1.56	1.57	0.00	0% - 20%
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	976	982	0.572	0% - 20%
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	976	982	0.572	0% - 20%
EB1512412-044	BE21 0.5C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-B: Acidity Trail (QC Lot: 63671) - continued									
EB1512412-044	BE21 0.5C	EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EA029-C: Sulfur Trail (QC Lot: 63670)									
EB1512317-001	Anonymous	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.17	0.16	7.06	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.39	0.45	14.3	0% - 20%
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.56	0.61	8.42	0% - 20%
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	245	283	14.3	0% - 20%
EB1512412-011	BE7 0.0C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.14	0.14	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.63	0.65	2.71	0% - 20%
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.77	0.79	2.18	0% - 20%
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	393	404	2.71	0% - 20%
EA029-C: Sulfur Trail (QC Lot: 63671)									
EB1512412-028	PC14 1.0C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.22	0.23	0.00	0% - 50%
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	2.16	2.06	5.17	0% - 20%
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	2.39	2.28	4.54	0% - 20%
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	1350	1280	5.17	0% - 20%
EB1512412-044	BE21 0.5C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.13	0.13	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.31	0.32	0.00	0% - 50%
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.44	0.44	0.00	0% - 20%
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	192	198	2.84	0% - 50%
EA029-D: Calcium Values (QC Lot: 63670)									
EB1512317-001	Anonymous	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	1.46	1.53	4.95	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.39	0.37	4.93	0% - 50%
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	1.85	1.90	2.95	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	1.17	1.23	4.95	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	728	766	4.95	0% - 20%
EB1512412-011	BE7 0.0C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	2.28	2.37	3.84	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.27	0.27	0.00	0% - 50%
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	2.55	2.64	3.46	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	1.82	1.90	3.84	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	1140	1180	3.84	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-D: Calcium Values (QC Lot: 63671)									
EB1512412-028	PC14 1.0C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	0.17	0.12	33.0	No Limit
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.41	0.41	0.00	0% - 20%
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	0.58	0.53	7.68	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	0.14	0.10	33.0	No Limit
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	84	60	33.0	No Limit
EB1512412-044	BE21 0.5C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	0.75	0.77	3.41	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.30	0.30	0.00	0% - 50%
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	1.05	1.07	1.88	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	0.60	0.62	3.41	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	373	386	3.41	0% - 20%
EA029-E: Magnesium Values (QC Lot: 63670)									
EB1512317-001	Anonymous	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.18	0.22	21.1	0% - 50%
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.23	0.21	6.06	0% - 50%
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.41	0.44	6.91	0% - 20%
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.24	0.30	21.1	0% - 50%
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	149	184	21.1	0% - 50%
EB1512412-011	BE7 0.0C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.14	0.14	0.00	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.11	0.11	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.25	0.26	0.00	0% - 50%
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.18	0.19	0.00	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	114	120	4.63	0% - 50%
EA029-E: Magnesium Values (QC Lot: 63671)									
EB1512412-028	PC14 1.0C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.04	0.02	54.5	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.25	0.26	0.00	0% - 50%
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.30	0.28	5.61	0% - 50%
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.06	0.03	54.5	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	37	21	54.5	No Limit
EB1512412-044	BE21 0.5C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.10	0.11	11.4	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.19	0.19	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.29	0.30	0.00	0% - 50%
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.13	0.15	11.4	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	83	94	11.4	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-F: Excess Acid Neutralising Capacity (QC Lot: 63670)									
EB1512317-001	Anonymous	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	3.97	3.86	2.83	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	1.27	1.23	2.83	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	793	770	2.83	0% - 20%
EB1512412-011	BE7 0.0C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	4.81	4.82	0.00	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	1.54	1.54	0.00	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	961	962	0.177	0% - 20%
EA029-F: Excess Acid Neutralising Capacity (QC Lot: 63671)									
EB1512412-044	BE21 0.5C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	1.85	1.85	0.00	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	0.59	0.59	0.00	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	369	370	0.00	0% - 20%
EA029-H: Acid Base Accounting (QC Lot: 63670)									
EB1512317-001	Anonymous	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EB1512412-011	BE7 0.0C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA029-H: Acid Base Accounting (QC Lot: 63671)									
EB1512412-028	PC14 1.0C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	1.76	1.73	1.74	0% - 20%
		EA029: Liming Rate	----	1	kg CaCO3/t	83	81	1.74	0% - 20%
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	1100	1080	1.74	0% - 20%
EB1512412-044	BE21 0.5C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA037: Ass Field Screening Analysis (QC Lot: 64039)									
EB1512317-002	Anonymous	EA037: pH (F)	----	0.1	pH Unit	8.7	8.6	1.16	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	6.5	6.4	1.55	0% - 20%
EB1512412-022	PC11 0.25C	EA037: pH (F)	----	0.1	pH Unit	8.9	8.9	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	6.2	6.1	1.63	0% - 20%

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EA029-A: pH Measurements (QCLot: 63670)								
EA029: pH KCl (23A)	----	0.1	pH Unit	<0.1	4.9 pH Unit	102	70	130
EA029: pH OX (23B)	----	0.1	pH Unit	<0.1	4.4 pH Unit	93.2	70	130
EA029-A: pH Measurements (QCLot: 63671)								
EA029: pH KCl (23A)	----	0.1	pH Unit	<0.1	4.9 pH Unit	102	70	130
EA029: pH OX (23B)	----	0.1	pH Unit	<0.1	4.4 pH Unit	93.2	70	130
EA029-B: Acidity Trail (QCLot: 63670)								
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	14.32 mole H+ / t	107	70	130
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	68 mole H+ / t	105	70	130
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
EA029-B: Acidity Trail (QCLot: 63671)								
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	14.32 mole H+ / t	108	70	130
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	68 mole H+ / t	109	70	130
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
EA029-C: Sulfur Trail (QCLot: 63670)								
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.69 % S	92.5	70	130
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	----	----	----
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	0.204 % S	105	70	130
EA029-C: Sulfur Trail (QCLot: 63671)								
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.69 % S	95.6	70	130
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	----	----	----
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	0.204 % S	106	70	130
EA029-D: Calcium Values (QCLot: 63670)								
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.02	0.125 % Ca	99.2	70	130
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.02	0.289 % Ca	109	70	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EA029-D: Calcium Values (QCLot: 63670) - continued								
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.02	----	----	----	----
EA029-D: Calcium Values (QCLot: 63671)								
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.02	0.125 % Ca	93.3	70	130
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.02	0.289 % Ca	97.3	70	130
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.02	----	----	----	----
EA029-E: Magnesium Values (QCLot: 63670)								
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	0.285 % Mg	107	70	130
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	0.285 % Mg	102	70	130
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	----	----	----
EA029-E: Magnesium Values (QCLot: 63671)								
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	0.285 % Mg	102	70	130
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	0.285 % Mg	88.3	70	130
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	----	----	----
EA029-F: Excess Acid Neutralising Capacity (QCLot: 63670)								
EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	<0.02	----	----	----	----
EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	<0.02	----	----	----	----
EA029-F: Excess Acid Neutralising Capacity (QCLot: 63671)								
EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	<0.02	----	----	----	----
EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	<0.02	----	----	----	----
EA029-H: Acid Base Accounting (QCLot: 63670)								
EA029: ANC Fineness Factor	----	0.5	-	<0.5	----	----	----	----
EA029: Liming Rate	----	1	kg CaCO3/t	<1	----	----	----	----
EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	----	----	----	----
EA029-H: Acid Base Accounting (QCLot: 63671)								
EA029: ANC Fineness Factor	----	0.5	-	<0.5	----	----	----	----
EA029: Liming Rate	----	1	kg CaCO3/t	<1	----	----	----	----
EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	----	----	----	----

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EA029-H: Acid Base Accounting (QCLot: 63671) - continued								
EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

QA/QC Compliance Assessment for DQO Reporting

Work Order	: **EB1512412**	Page	: 1 of 5
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Telephone	: +61-7-3243 7222
Project	: GPC Geochemical Investigation	Date Samples Received	: 10-Feb-2015
Site	: ----	Issue Date	: 17-Feb-2015
Sampler	: GEORGINA KERR	No. of samples received	: 51
Order number	: 245553	No. of samples analysed	: 51

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA029-D: Calcium Values							
Snap Lock Bag - frozen (EA029)							
BE7 0.0C, ASS DUPLICATE 12	**08-Feb-2015**	**12-Feb-2015**	08-Feb-2016	✓	**17-Feb-2015**	13-May-2015	✓
EA029-F: Excess Acid Neutralising Capacity							
Snap Lock Bag - frozen (EA029)							
BE7 0.5C, BE10 0.5C	**08-Feb-2015**	**12-Feb-2015**	08-Feb-2016	✓	**17-Feb-2015**	13-May-2015	✓
EA029-A: pH Measurements							
Snap Lock Bag - frozen (EA029)							
PC6 0.0C, PC6 0.5C, PC6 1.0C, PC7 0.0C, PC7 0.5C, PC7 1.0C, BE7 1.0C, BE10 0.0C, BE10 1.0C, PC11 0.0C, PC11 0.5C, BE14 0.0C, PC14 0.5C, PC14 1.0C, BE15 0.0C, BE15 0.5C, BE15 1.0C, BE19 0.0C, BE19 0.5C, BE20 0.0C, BE20 0.5C, BE20 1.0C, BE21 0.0C, BE21 0.5C, BE21 1.0C, ASS DUPLICATE 8, ASS DUPLICATE 9, ASS DUPLICATE 10, ASS DUPLICATE 11	**08-Feb-2015**	**12-Feb-2015**	08-Feb-2016	✓	**17-Feb-2015**	13-May-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA037: Ass Field Screening Analysis								
Snap Lock Bag - frozen (EA037)								
PC6 0.25C,	PC6 0.75C,	**08-Feb-2015**	**13-Feb-2015**	07-Aug-2015	✓	**17-Feb-2015**	07-Aug-2015	✓
PC7 0.25C,	PC7 0.7C,							
BE7 0.25C,	BE7 0.75C,							
BE10 0.25C,	BE10 0.75C,							
PC11 0.25C,	PC14 0.25C,							
PC14 0.75C,	BE15 0.25C,							
BE15 0.75C,	BE19 0.25C,							
BE20 0.25C,	BE20 0.75C,							
BE21 0.25C,	BE21 0.75C							

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
ASS Field Screening Analysis	EA037	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	SOIL	In house: Referenced to Ahern et al 2004 - a suspension peroxide oxidation method following the 'sulfur trail' by determining the level of 1M KCL extractable sulfur and the sulfur level after oxidation of soil sulphides. The 'acidity trail' is followed by measurement of TAA, TPA and TSA. Liming Rate is based on results for samples as submitted and incorporates a minimum safety factor of 1.5.
ASS Field Screening Analysis	* EA037	SOIL	In house: Referenced to Acid Sulfate Soils Laboratory Methods Guidelines, version 2.1 June 2004. As received samples are tested for pH field and pH fox and assessed for a reaction rating.

Preparation Methods	Method	Matrix	Method Descriptions
Drying only	EN020D	SOIL	In House
Drying at 85 degrees, bagging and labelling (ASS)	EN020PR	SOIL	In house

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: (1) 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (8)	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	DATE/TIME: 9 February 2015	DATE/TIME: 9 February 2015
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: KSchafer	RECEIVED BY: 000 ay
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 10.2.15 1600	DATE/TIME: 11/2/15 8:25

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
[redacted]	WB6 0.0 C	9/02/2015	S	Bag (Green label)	[redacted]					1	[redacted]			
2	WB6 0.25 C	9/02/2015	S	Bag (Green label)	1						1			
3	WB6 0.5 C	9/02/2015	S	Bag (Green label)	1					1				
4	WB6 0.75 C	9/02/2015	S	Bag (Green label)	1						1			
5	WB6 1.0C	9/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Environmental Division
JW ***Brisbane***
Work Order Reference
EB1512444

Telephone : +61-7-3243 7222

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody seal intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen on arrival by courier? Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 (2) 3 4 5 6 7	Cooling Method: Ice / Ice Pack / None
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (8)	Random Sample Temperature on Receipt: °C
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		Other comment:
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	K Schafer	Ono 24
DATE/TIME: 9 February 2015	DATE/TIME: 9 February 2015	DATE/TIME: 10.2.15 1600	DATE/TIME: 11/2/15 8:45

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
6	WB7 0.0 C	9/02/2015	S	Bag (Green label)	1					1				
7	WB7 0.25 C	9/02/2015	S	Bag (Green label)	1						1			
8	WB7 0.5 C	9/02/2015	S	Bag (Green label)	1					1				
9	WB7 0.75 C	9/02/2015	S	Bag (Green label)	1						1			
10	WB7 1.0C	9/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) **Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround		Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free Ice / gel packs present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 (3) 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (8)	Other comments:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
Georgina Kerr	*Kelly Schafer*	*K Schafer*	
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
9 February 2015	9 February 2015	10-2-15 1600	11/2/15 8:25

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
11	WB10 0.0C	9/02/2015	S	Bag (Green label)	1					1				Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
12	WB10 0.25C	9/02/2015	S	Bag (Green label)	1						1			
13	WB10 0.5C	9/02/2015	S	Bag (Green label)	1					1				
14	WB10 0.75C	9/02/2015	S	Bag (Green label)	1						1			
15	WB10 1.0C	9/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 2 3 (4) 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (8)	Other comments:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 9 February 2015	DATE/TIME: 9 February 2015
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		**RELINQUISHED BY:** KSchafer	**RECEIVED BY:** QAO QA
		DATE/TIME: 10.2.15 1600	DATE/TIME: 11/2/15 8:2V

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
16	WB11 0.0 C	9/02/2015	S	Bag (Green label)	1					1				
17	WB11 0.25C	9/02/2015	S	Bag (Green label)	1						1			
18	WB11 0.5C	9/02/2015	S	Bag (Green label)	1					1				
19	WB11 0.75C	9/02/2015	S	Bag (Green label)	1						1			
20	WB11 1.0 C	9/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 07 7471 5600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: samples.townsville@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		**Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Cooling Method: Ice / Ice Bricks / Absent / None
ORDER NUMBER: 245553		COC: 1 2 3 4 (5) 6 7	Cooling Initiated
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (8)	Random Sample Temperature on Receipt: °C
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		Direct Connect
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	*K Schafer*	
DATE/TIME: 9 February 2015	DATE/TIME: 9 February 2015	DATE/TIME: 10.2.15 1600	DATE/TIME: 11/2/15 8:25

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
21	WB14 0.0C	9/02/2015	S	Bag (Green label)	1					1				
22	WB14 0.25C	9/02/2015	S	Bag (Green label)	1						1			
23	WB14 0.5C	9/02/2015	S	Bag (Green label)	1					1				
24	WB14 0.75C	9/02/2015	S	Bag (Green label)	1						1			
25	WB14 1.0C	9/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
CAIRNS 16 Callemondah Drive Clinton QLD 4680 Ph: 07 4971 5800 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 8433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen gelpacks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt:
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 8	Other comments:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
Georgina Kerr	*Kelly Schafer*	dKSchafer	
DATE/TIME: 9 February 2015	DATE/TIME: 9 February 2015	DATE/TIME: 10-2-15 1600	DATE/TIME: 11/2/15 8:25

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
26	WB15 0.0 C	9/02/2015	S	Bag (Green label)	1					1				
27	WB15 0.25 C	9/02/2015	S	Bag (Green label)	1						1			
28	WB15 0.5 C	9/02/2015	S	Bag (Green label)	1					1				
29	WB15 0.75 C	9/02/2015	S	Bag (Green label)	1						1			
30	WB15 1.0C	9/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
SALES ONLY 27 Shirley Road Wollongong NSW 2500
Ph: 02 8472 6735 E: wuggee.mah@arsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY: (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free Ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (7) (8)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (7) (8)	Other comment:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 9 February 2015	DATE/TIME: 9 February 2015
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		**RELINQUISHED BY:** KSchafer DATE/TIME: 10.2.15 1600	**RECEIVED BY:** DDD DY DATE/TIME: 11/2/15 8:21

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
31	PC9 0.0 C	9/02/2015	S	Bag (Green label)	1					1				
				TOTAL	1					1		#REF!	#REF!	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
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OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) **Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	Free Ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 245553	**COC SEQUENCE NUMBER (Circle)** COC: 1 2 3 4 5 6 (8)	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006 OF: 1 2 3 4 5 6 (8)	Other comment:	
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
Georgina Kerr	*Kelly Schafer*	KSchafer	
DATE/TIME: 9 February 2015	DATE/TIME: 9 February 2015	DATE/TIME: 10-2-15 1600	DATE/TIME: 11/2/15 8:25

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

* ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
32	ASS DUPLICATE 13	9/02/2015	S	Bag (Green label)	1					1				
33	ASS DUPLICATE 14	9/02/2015	S	Bag (Green label)	1					1				
34	ASS DUPLICATE 15	9/02/2015	S	Bag (Green label)	1					1				
				TOTAL	3					3				

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CERTIFICATE OF ANALYSIS

Work Order	: **EB1512444**	Page	: 1 of 16
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: sally.leyland@aurecongroup.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61-7-3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553	Date Samples Received	: 11-Feb-2015 08:25
C-O-C number	: ----	Date Analysis Commenced	: 13-Feb-2015
Sampler	: GEORGINA KERR	Issue Date	: 18-Feb-2015 11:54
Site	: ----		
		No. of samples received	: 34
Quote number	: ----	No. of samples analysed	: 34

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.

- ASS: EA029 (SPOCAS): Retained Acidity not required because pH KCl greater than or equal to 4.5
- ASS: EA037 (Rapid Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme
- EA037 ASS Field Screening: NATA accreditation does not cover performance of this service.
- ASS: EA029 (SPOCAS): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO3) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from kg/t dry weight to kg/m3 in-situ soil, multiply reported results x wet bulk density of soil in t/m3.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB6 0.0 C	WB6 0.25 C	WB6 0.5 C	WB6 0.75 C	WB6 1.0C
			Client sampling date / time	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512444-001	EB1512444-002	EB1512444-003	EB1512444-004	EB1512444-005
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	9.4	----	9.6	----	9.6
pH OX (23B)	----	0.1	pH Unit	9.6	----	10.0	----	9.0
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.04	----	0.04	----	0.10
Peroxide Sulfur (23De)	----	0.02	% S	0.05	----	0.05	----	0.10
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	<0.02	----	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	<10	----	<10
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.20	----	0.16	----	0.20
Peroxide Calcium (23Wh)	----	0.02	% Ca	2.26	----	2.46	----	4.07
Acid Reacted Calcium (23X)	----	0.02	% Ca	2.06	----	2.30	----	3.88
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	1030	----	1150	----	1930
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	1.65	----	1.84	----	3.10
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.04	----	0.03	----	0.05
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.12	----	0.11	----	0.15
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.07	----	0.08	----	0.09
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	60	----	67	----	76
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.10	----	0.11	----	0.12
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	5.57	----	5.26	----	9.76
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	1110	----	1050	----	1950
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	1.78	----	1.68	----	3.12

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB6 0.0 C	WB6 0.25 C	WB6 0.5 C	WB6 0.75 C	WB6 1.0C
				Client sampling date / time	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512444-001	EB1512444-002	EB1512444-003	EB1512444-004	EB1512444-005
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.1**	**----**	**8.6**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**6.6**	**----**	**6.5**	**----**
ø **Reaction Rate**	----	1	-		**----**	**2**	**----**	**2**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB7 0.0 C	WB7 0.25 C	WB7 0.5 C	WB7 0.75 C	WB7 1.0C
				Client sampling date / time	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512444-006	EB1512444-007	EB1512444-008	EB1512444-009	EB1512444-010
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		9.7	----	8.6	----	9.5
pH OX (23B)	----	0.1	pH Unit		9.9	----	7.7	----	9.6
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		0.04	----	0.11	----	0.06
Peroxide Sulfur (23De)	----	0.02	% S		0.05	----	0.43	----	0.08
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		<0.02	----	0.32	----	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		<10	----	200	----	<10
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		0.16	----	0.38	----	0.17
Peroxide Calcium (23Wh)	----	0.02	% Ca		2.30	----	0.88	----	2.25
Acid Reacted Calcium (23X)	----	0.02	% Ca		2.14	----	0.50	----	2.08
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		1070	----	252	----	1040
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		1.71	----	0.40	----	1.66
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		0.03	----	<0.02	----	0.04
Peroxide Magnesium (23Tm)	----	0.02	% Mg		0.16	----	0.05	----	0.15
Acid Reacted Magnesium (23U)	----	0.02	% Mg		0.13	----	0.05	----	0.11
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		106	----	40	----	90
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		0.17	----	0.06	----	0.14
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		5.94	----	0.72	----	5.32
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		1190	----	145	----	1060
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		1.90	----	0.23	----	1.70

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB7 0.0 C	WB7 0.25 C	WB7 0.5 C	WB7 0.75 C	WB7 1.0C
				Client sampling date / time	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512444-006	EB1512444-007	EB1512444-008	EB1512444-009	EB1512444-010
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.2**	**----**	**8.3**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**6.6**	**----**	**6.6**	**----**
ø **Reaction Rate**	----	1	-		**----**	**2**	**----**	**2**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB10 0.0C	WB10 0.25C	WB10 0.5C	WB10 0.75C	WB10 1.0C
			Client sampling date / time	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512444-011	EB1512444-012	EB1512444-013	EB1512444-014	EB1512444-015
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	**9.6**	----	**9.6**	----	**9.4**
pH OX (23B)	----	0.1	pH Unit	**9.2**	----	**9.0**	----	**8.8**
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	**0.05**	----	**0.10**	----	**0.16**
Peroxide Sulfur (23De)	----	0.02	% S	**0.05**	----	**0.08**	----	**0.13**
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	<0.02	----	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	<10	----	<10
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	**0.17**	----	**0.18**	----	**0.20**
Peroxide Calcium (23Wh)	----	0.02	% Ca	**2.23**	----	**2.56**	----	**2.42**
Acid Reacted Calcium (23X)	----	0.02	% Ca	**2.05**	----	**2.38**	----	**2.23**
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	**1020**	----	**1190**	----	**1110**
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	**1.64**	----	**1.90**	----	**1.78**
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	**0.04**	----	**0.04**	----	**0.05**
Peroxide Magnesium (23Tm)	----	0.02	% Mg	**0.20**	----	**0.16**	----	**0.19**
Acid Reacted Magnesium (23U)	----	0.02	% Mg	**0.16**	----	**0.12**	----	**0.14**
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	**136**	----	**95**	----	**113**
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	**0.22**	----	**0.15**	----	**0.18**
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	**6.36**	----	**6.51**	----	**6.63**
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	**1270**	----	**1300**	----	**1320**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	**2.03**	----	**2.08**	----	**2.12**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB10 0.0C	WB10 0.25C	WB10 0.5C	WB10 0.75C	WB10 1.0C
				Client sampling date / time	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512444-011	EB1512444-012	EB1512444-013	EB1512444-014	EB1512444-015
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.2**	**----**	**8.4**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**6.6**	**----**	**6.7**	**----**
ø **Reaction Rate**	----	1	-		**----**	**2**	**----**	**2**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB11 0.0 C	WB11 0.25C	WB11 0.5C	WB11 0.75C	WB11 1.0 C
			Client sampling date / time	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512444-016	EB1512444-017	EB1512444-018	EB1512444-019	EB1512444-020
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	**9.6**	----	**9.2**	----	**9.3**
pH OX (23B)	----	0.1	pH Unit	**9.6**	----	**8.8**	----	**9.0**
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	**0.06**	----	**0.14**	----	**0.14**
Peroxide Sulfur (23De)	----	0.02	% S	**0.06**	----	**0.16**	----	**0.16**
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	**0.02**	----	**0.02**
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	**15**	----	**14**
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	**0.16**	----	**0.17**	----	**0.20**
Peroxide Calcium (23Wh)	----	0.02	% Ca	**2.06**	----	**1.30**	----	**3.23**
Acid Reacted Calcium (23X)	----	0.02	% Ca	**1.90**	----	**1.14**	----	**3.03**
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	**948**	----	**567**	----	**1510**
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	**1.52**	----	**0.91**	----	**2.42**
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	**0.04**	----	**0.06**	----	**0.04**
Peroxide Magnesium (23Tm)	----	0.02	% Mg	**0.15**	----	**0.19**	----	**0.13**
Acid Reacted Magnesium (23U)	----	0.02	% Mg	**0.11**	----	**0.13**	----	**0.09**
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	**90**	----	**111**	----	**73**
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	**0.14**	----	**0.18**	----	**0.12**
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	**5.00**	----	**3.71**	----	**7.57**
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	**1000**	----	**742**	----	**1510**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	**1.60**	----	**1.19**	----	**2.42**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB11 0.0 C	WB11 0.25C	WB11 0.5C	WB11 0.75C	WB11 1.0 C
				Client sampling date / time	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512444-016	EB1512444-017	EB1512444-018	EB1512444-019	EB1512444-020
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.5**	**----**	**8.4**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**6.2**	**----**	**6.6**	**----**
ø **Reaction Rate**	----	1	-		**----**	**3**	**----**	**2**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB14 0.0C	WB14 0.25C	WB14 0.5C	WB14 0.75C	WB14 1.0C
			Client sampling date / time	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512444-021	EB1512444-022	EB1512444-023	EB1512444-024	EB1512444-025
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	**9.6**	----	**9.5**	----	**9.5**
pH OX (23B)	----	0.1	pH Unit	**9.5**	----	**9.0**	----	**9.1**
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	**0.05**	----	**0.07**	----	**0.06**
Peroxide Sulfur (23De)	----	0.02	% S	**0.07**	----	**0.07**	----	**0.06**
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	**0.02**	----	<0.02	----	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	**14**	----	<10	----	<10
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	**0.17**	----	**0.18**	----	**0.17**
Peroxide Calcium (23Wh)	----	0.02	% Ca	**3.02**	----	**3.03**	----	**2.36**
Acid Reacted Calcium (23X)	----	0.02	% Ca	**2.85**	----	**2.85**	----	**2.19**
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	**1420**	----	**1420**	----	**1090**
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	**2.28**	----	**2.28**	----	**1.75**
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	**0.04**	----	**0.04**	----	**0.04**
Peroxide Magnesium (23Tm)	----	0.02	% Mg	**0.21**	----	**0.19**	----	**0.18**
Acid Reacted Magnesium (23U)	----	0.02	% Mg	**0.18**	----	**0.15**	----	**0.14**
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	**146**	----	**123**	----	**119**
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	**0.23**	----	**0.20**	----	**0.19**
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	**7.74**	----	**8.13**	----	**6.04**
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	**1550**	----	**1620**	----	**1210**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	**2.48**	----	**2.60**	----	**1.93**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB14 0.0C	WB14 0.25C	WB14 0.5C	WB14 0.75C	WB14 1.0C
				Client sampling date / time	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512444-021	EB1512444-022	EB1512444-023	EB1512444-024	EB1512444-025
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.4**	**----**	**8.2**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**6.7**	**----**	**6.6**	**----**
ø **Reaction Rate**	----	1	-		**----**	**2**	**----**	**2**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB15 0.0 C	WB15 0.25 C	WB15 0.5 C	WB15 0.75 C	WB15 1.0C
			Client sampling date / time	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512444-026	EB1512444-027	EB1512444-028	EB1512444-029	EB1512444-030
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	**9.6**	----	**9.5**	----	**9.5**
pH OX (23B)	----	0.1	pH Unit	**9.2**	----	**8.9**	----	**8.8**
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	**0.04**	----	**0.10**	----	**0.10**
Peroxide Sulfur (23De)	----	0.02	% S	**0.05**	----	**0.10**	----	**0.10**
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	<0.02	----	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	<10	----	<10
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	**0.16**	----	**0.18**	----	**0.18**
Peroxide Calcium (23Wh)	----	0.02	% Ca	**2.13**	----	**2.46**	----	**2.63**
Acid Reacted Calcium (23X)	----	0.02	% Ca	**1.97**	----	**2.28**	----	**2.46**
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	**981**	----	**1140**	----	**1220**
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	**1.57**	----	**1.82**	----	**1.96**
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	**0.03**	----	**0.04**	----	**0.04**
Peroxide Magnesium (23Tm)	----	0.02	% Mg	**0.15**	----	**0.14**	----	**0.18**
Acid Reacted Magnesium (23U)	----	0.02	% Mg	**0.11**	----	**0.10**	----	**0.14**
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	**94**	----	**82**	----	**114**
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	**0.15**	----	**0.13**	----	**0.18**
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	**5.76**	----	**6.26**	----	**6.88**
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	**1150**	----	**1250**	----	**1380**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	**1.84**	----	**2.00**	----	**2.20**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB15 0.0 C	WB15 0.25 C	WB15 0.5 C	WB15 0.75 C	WB15 1.0C
				Client sampling date / time	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512444-026	EB1512444-027	EB1512444-028	EB1512444-029	EB1512444-030
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.3**	**----**	**8.4**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**6.7**	**----**	**6.9**	**----**
ø **Reaction Rate**	----	1	-		**----**	**2**	**----**	**2**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	PC9 0.0 C	ASS DUPLICATE 13	ASS DUPLICATE 14	ASS DUPLICATE 15	----
			Client sampling date / time	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]	----
Compound	CAS Number	LOR	Unit	EB1512444-031	EB1512444-032	EB1512444-033	EB1512444-034	--------
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	**9.1**	**9.6**	**9.5**	**9.7**	----
pH OX (23B)	----	0.1	pH Unit	**8.2**	**8.9**	**9.1**	**9.6**	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	<2	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	<2	<2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	<2	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	<0.02	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	<0.02	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	<0.02	<0.02	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	**0.14**	**0.05**	**0.10**	**0.04**	----
Peroxide Sulfur (23De)	----	0.02	% S	**0.42**	**0.07**	**0.10**	**0.05**	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	**0.28**	<0.02	<0.02	<0.02	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	**174**	**12**	<10	<10	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	**0.26**	**0.16**	**0.18**	**0.15**	----
Peroxide Calcium (23Wh)	----	0.02	% Ca	**3.51**	**2.46**	**2.69**	**2.69**	----
Acid Reacted Calcium (23X)	----	0.02	% Ca	**3.25**	**2.30**	**2.51**	**2.54**	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	**1620**	**1140**	**1250**	**1270**	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	**2.60**	**1.84**	**2.01**	**2.03**	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	**0.10**	**0.04**	**0.04**	**0.04**	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg	**0.36**	**0.18**	**0.12**	**0.12**	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg	**0.26**	**0.14**	**0.08**	**0.08**	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	**216**	**119**	**65**	**63**	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	**0.35**	**0.19**	**0.10**	**0.10**	----
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	**8.80**	**6.68**	**6.38**	**6.76**	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	**1760**	**1340**	**1280**	**1350**	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	**2.82**	**2.14**	**2.04**	**2.16**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	PC9 0.0 C	ASS DUPLICATE 13	ASS DUPLICATE 14	ASS DUPLICATE 15	----
				Client sampling date / time	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]	[09-Feb-2015]	----
Compound	CAS Number	LOR	Unit		EB1512444-031	EB1512444-032	EB1512444-033	EB1512444-034	--------
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**1.5**	**1.5**	**1.5**	**----**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	<0.02	<0.02	<0.02	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	<10	<10	<10	**----**
Liming Rate	----	1	kg CaCO3/t		<1	<1	<1	<1	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**----**	**----**	**----**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**----**	**----**	**----**	**----**
ø **Reaction Rate**	----	1	-		**----**	**----**	**----**	**----**	**----**

QUALITY CONTROL REPORT

Work Order	: **EB1512444**	Page	: 1 of 9
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: sally.leyland@aurecongroup.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61-7-3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553	Date Samples Received	: 11-Feb-2015
C-O-C number	: ----	Date Analysis Commenced	: 13-Feb-2015
Sampler	: GEORGINA KERR	Issue Date	: 18-Feb-2015
Site	: ----	No. of samples received	: 34
Quote number	: ----	No. of samples analysed	: 34

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out ir compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-A: pH Measurements (QC Lot: 64166)									
EB1512444-001	WB6 0.0 C	EA029: pH KCl (23A)	----	0.1	pH Unit	9.4	9.4	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	9.6	9.6	0.00	0% - 20%
EB1512444-018	WB11 0.5C	EA029: pH KCl (23A)	----	0.1	pH Unit	9.2	9.3	1.08	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	8.8	8.8	0.00	0% - 20%
EA029-A: pH Measurements (QC Lot: 64167)									
EB1512444-033	ASS DUPLICATE 14	EA029: pH KCl (23A)	----	0.1	pH Unit	9.5	9.5	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	9.1	9.2	1.09	0% - 20%
EA029-B: Acidity Trail (QC Lot: 64166)									
EB1512444-001	WB6 0.0 C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EB1512444-018	WB11 0.5C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EA029-B: Acidity Trail (QC Lot: 64167)									
EB1512444-033	ASS DUPLICATE 14	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EA029-C: Sulfur Trail (QC Lot: 64166)									
EB1512444-001	WB6 0.0 C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.04	0.04	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	<0.02	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-C: Sulfur Trail (QC Lot: 64166) - continued									
EB1512444-001	WB6 0.0 C	EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.05	0.05	0.00	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EB1512444-018	WB11 0.5C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.14	0.14	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.02	0.02	0.00	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.16	0.16	0.00	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	15	16	7.63	No Limit
EA029-C: Sulfur Trail (QC Lot: 64167)									
EB1512444-033	ASS DUPLICATE 14	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.10	0.10	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.10	0.10	0.00	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA029-D: Calcium Values (QC Lot: 64166)									
EB1512444-001	WB6 0.0 C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	2.06	2.35	13.1	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.20	0.20	0.00	0% - 50%
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	2.26	2.55	11.9	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	1.65	1.88	13.1	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	1030	1170	13.1	0% - 20%
EB1512444-018	WB11 0.5C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	1.14	1.14	0.00	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.17	0.17	0.00	No Limit
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	1.30	1.31	0.00	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	0.91	0.91	0.00	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	567	568	0.00	0% - 20%
EA029-D: Calcium Values (QC Lot: 64167)									
EB1512444-033	ASS DUPLICATE 14	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	2.51	2.53	0.654	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.18	0.18	0.00	No Limit
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	2.69	2.71	0.889	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	2.01	2.02	0.654	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	1250	1260	0.654	0% - 20%
EA029-E: Magnesium Values (QC Lot: 64166)									
EB1512444-001	WB6 0.0 C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.07	0.06	23.9	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.04	0.04	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.12	0.10	15.5	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.10	0.08	23.9	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	60	47	23.9	No Limit
EB1512444-018	WB11 0.5C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.13	0.13	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-E: Magnesium Values (QC Lot: 64166) - continued									
EB1512444-018	WB11 0.5C	EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.06	0.06	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.19	0.19	0.00	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.18	0.18	0.00	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	111	110	0.970	0% - 50%
EA029-E: Magnesium Values (QC Lot: 64167)									
EB1512444-033	ASS DUPLICATE 14	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.08	0.08	0.00	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.04	0.04	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.12	0.12	0.00	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.10	0.10	0.00	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	65	66	0.00	No Limit
EA029-F: Excess Acid Neutralising Capacity (QC Lot: 64166)									
EB1512444-001	WB6 0.0 C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	5.57	5.63	1.12	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	1.78	1.80	1.12	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	1110	1120	1.12	0% - 20%
EB1512444-018	WB11 0.5C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	3.71	3.73	0.605	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	1.19	1.20	0.00	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	742	746	0.605	0% - 20%
EA029-F: Excess Acid Neutralising Capacity (QC Lot: 64167)									
EB1512444-033	ASS DUPLICATE 14	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	6.38	6.44	0.976	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	2.04	2.06	0.976	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	1280	1290	0.976	0% - 20%
EA029-H: Acid Base Accounting (QC Lot: 64166)									
EB1512444-001	WB6 0.0 C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EB1512444-018	WB11 0.5C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-H: Acid Base Accounting (QC Lot: 64167)									
EB1512444-033	ASS DUPLICATE 14	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA037: Ass Field Screening Analysis (QC Lot: 64168)									
EB1512444-002	WB6 0.25 C	EA037: pH (F)	----	0.1	pH Unit	8.1	8.2	1.23	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	6.6	6.6	0.00	0% - 20%
EB1512444-027	WB15 0.25 C	EA037: pH (F)	----	0.1	pH Unit	8.3	8.4	1.20	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	6.7	6.7	0.00	0% - 20%

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EA029-A: pH Measurements (QCLot: 64166)								
EA029: pH KCl (23A)	----	0.1	pH Unit	<0.1	4.9 pH Unit	100	70	130
EA029: pH OX (23B)	----	0.1	pH Unit	<0.1	4.4 pH Unit	90.9	70	130
EA029-A: pH Measurements (QCLot: 64167)								
EA029: pH KCl (23A)	----	0.1	pH Unit	<0.1	4.9 pH Unit	102	70	130
EA029: pH OX (23B)	----	0.1	pH Unit	<0.1	4.4 pH Unit	93.2	70	130
EA029-B: Acidity Trail (QCLot: 64166)								
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	14.32 mole H+ / t	104	70	130
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	68 mole H+ / t	108	70	130
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
EA029-B: Acidity Trail (QCLot: 64167)								
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	14.32 mole H+ / t	100	70	130
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	68 mole H+ / t	103	70	130
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
EA029-C: Sulfur Trail (QCLot: 64166)								
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.69 % S	93.0	70	130
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	----	----	----
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	0.204 % S	102	70	130
EA029-C: Sulfur Trail (QCLot: 64167)								
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.69 % S	94.1	70	130
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	----	----	----
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	0.204 % S	99.9	70	130
EA029-D: Calcium Values (QCLot: 64166)								
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.02	0.125 % Ca	93.7	70	130
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.02	0.289 % Ca	106	70	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EA029-D: Calcium Values (QCLot: 64166) - continued								
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.02	----	----	----	----
EA029-D: Calcium Values (QCLot: 64167)								
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.02	0.125 % Ca	98.2	70	130
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.02	0.289 % Ca	106	70	130
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.02	----	----	----	----
EA029-E: Magnesium Values (QCLot: 64166)								
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	0.285 % Mg	102	70	130
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	0.285 % Mg	95.6	70	130
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	----	----	----
EA029-E: Magnesium Values (QCLot: 64167)								
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	0.285 % Mg	105	70	130
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	0.285 % Mg	95.4	70	130
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	----	----	----
EA029-F: Excess Acid Neutralising Capacity (QCLot: 64166)								
EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	<0.02	----	----	----	----
EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	<0.02	----	----	----	----
EA029-F: Excess Acid Neutralising Capacity (QCLot: 64167)								
EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	<0.02	----	----	----	----
EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	<0.02	----	----	----	----
EA029-H: Acid Base Accounting (QCLot: 64166)								
EA029: ANC Fineness Factor	----	0.5	-	<0.5	----	----	----	----
EA029: Liming Rate	----	1	kg CaCO3/t	<1	----	----	----	----
EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	----	----	----	----
EA029-H: Acid Base Accounting (QCLot: 64167)								
EA029: ANC Fineness Factor	----	0.5	-	<0.5	----	----	----	----
EA029: Liming Rate	----	1	kg CaCO3/t	<1	----	----	----	----
EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	----	----	----	----

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EA029-H: Acid Base Accounting (QCLot: 64167) - continued								
EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

QA/QC Compliance Assessment for DQO Reporting

Work Order	: **EB1512444**	Page	: 1 of 4
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Telephone	: +61-7-3243 7222
Project	: GPC Geochemical Investigation	Date Samples Received	: 11-Feb-2015
Site	: ----	Issue Date	: 18-Feb-2015
Sampler	: GEORGINA KERR	No. of samples received	: 34
Order number	: 245553	No. of samples analysed	: 34

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA029-F: Excess Acid Neutralising Capacity							
Snap Lock Bag - frozen on receipt at ALS (EA029)							
WB7 1.0C	**09-Feb-2015**	**13-Feb-2015**	09-Feb-2016	✓	**17-Feb-2015**	14-May-2015	✓
EA029-A: pH Measurements							
Snap Lock Bag - frozen on receipt at ALS (EA029)							
WB6 0.0 C, WB6 0.5 C, WB6 1.0C, WB7 0.0 C, WB7 0.5 C, WB10 0.0C, WB10 0.5C, WB10 1.0C, WB11 0.0 C, WB11 0.5C, WB11 1.0 C, WB14 0.0C, WB14 0.5C, WB14 1.0C, WB15 0.0 C, WB15 0.5 C, WB15 1.0C, PC9 0.0 C, ASS DUPLICATE 13, ASS DUPLICATE 14, ASS DUPLICATE 15	**09-Feb-2015**	**13-Feb-2015**	09-Feb-2016	✓	**17-Feb-2015**	14-May-2015	✓
EA037: Ass Field Screening Analysis							
Snap Lock Bag - frozen on receipt at ALS (EA037)							
WB6 0.25 C, WB6 0.75 C, WB7 0.25 C, WB7 0.75 C, WB10 0.25C, WB10 0.75C, WB11 0.25C, WB11 0.75C, WB14 0.25C, WB14 0.75C, WB15 0.25 C, WB15 0.75 C	**09-Feb-2015**	**13-Feb-2015**	08-Aug-2015	✓	**17-Feb-2015**	08-Aug-2015	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
ASS Field Screening Analysis	EA037	2	12	**16.67**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	SOIL	In house: Referenced to Ahern et al 2004 - a suspension peroxide oxidation method following the 'sulfur trail' by determining the level of 1M KCL extractable sulfur and the sulfur level after oxidation of soil sulphides. The 'acidity trail' is followed by measurement of TAA, TPA and TSA. Liming Rate is based on results for samples as submitted and incorporates a minimum safety factor of 1.5.
ASS Field Screening Analysis	* EA037	SOIL	In house: Referenced to Acid Sulfate Soils Laboratory Methods Guidelines, version 2.1 June 2004. As received samples are tested for pH field and pH fox and assessed for a reaction rating.

Preparation Methods	Method	Matrix	Method Descriptions
Drying only	EN020D	SOIL	In House
Drying at 85 degrees, bagging and labelling (ASS)	EN020PR	SOIL	In house

ADELAIDE 21 Burma Road Pooraka SA 5095
Ph: 08 8359 0890 E: adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053
Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 46 Callemondah Drive Clinton QLD 4680
Ph: 07 7471 5900 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 24-1 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
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NOWRA 1/14 Geary Place North Nowra NSW 2541
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Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville.mailroom@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT **(List due date):**	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		**Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: (1) 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 (4) (5) 6 7	Other comment:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 10 February 2015	DATE/TIME: 10 February 2015 1730
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		**RELINQUISHED BY:** *Kschafer* DATE/TIME: 11.2.15 1600	**RECEIVED BY:** DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	BH9 0.0 C	10/02/2015	S	Bag (Green label)	1					1				
2	BH9 0.45 C	10/02/2015	S	Bag (Green label)	1					1				
				TOTAL	2					2				

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Environmental Division
Brisbane
Work Order Reference
EB1512563

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MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 24 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
NOWRA 4/15 Geary Place North Nowra NSW 2541
Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville environment@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 (2) 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 (4) (5) 6 7	Other comment:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
Georgina Kerr	*Kelly Schafer*	KSchafer	
DATE/TIME: 10 February 2015	DATE/TIME: 10 February 2015 1730	DATE/TIME: 11-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
3	BH11 0.0 C	10/02/2015	S	Bag (Green label)	1					1				
				TOTAL	1					1		#REF!	#REF!	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 24 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 6 Ross Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4-13 Geary Place North Nowra NSW 2541 Ph: 02 4421 2003 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) **Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround		Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comment:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**		
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RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	KSchafer	
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
10 February 2015	10 February 2015 1730	11-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS: MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
4	BH20 0.0C	10/02/2015	S	Bag (Green label)	1					1				
				TOTAL	1					1				

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 (4) 5 6 7	Random Sample Temperature on Receipt °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 (4) (5) 6 7	Other comment:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
Georgina Kerr	*Kelly Schafer*	K Schafer	
DATE/TIME: 10 February 2015	DATE/TIME: 10 February 2015 1730	DATE/TIME: 11.2.15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
5	PC8 0.0 C	10/02/2015	S	Bag (Green label)	1					1				
6	PC8 0.25C	10/02/2015	S	Bag (Green label)	1						1			
7	PC8 0.5C	10/02/2015	S	Bag (Green label)	1					1				
8	PC8 0.75C	10/02/2015	S	Bag (Green label)	1						1			
9	PC8 1.0 C	10/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CERTIFICATE OF ANALYSIS

Work Order	: **EB1512563**	Page	: 1 of 6
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: sally.leyland@aurecongroup.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61-7-3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553	Date Samples Received	: 12-Feb-2015 08:40
C-O-C number	: ----	Date Analysis Commenced	: 16-Feb-2015
Sampler	: GEORGINA KERR	Issue Date	: 19-Feb-2015 13:10
Site	: ----		
		No. of samples received	: 9
Quote number	: ----	No. of samples analysed	: 9

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.

- ASS: EA029 (SPOCAS): Retained Acidity not required because pH KCl greater than or equal to 4.5
- ASS: EA037 (Rapid Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme
- EA037 ASS Field Screening: NATA accreditation does not cover performance of this service.
- ASS: EA029 (SPOCAS): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO3) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from kg/t dry weight to kg/m3 in-situ soil, multiply reported results x wet bulk density of soil in t/m3.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH9 0.0 C	BH9 0.45 C	BH11 0.0 C	BH20 0.0C	PC8 0.0 C
			Client sampling date / time	[10-Feb-2015]	[10-Feb-2015]	[10-Feb-2015]	[10-Feb-2015]	[10-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512563-001	EB1512563-002	EB1512563-003	EB1512563-004	EB1512563-005
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	**9.0**	**8.4**	**9.5**	**9.5**	**9.2**
pH OX (23B)	----	0.1	pH Unit	**9.0**	**7.0**	**10.5**	**9.8**	**8.6**
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	<2	<2	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	<2	<2	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	<2	<2	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	<0.02	<0.02	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	<0.02	<0.02	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	<0.02	<0.02	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	**0.04**	**0.03**	**0.03**	**0.04**	**0.11**
Peroxide Sulfur (23De)	----	0.02	% S	**0.06**	**0.03**	**0.04**	**0.06**	**0.27**
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	<0.02	<0.02	**0.02**	**0.16**
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	<10	<10	**14**	**97**
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	**0.20**	**0.13**	**0.14**	**0.16**	**0.22**
Peroxide Calcium (23Wh)	----	0.02	% Ca	**1.58**	**0.16**	**1.71**	**2.74**	**2.99**
Acid Reacted Calcium (23X)	----	0.02	% Ca	**1.38**	**0.03**	**1.57**	**2.58**	**2.77**
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	**686**	**14**	**782**	**1290**	**1380**
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	**1.10**	**0.02**	**1.25**	**2.06**	**2.22**
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	**0.08**	**0.11**	**0.04**	**0.04**	**0.07**
Peroxide Magnesium (23Tm)	----	0.02	% Mg	**0.18**	**0.13**	**0.06**	**0.08**	**0.27**
Acid Reacted Magnesium (23U)	----	0.02	% Mg	**0.09**	**0.02**	**0.02**	**0.04**	**0.20**
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	**77**	**17**	**20**	**33**	**161**
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	**0.12**	**0.03**	**0.03**	**0.05**	**0.26**
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	**3.69**	**0.35**	**3.94**	**6.07**	**7.47**
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	**738**	**69**	**788**	**1210**	**1490**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	**1.18**	**0.11**	**1.26**	**1.94**	**2.39**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH9 0.0 C	BH9 0.45 C	BH11 0.0 C	BH20 0.0C	PC8 0.0 C
				Client sampling date / time	[10-Feb-2015]	[10-Feb-2015]	[10-Feb-2015]	[10-Feb-2015]	[10-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512563-001	EB1512563-002	EB1512563-003	EB1512563-004	EB1512563-005
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**1.5**	**1.5**	**1.5**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	<0.02	<0.02	<0.02	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	<10	<10	<10	<10
Liming Rate	----	1	kg CaCO3/t		<1	<1	<1	<1	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**----**	**----**	**----**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**----**	**----**	**----**	**----**
ø **Reaction Rate**	----	1	-		**----**	**----**	**----**	**----**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	PC8 0.25C	PC8 0.5C	PC8 0.75C	PC8 1.0 C	----
			Client sampling date / time	[10-Feb-2015]	[10-Feb-2015]	[10-Feb-2015]	[10-Feb-2015]	----
Compound	CAS Number	LOR	Unit	EB1512563-006	EB1512563-007	EB1512563-008	EB1512563-009	--------
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	----	9.1	----	8.8	----
pH OX (23B)	----	0.1	pH Unit	----	8.2	----	7.7	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	----	<2	----	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	----	<2	----	<2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	----	<2	----	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	----	<0.02	----	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	----	<0.02	----	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	----	<0.02	----	<0.02	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	----	0.18	----	0.18	----
Peroxide Sulfur (23De)	----	0.02	% S	----	0.57	----	1.03	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	----	0.39	----	0.86	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	----	241	----	535	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	----	0.23	----	0.30	----
Peroxide Calcium (23Wh)	----	0.02	% Ca	----	3.77	----	2.13	----
Acid Reacted Calcium (23X)	----	0.02	% Ca	----	3.54	----	1.82	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	----	1770	----	911	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	----	2.84	----	1.46	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	----	0.08	----	0.13	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg	----	0.32	----	0.27	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg	----	0.24	----	0.14	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	----	198	----	116	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	----	0.32	----	0.18	----
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	----	9.76	----	2.91	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	----	1950	----	581	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	----	3.12	----	0.93	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	PC8 0.25C	PC8 0.5C	PC8 0.75C	PC8 1.0 C	----
				Client sampling date / time	[10-Feb-2015]	[10-Feb-2015]	[10-Feb-2015]	[10-Feb-2015]	----
Compound	CAS Number	LOR	Unit		EB1512563-006	EB1512563-007	EB1512563-008	EB1512563-009	--------
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**----**	**1.5**	**----**	**1.5**	**----**
Net Acidity (sulfur units)	----	0.02	% S		**----**	<0.02	**----**	<0.02	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		**----**	<10	**----**	<10	**----**
Liming Rate	----	1	kg CaCO3/t		**----**	<1	**----**	<1	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**9.0**	**----**	**9.0**	**----**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**6.5**	**----**	**6.0**	**----**	**----**
ø **Reaction Rate**	----	1	-		**3**	**----**	**3**	**----**	**----**

QUALITY CONTROL REPORT

Work Order	: **EB1512563**	Page	: 1 of 6
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: sally.leyland@aurecongroup.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61-7-3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553	Date Samples Received	: 12-Feb-2015
C-O-C number	: ----	Date Analysis Commenced	: 16-Feb-2015
Sampler	: GEORGINA KERR	Issue Date	: 19-Feb-2015
Site	: ----	No. of samples received	: 9
Quote number	: ----	No. of samples analysed	: 9

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out ir compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-A: pH Measurements (QC Lot: 64616)									
EB1512563-001	BH9 0.0 C	EA029: pH KCl (23A)	----	0.1	pH Unit	9.0	9.0	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	9.0	8.8	2.25	0% - 20%
EA029-B: Acidity Trail (QC Lot: 64616)									
EB1512563-001	BH9 0.0 C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EA029-C: Sulfur Trail (QC Lot: 64616)									
EB1512563-001	BH9 0.0 C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.04	0.04	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.06	0.06	0.00	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA029-D: Calcium Values (QC Lot: 64616)									
EB1512563-001	BH9 0.0 C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	1.38	1.34	2.99	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.20	0.21	0.00	0% - 50%
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	1.58	1.54	2.30	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	1.10	1.07	2.99	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	686	666	2.99	0% - 20%
EA029-E: Magnesium Values (QC Lot: 64616)									
EB1512563-001	BH9 0.0 C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.09	0.09	0.00	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.08	0.08	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.18	0.17	0.00	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.12	0.12	0.00	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	77	74	4.36	No Limit
EA029-F: Excess Acid Neutralising Capacity (QC Lot: 64616)									
EB1512563-001	BH9 0.0 C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	3.69	3.63	1.71	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	1.18	1.16	1.71	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-F: Excess Acid Neutralising Capacity (QC Lot: 64616) - continued									
EB1512563-001	BH9 0.0 C	EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	738	725	1.71	0% - 20%
EA029-H: Acid Base Accounting (QC Lot: 64616)									
EB1512563-001	BH9 0.0 C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA037: Ass Field Screening Analysis (QC Lot: 65736)									
EB1512563-006	PC8 0.25C	EA037: pH (F)	----	0.1	pH Unit	9.0	9.0	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	6.5	6.5	0.00	0% - 20%

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EA029-A: pH Measurements (QCLot: 64616)								
EA029: pH KCl (23A)	----	0.1	pH Unit	<0.1	4.9 pH Unit	102	70	130
EA029: pH OX (23B)	----	0.1	pH Unit	<0.1	4.4 pH Unit	93.2	70	130
EA029-B: Acidity Trail (QCLot: 64616)								
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	14.32 mole H+ / t	100	70	130
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	68 mole H+ / t	103	70	130
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
EA029-C: Sulfur Trail (QCLot: 64616)								
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.69 % S	94.1	70	130
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	----	----	----
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	0.204 % S	99.9	70	130
EA029-D: Calcium Values (QCLot: 64616)								
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.02	0.125 % Ca	98.2	70	130
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.02	0.289 % Ca	106	70	130
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.02	----	----	----	----
EA029-E: Magnesium Values (QCLot: 64616)								
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	0.285 % Mg	105	70	130
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	0.285 % Mg	95.4	70	130
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	----	----	----
EA029-F: Excess Acid Neutralising Capacity (QCLot: 64616)								
EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	<0.02	----	----	----	----
EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	<0.02	----	----	----	----
EA029-H: Acid Base Accounting (QCLot: 64616)								
EA029: ANC Fineness Factor	----	0.5	-	<0.5	----	----	----	----
EA029: Liming Rate	----	1	kg CaCO3/t	<1	----	----	----	----

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EA029-H: Acid Base Accounting (QCLot: 64616) - continued								
EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

QA/QC Compliance Assessment for DQO Reporting

Work Order	: **EB1512563**	Page	: 1 of 4
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Telephone	: +61-7-3243 7222
Project	: GPC Geochemical Investigation	Date Samples Received	: 12-Feb-2015
Site	: ----	Issue Date	: 19-Feb-2015
Sampler	: GEORGINA KERR	No. of samples received	: 9
Order number	: 245553	No. of samples analysed	: 9

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA029-F: Excess Acid Neutralising Capacity							
Snap Lock Bag - frozen on receipt at ALS (EA029)							
PC8 0.5C	**10-Feb-2015**	**16-Feb-2015**	10-Feb-2016	✓	**17-Feb-2015**	17-May-2015	✓
EA029-A: pH Measurements							
Snap Lock Bag - frozen on receipt at ALS (EA029)							
BH20 0.0C, PC8 0.0 C, PC8 1.0 C	**10-Feb-2015**	**16-Feb-2015**	10-Feb-2016	✓	**17-Feb-2015**	17-May-2015	✓
EA029-G: Retained Acidity							
Snap Lock Bag - frozen on receipt at ALS (EA029)							
BH9 0.0 C, BH9 0.45 C, BH11 0.0 C	**10-Feb-2015**	**16-Feb-2015**	10-Feb-2016	✓	**17-Feb-2015**	17-May-2015	✓
EA037: Ass Field Screening Analysis							
Snap Lock Bag - frozen on receipt at ALS (EA037)							
PC8 0.25C, PC8 0.75C	**10-Feb-2015**	**18-Feb-2015**	09-Aug-2015	✓	**19-Feb-2015**	09-Aug-2015	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
ASS Field Screening Analysis	EA037	1	2	**50.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	7	**14.29**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	7	**14.29**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	7	**14.29**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	SOIL	In house: Referenced to Ahern et al 2004 - a suspension peroxide oxidation method following the 'sulfur trail' by determining the level of 1M KCL extractable sulfur and the sulfur level after oxidation of soil sulphides. The 'acidity trail' is followed by measurement of TAA, TPA and TSA. Liming Rate is based on results for samples as submitted and incorporates a minimum safety factor of 1.5.
ASS Field Screening Analysis	* EA037	SOIL	In house: Referenced to Acid Sulfate Soils Laboratory Methods Guidelines, version 2.1 June 2004. As received samples are tested for pH field and pH fox and assessed for a reaction rating.

Preparation Methods	Method	Matrix	Method Descriptions
Drying only	EN020D	SOIL	In House
Drying at 85 degrees, bagging and labelling (ASS)	EN020PR	SOIL	In house

ADELAIDE 21 Burma Road Pooraka SA 5095
Ph: 08 8359 0690 E: adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053
Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 1/2 Callemondah Drive Clinton QLD 4680
Ph: 07 7471 5800 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
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SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: (1) 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	KSchafer	
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
11 February 2015	11 February 2015 17:30	12-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	WB19 0.0 C	11/02/2015	S	Bag (Green label)	1					1				
2	WB19 0.25 C	11/02/2015	S	Bag (Green label)	1						1			
3	WB19 0.5 C	11/02/2015	S	Bag (Green label)	1					1				
4	WB19 0.75 C	11/02/2015	S	Bag (Green label)	1						1			
5	WB19 1.0C	11/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Environmental Division
Brisbane
Work Order Reference
EB1512673

Telephone : +61-7-3243 7222

ALS

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free Ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 (2) 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comment:
SAMPLER: Georgina Kerr SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / ~~NO~~) EDD FORMAT (or default):	DATE/TIME: 11 February 2015	DATE/TIME: 11 February 2015 1730
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com	RELINQUISHED BY: KS	RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com	DATE/TIME: 12-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
6	WB20 0.0 C	11/02/2015	S	Bag (Green label)	1					1				
7	WB20 0.25 C	11/02/2015	S	Bag (Green label)	1						1			
8	WB20 0.5 C	11/02/2015	S	Bag (Green label)	1					1				
9	WB20 0.75 C	11/02/2015	S	Bag (Green label)	1						1			
10	WB20 1.0C	11/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4965 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 025423 2065 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) **Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround		Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 (3) 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comments:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	KS	
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
11 February 2015	11 February 2015 1730	12-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
11	WB23 0.0C	11/02/2015	S	Bag (Green label)	1					1				
12	WB23 0.25C	11/02/2015	S	Bag (Green label)	1						1			
13	WB23 0.5C	11/02/2015	S	Bag (Green label)	1					1				
14	WB23 0.75C	11/02/2015	S	Bag (Green label)	1						1			
15	WB23 1.0C	11/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 2-13 Geary Place North Nowra NSW 2541
Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle):**	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 (4) 5 6 7	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006 OF: 1 2 3 4 5 6 (12)	Other comment:	
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	SK	
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
11 February 2015	11 February 2015 1730	12-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
16	BE4 0.0 C	11/02/2015	S	Bag (Green label)	1					1				
17	BE4 0.25C	11/02/2015	S	Bag (Green label)	1						1			
18	BE4 0.5C	11/02/2015	S	Bag (Green label)	1					1				
19	BE4 0.75C	11/02/2015	S	Bag (Green label)	1						1			
20	BE4 1.0 C	11/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 4423 2063 E: nowra@alsglobal.com
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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 (5) 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (12)	Other comment:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		
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COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	KS	
DATE/TIME: 11 February 2015	DATE/TIME: 11 February 2015 1730	DATE/TIME: 12-2-15 1600	DATE/TIME:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
21	BE5 0.0C	11/02/2015	S	Bag (Green label)	1					1				
22	BE5 0.25C	11/02/2015	S	Bag (Green label)	1						1			
23	BE5 0.5C	11/02/2015	S	Bag (Green label)	1					1				
24	BE5 0.75C	11/02/2015	S	Bag (Green label)	1						1			
25	BE5 1.0C	11/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		**Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 (6) 7	Random Sample Temperature on Receipt °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (12)	Other comment:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 11 February 2015	DATE/TIME: 11 February 2015 1730
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		**RELINQUISHED BY:** XS	**RECEIVED BY:**
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:		DATE/TIME: 12-2-15 1600	DATE/TIME:

ALS USE	SAMPLE DETAILS: MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
26	BE6 0.0 C	11/02/2015	S	Bag (Green label)	1					1				
27	BE6 0.25 C	11/02/2015	S	Bag (Green label)	1						1			
28	BE6 0.5 C	11/02/2015	S	Bag (Green label)	1					1				
29	BE6 0.75 C	11/02/2015	S	Bag (Green label)	1						1			
30	BE6 1.0C	11/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Free ice / frozen ice bricks present upon receipt? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6	Other comment:
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 11 February 2015	DATE/TIME: 11 February 2015 1730
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: KS	RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 12-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
31	BE8 0.0 C	11/02/2015	S	Bag (Green label)	1					1				
32	BE8 0.25 C	11/02/2015	S	Bag (Green label)	1						1			
33	BE8 0.5 C	11/02/2015	S	Bag (Green label)	1					1				
34	BE8 0.75 C	11/02/2015	S	Bag (Green label)	1						1			
35	BE8 1.0C	11/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 4225 3125 E: pork.sample@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7 8	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 7 8	Other comment:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*		
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
11 February 2015	11 February 2015 1730	12-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
36	BE11 0.0 C	11/02/2015	S	Bag (Green label)	1					1				
37	BE11 0.25 C	11/02/2015	S	Bag (Green label)	1						1			
38	BE11 0.5 C	11/02/2015	S	Bag (Green label)	1					1				
39	BE11 0.75 C	11/02/2015	S	Bag (Green label)	1						1			
40	BE11 1.0C	11/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 08 8359 0890 E: adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053
Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
CAIRNS Unit 12, 57 Commercial Blvd Cairns QLD 4870
Ph: 07 4796 0600 E: cairns@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 3-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
BLOOMFIELD 277 Sydney Road Newcastle NSW 2300
Ph: 02 8472 6735 E: newcastle.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Wyalkatchem NSW 2324
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4-13 Geary Place North Nowra NSW 2541
Ph: 02 4421 3203 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle):**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		**Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (9)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (12)	Other comment:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*		
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
11 February 2015	11 February 2015 1730	12-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
41	BE12 0.0 C	11/02/2015	S	Bag (Green label)	1					1				
42	BE12 0.25 C	11/02/2015	S	Bag (Green label)	1						1			
43	BE12 0.5 C	11/02/2015	S	Bag (Green label)	1					1				
44	BE12 0.75 C	11/02/2015	S	Bag (Green label)	1						1			
45	BE12 1.0C	11/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 08 8359 0890 E: adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053
Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 46 Callemondah Drive Clinton QLD 4680
Ph: 07 7471 5600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 24-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
SUBIACO 2 / 5 Kelvin Road Subiaco WA 6008
Ph: 08 9328 2029 E: subiaco@alsglobal.com
NEWCASTLE 5 Rose Gum Road Wallsend NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4 /13 Geary Place North Nowra NSW 2541
Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Garbutt QLD 4814
Ph: 07 4796 0600 E: townsville.enquiries@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: perthamble@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (1)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (2)	Other comment:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	KS	
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
11 February 2015	11 February 2015 1730	12-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
46	BE13 0.0 C	11/02/2015	S	Bag (Green label)	1					1				
47	BE13 0.25 C	11/02/2015	S	Bag (Green label)	1						1			
48	BE13 0.5 C	11/02/2015	S	Bag (Green label)	1					1				
49	BE13 0.75 C	11/02/2015	S	Bag (Green label)	1						1			
50	BE13 1.0C	11/02/2015	S	Bag (Green label)	1					1				
				TOTAL:	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 08 8359 0890 E: adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053
Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
CLEVELAND 35 Collemondah Drive Cleveland QLD 4163
Ph: 07 3421 7600 E: cleveland@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 24 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 6735 E: mudgee mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4-13 Geary Place North Nowra NSW 2541
Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		**Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (1)	Random Sample Temperature on Receipt: 0
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (2)	Other comments:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		
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RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	KS	
DATE/TIME: 11 February 2015	DATE/TIME: 11 February 2015 1730	DATE/TIME: 12-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
51	WB17 0.0 C	11/02/2015	S	Bag (Green label)	1					1				
52	WB17 0.25 C	11/02/2015	S	Bag (Green label)	1						1			
53	WB17 0.5 C	11/02/2015	S	Bag (Green label)	1					1				
54	WB17 0.75 C	11/02/2015	S	Bag (Green label)	1						1			
55	WB17 1.0C	11/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date):	5 day turnaround
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (12)	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (12)	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt		C	
Other comment:			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	Kelly Schafer	KS	
DATE/TIME: 11 February 2015	DATE/TIME: 11 February 2015 1730	DATE/TIME: 12-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
56	ASS DUPLICATE 16	11/02/2015	S	Bag (Green label)	1					1				
57	ASS DUPLICATE 17	11/02/2015	S	Bag (Green label)	1					1				
58	ASS DUPLICATE 18	11/02/2015	S	Bag (Green label)	1					1				
				TOTAL	3					3				

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CERTIFICATE OF ANALYSIS

Work Order	: **EB1512673**	Page	: 1 of 26
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: sally.leyland@aurecongroup.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61-7-3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553	Date Samples Received	: 13-Feb-2015 08:50
C-O-C number	: ----	Date Analysis Commenced	: 18-Feb-2015
Sampler	: GEORGINA KERR	Issue Date	: 20-Feb-2015 13:56
Site	: ----		
		No. of samples received	: 58
Quote number	: ----	No. of samples analysed	: 58

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.

- ASS: EA037 (Rapid Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme
- EA037 ASS Field Screening: NATA accreditation does not cover performance of this service.
- ASS: EA029 (SPOCAS): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime ($CaCO_3$) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from kg/t dry weight to kg/m3 in-situ soil, multiply reported results x wet bulk density of soil in t/m3.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB19 0.0 C	WB19 0.25 C	WB19 0.5 C	WB19 0.75 C	WB19 1.0C
				Client sampling date / time	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512673-001	EB1512673-002	EB1512673-003	EB1512673-004	EB1512673-005
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		9.6	----	9.5	----	9.5
pH OX (23B)	----	0.1	pH Unit		8.7	----	8.5	----	8.7
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		0.04	----	0.04	----	0.07
Peroxide Sulfur (23De)	----	0.02	% S		0.04	----	0.04	----	0.06
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		<0.02	----	<0.02	----	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		<10	----	<10	----	<10
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		0.17	----	0.16	----	0.17
Peroxide Calcium (23Wh)	----	0.02	% Ca		1.72	----	1.41	----	2.06
Acid Reacted Calcium (23X)	----	0.02	% Ca		1.56	----	1.25	----	1.89
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		776	----	625	----	944
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		1.24	----	1.00	----	1.51
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		0.04	----	0.04	----	0.04
Peroxide Magnesium (23Tm)	----	0.02	% Mg		0.11	----	0.05	----	0.06
Acid Reacted Magnesium (23U)	----	0.02	% Mg		0.08	----	<0.02	----	<0.02
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		62	----	10	----	16
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		0.10	----	<0.02	----	0.02
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		5.60	----	3.97	----	5.85
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		1120	----	794	----	1170
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		1.79	----	1.27	----	1.87

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB19 0.0 C	WB19 0.25 C	WB19 0.5 C	WB19 0.75 C	WB19 1.0C
				Client sampling date / time	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512673-001	EB1512673-002	EB1512673-003	EB1512673-004	EB1512673-005
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.3**	**----**	**8.3**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**7.7**	**----**	**7.0**	**----**
ø **Reaction Rate**	----	1	-		**----**	**4**	**----**	**4**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB20 0.0 C	WB20 0.25 C	WB20 0.5 C	WB20 0.75 C	WB20 1.0C
			Client sampling date / time	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512673-006	EB1512673-007	EB1512673-008	EB1512673-009	EB1512673-010
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	9.6	----	9.5	----	9.5
pH OX (23B)	----	0.1	pH Unit	8.6	----	8.7	----	8.7
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.05	----	0.06	----	0.05
Peroxide Sulfur (23De)	----	0.02	% S	0.04	----	0.05	----	0.04
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	<0.02	----	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	<10	----	<10
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.15	----	0.16	----	0.16
Peroxide Calcium (23Wh)	----	0.02	% Ca	1.24	----	1.03	----	1.27
Acid Reacted Calcium (23X)	----	0.02	% Ca	1.08	----	0.88	----	1.11
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	542	----	437	----	555
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	0.87	----	0.70	----	0.89
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.04	----	0.04	----	0.04
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.11	----	0.08	----	0.09
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.08	----	0.04	----	0.05
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	62	----	34	----	41
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.10	----	0.05	----	0.07
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	4.35	----	3.85	----	3.78
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	869	----	769	----	756
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	1.39	----	1.23	----	1.21

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB20 0.0 C	WB20 0.25 C	WB20 0.5 C	WB20 0.75 C	WB20 1.0C
				Client sampling date / time	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512673-006	EB1512673-007	EB1512673-008	EB1512673-009	EB1512673-010
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.3**	**----**	**8.3**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**7.3**	**----**	**8.4**	**----**
ø **Reaction Rate**	----	1	-		**----**	**4**	**----**	**4**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB23 0.0C	WB23 0.25C	WB23 0.5C	WB23 0.75C	WB23 1.0C
			Client sampling date / time	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512673-011	EB1512673-012	EB1512673-013	EB1512673-014	EB1512673-015
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	9.5	----	9.3	----	9.3
pH OX (23B)	----	0.1	pH Unit	8.7	----	8.5	----	8.5
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.08	----	0.10	----	0.12
Peroxide Sulfur (23De)	----	0.02	% S	0.07	----	0.10	----	0.11
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	<0.02	----	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	<10	----	<10
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.18	----	0.16	----	0.18
Peroxide Calcium (23Wh)	----	0.02	% Ca	2.70	----	1.06	----	0.87
Acid Reacted Calcium (23X)	----	0.02	% Ca	2.52	----	0.90	----	0.69
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	1260	----	450	----	344
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	2.01	----	0.72	----	0.55
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.04	----	0.05	----	0.05
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.15	----	0.09	----	0.06
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.11	----	0.04	----	<0.02
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	89	----	33	----	13
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.14	----	0.05	----	0.02
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	10.2	----	3.60	----	2.66
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	2040	----	719	----	531
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	3.27	----	1.15	----	0.85

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB23 0.0C	WB23 0.25C	WB23 0.5C	WB23 0.75C	WB23 1.0C
				Client sampling date / time	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512673-011	EB1512673-012	EB1512673-013	EB1512673-014	EB1512673-015
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.3**	**----**	**8.5**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**7.5**	**----**	**7.2**	**----**
ø **Reaction Rate**	----	1	-		**----**	**4**	**----**	**4**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BE4 0.0 C	BE4 0.25C	BE4 0.5C	BE4 0.75C	BE4 1.0 C
			Client sampling date / time	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512673-016	EB1512673-017	EB1512673-018	EB1512673-019	EB1512673-020
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	8.8	----	8.8	----	8.4
pH OX (23B)	----	0.1	pH Unit	7.8	----	7.8	----	6.4
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.15	----	0.13	----	0.19
Peroxide Sulfur (23De)	----	0.02	% S	0.52	----	0.60	----	2.23
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.37	----	0.47	----	2.04
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	231	----	294	----	1270
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.27	----	0.27	----	0.37
Peroxide Calcium (23Wh)	----	0.02	% Ca	2.06	----	2.28	----	2.38
Acid Reacted Calcium (23X)	----	0.02	% Ca	1.78	----	2.01	----	2.00
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	891	----	1000	----	1000
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	1.43	----	1.61	----	1.60
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.12	----	0.12	----	0.21
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.15	----	0.20	----	0.34
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.03	----	0.07	----	0.13
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	26	----	59	----	108
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.04	----	0.09	----	0.17
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	4.10	----	5.54	----	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	819	----	1110	----	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	1.31	----	1.77	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE4 0.0 C	BE4 0.25C	BE4 0.5C	BE4 0.75C	BE4 1.0 C
				Client sampling date / time	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512673-016	EB1512673-017	EB1512673-018	EB1512673-019	EB1512673-020
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	**0.68**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	**423**
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	**32**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.5**	**----**	**8.8**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**6.1**	**----**	**6.3**	**----**
ø **Reaction Rate**	----	1	-		**----**	**4**	**----**	**4**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE5 0.0C	BE5 0.25C	BE5 0.5C	BE5 0.75C	BE5 1.0C
				Client sampling date / time	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512673-021	EB1512673-022	EB1512673-023	EB1512673-024	EB1512673-025
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		8.8	----	8.2	----	7.4
pH OX (23B)	----	0.1	pH Unit		7.8	----	2.7	----	2.4
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		<2	----	465	----	733
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		<2	----	465	----	733
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		<0.02	----	0.75	----	1.18
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		<0.02	----	0.75	----	1.18
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		0.13	----	0.13	----	0.13
Peroxide Sulfur (23De)	----	0.02	% S		0.44	----	1.29	----	1.73
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		0.31	----	1.15	----	1.60
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		194	----	720	----	996
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		0.28	----	0.28	----	0.27
Peroxide Calcium (23Wh)	----	0.02	% Ca		1.94	----	0.34	----	0.32
Acid Reacted Calcium (23X)	----	0.02	% Ca		1.66	----	0.06	----	0.05
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		830	----	32	----	24
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		1.33	----	0.05	----	0.04
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		0.15	----	0.24	----	0.25
Peroxide Magnesium (23Tm)	----	0.02	% Mg		0.16	----	0.32	----	0.31
Acid Reacted Magnesium (23U)	----	0.02	% Mg		<0.02	----	0.08	----	0.07
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		12	----	69	----	55
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		<0.02	----	0.11	----	0.09
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		5.04	----	----	----	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		1010	----	----	----	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		1.61	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE5 0.0C	BE5 0.25C	BE5 0.5C	BE5 0.75C	BE5 1.0C
				Client sampling date / time	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512673-021	EB1512673-022	EB1512673-023	EB1512673-024	EB1512673-025
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	**0.88**	**----**	**1.32**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	**550**	**----**	**821**
Liming Rate	----	1	kg CaCO3/t		<1	**----**	**41**	**----**	**62**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.1**	**----**	**8.2**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**6.6**	**----**	**1.8**	**----**
ø **Reaction Rate**	----	1	-		**----**	**4**	**----**	**4**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE6 0.0 C	BE6 0.25 C	BE6 0.5 C	BE6 0.75 C	BE6 1.0C
				Client sampling date / time	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512673-026	EB1512673-027	EB1512673-028	EB1512673-029	EB1512673-030
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		8.8	----	7.8	----	7.2
pH OX (23B)	----	0.1	pH Unit		7.6	----	2.8	----	2.3
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		<2	----	375	----	878
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		<2	----	375	----	878
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		<0.02	----	0.60	----	1.41
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		<0.02	----	0.60	----	1.41
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		0.14	----	0.14	----	0.19
Peroxide Sulfur (23De)	----	0.02	% S		0.59	----	1.08	----	1.98
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		0.45	----	0.94	----	1.79
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		280	----	585	----	1120
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		0.26	----	0.20	----	0.28
Peroxide Calcium (23Wh)	----	0.02	% Ca		1.33	----	0.24	----	0.36
Acid Reacted Calcium (23X)	----	0.02	% Ca		1.06	----	0.03	----	0.08
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		531	----	17	----	39
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		0.85	----	0.03	----	0.06
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		0.13	----	0.20	----	0.30
Peroxide Magnesium (23Tm)	----	0.02	% Mg		0.18	----	0.28	----	0.36
Acid Reacted Magnesium (23U)	----	0.02	% Mg		0.05	----	0.07	----	0.06
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		41	----	61	----	51
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		0.06	----	0.10	----	0.08
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		2.68	----	----	----	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		535	----	----	----	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		0.86	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE6 0.0 C	BE6 0.25 C	BE6 0.5 C	BE6 0.75 C	BE6 1.0C
				Client sampling date / time	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512673-026	EB1512673-027	EB1512673-028	EB1512673-029	EB1512673-030
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	**0.71**	**----**	**1.54**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	**445**	**----**	**958**
Liming Rate	----	1	kg CaCO3/t		<1	**----**	**33**	**----**	**72**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.5**	**----**	**8.0**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**4.1**	**----**	**1.4**	**----**
ø **Reaction Rate**	----	1	-		**----**	**4**	**----**	**4**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE8 0.0 C	BE8 0.25 C	BE8 0.5 C	BE8 0.75 C	BE8 1.0C
				Client sampling date / time	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512673-031	EB1512673-032	EB1512673-033	EB1512673-034	EB1512673-035
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		8.8	----	7.1	----	6.6
pH OX (23B)	----	0.1	pH Unit		7.7	----	2.3	----	2.0
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		<2	----	755	----	1830
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		<2	----	755	----	1830
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		<0.02	----	1.21	----	2.93
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		<0.02	----	1.21	----	2.93
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		0.15	----	0.16	----	0.18
Peroxide Sulfur (23De)	----	0.02	% S		1.00	----	1.67	----	3.72
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		0.85	----	1.51	----	3.53
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		531	----	941	----	2200
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		0.29	----	0.17	----	0.24
Peroxide Calcium (23Wh)	----	0.02	% Ca		4.47	----	0.19	----	0.28
Acid Reacted Calcium (23X)	----	0.02	% Ca		4.18	----	<0.02	----	0.04
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		2080	----	<10	----	21
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		3.34	----	<0.02	----	0.03
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		0.15	----	0.26	----	0.33
Peroxide Magnesium (23Tm)	----	0.02	% Mg		0.32	----	0.29	----	0.38
Acid Reacted Magnesium (23U)	----	0.02	% Mg		0.16	----	0.03	----	0.05
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		135	----	26	----	40
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		0.22	----	0.04	----	0.06
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		8.96	----	----	----	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		1790	----	----	----	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		2.87	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE8 0.0 C	BE8 0.25 C	BE8 0.5 C	BE8 0.75 C	BE8 1.0C
				Client sampling date / time	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512673-031	EB1512673-032	EB1512673-033	EB1512673-034	EB1512673-035
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	**1.31**	**----**	**3.13**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	**817**	**----**	**1950**
Liming Rate	----	1	kg CaCO3/t		<1	**----**	**61**	**----**	**146**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.3**	**----**	**8.5**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**1.6**	**----**	**2.2**	**----**
ø **Reaction Rate**	----	1	-		**----**	**4**	**----**	**4**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE11 0.0 C	BE11 0.25 C	BE11 0.5 C	BE11 0.75 C	BE11 1.0C
				Client sampling date / time	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512673-036	EB1512673-037	EB1512673-038	EB1512673-039	EB1512673-040
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		8.7	----	6.7	----	7.6
pH OX (23B)	----	0.1	pH Unit		7.8	----	2.0	----	2.2
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		<2	----	1050	----	828
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		<2	----	1050	----	828
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		<0.02	----	1.68	----	1.33
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		<0.02	----	1.68	----	1.33
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		0.16	----	0.19	----	0.19
Peroxide Sulfur (23De)	----	0.02	% S		1.45	----	2.22	----	1.83
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		1.28	----	2.02	----	1.64
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		800	----	1260	----	1020
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		0.30	----	0.16	----	0.32
Peroxide Calcium (23Wh)	----	0.02	% Ca		3.24	----	0.18	----	0.39
Acid Reacted Calcium (23X)	----	0.02	% Ca		2.93	----	<0.02	----	0.06
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		1460	----	<10	----	32
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		2.35	----	<0.02	----	0.05
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		0.16	----	0.30	----	0.30
Peroxide Magnesium (23Tm)	----	0.02	% Mg		0.35	----	0.33	----	0.36
Acid Reacted Magnesium (23U)	----	0.02	% Mg		0.18	----	0.03	----	0.06
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		152	----	28	----	52
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		0.24	----	0.04	----	0.08
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		4.87	----	----	----	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		972	----	----	----	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		1.56	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE11 0.0 C	BE11 0.25 C	BE11 0.5 C	BE11 0.75 C	BE11 1.0C
				Client sampling date / time	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512673-036	EB1512673-037	EB1512673-038	EB1512673-039	EB1512673-040
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	**1.79**	**----**	**1.43**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	**1120**	**----**	**894**
Liming Rate	----	1	kg CaCO3/t		<1	**----**	**84**	**----**	**67**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.5**	**----**	**8.0**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**1.8**	**----**	**1.8**	**----**
ø **Reaction Rate**	----	1	-		**----**	**4**	**----**	**4**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE12 0.0 C	BE12 0.25 C	BE12 0.5 C	BE12 0.75 C	BE12 1.0C
				Client sampling date / time	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512673-041	EB1512673-042	EB1512673-043	EB1512673-044	EB1512673-045
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		8.6	----	7.1	----	7.0
pH OX (23B)	----	0.1	pH Unit		3.6	----	2.1	----	2.1
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		159	----	1110	----	996
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		159	----	1110	----	996
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		0.25	----	1.78	----	1.60
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		0.25	----	1.78	----	1.60
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		0.16	----	0.23	----	0.17
Peroxide Sulfur (23De)	----	0.02	% S		1.93	----	2.38	----	2.29
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		1.76	----	2.15	----	2.12
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		1100	----	1340	----	1320
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		0.30	----	0.31	----	0.23
Peroxide Calcium (23Wh)	----	0.02	% Ca		1.61	----	0.32	----	0.26
Acid Reacted Calcium (23X)	----	0.02	% Ca		1.31	----	<0.02	----	0.03
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		653	----	<10	----	17
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		1.05	----	<0.02	----	0.03
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		0.17	----	0.32	----	0.27
Peroxide Magnesium (23Tm)	----	0.02	% Mg		0.30	----	0.35	----	0.31
Acid Reacted Magnesium (23U)	----	0.02	% Mg		0.12	----	0.04	----	0.04
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		103	----	31	----	34
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		0.16	----	0.05	----	0.05
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		----	----	----	----	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		----	----	----	----	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		----	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE12 0.0 C	BE12 0.25 C	BE12 0.5 C	BE12 0.75 C	BE12 1.0C
				Client sampling date / time	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512673-041	EB1512673-042	EB1512673-043	EB1512673-044	EB1512673-045
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		**0.76**	**----**	**1.90**	**----**	**1.77**
Net Acidity (acidity units)	----	10	mole H+ / t		**472**	**----**	**1190**	**----**	**1100**
Liming Rate	----	1	kg CaCO3/t		**35**	**----**	**89**	**----**	**83**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.6**	**----**	**8.0**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**6.6**	**----**	**1.9**	**----**
ø **Reaction Rate**	----	1	-		**----**	**4**	**----**	**4**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BE13 0.0 C	BE13 0.25 C	BE13 0.5 C	BE13 0.75 C	BE13 1.0C
			Client sampling date / time	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512673-046	EB1512673-047	EB1512673-048	EB1512673-049	EB1512673-050
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	8.8	----	8.1	----	7.6
pH OX (23B)	----	0.1	pH Unit	8.0	----	3.0	----	2.3
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	238	----	467
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	238	----	467
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	0.38	----	0.75
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	0.38	----	0.75
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.12	----	0.12	----	0.15
Peroxide Sulfur (23De)	----	0.02	% S	0.36	----	0.87	----	1.18
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.24	----	0.76	----	1.03
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	148	----	474	----	643
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.27	----	0.22	----	0.20
Peroxide Calcium (23Wh)	----	0.02	% Ca	2.60	----	0.32	----	0.20
Acid Reacted Calcium (23X)	----	0.02	% Ca	2.33	----	0.10	----	<0.02
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	1160	----	48	----	<10
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	1.87	----	0.08	----	<0.02
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.13	----	0.18	----	0.18
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.23	----	0.25	----	0.23
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.10	----	0.06	----	0.05
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	81	----	54	----	40
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.13	----	0.09	----	0.06
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	7.11	----	----	----	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	1420	----	----	----	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	2.28	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE13 0.0 C	BE13 0.25 C	BE13 0.5 C	BE13 0.75 C	BE13 1.0C
				Client sampling date / time	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512673-046	EB1512673-047	EB1512673-048	EB1512673-049	EB1512673-050
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	**0.51**	**----**	**0.84**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	**316**	**----**	**526**
Liming Rate	----	1	kg CaCO3/t		<1	**----**	**24**	**----**	**39**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.6**	**----**	**8.4**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**2.4**	**----**	**2.3**	**----**
ø **Reaction Rate**	----	1	-		**----**	**4**	**----**	**4**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB17 0.0 C	WB17 0.25 C	WB17 0.5 C	WB17 0.75 C	WB17 1.0C
				Client sampling date / time	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512673-051	EB1512673-052	EB1512673-053	EB1512673-054	EB1512673-055
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		9.4	----	9.5	----	9.6
pH OX (23B)	----	0.1	pH Unit		8.6	----	8.5	----	8.7
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		0.07	----	0.06	----	0.04
Peroxide Sulfur (23De)	----	0.02	% S		0.08	----	0.07	----	0.06
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		<0.02	----	<0.02	----	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		<10	----	<10	----	<10
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		0.16	----	0.16	----	0.17
Peroxide Calcium (23Wh)	----	0.02	% Ca		1.60	----	1.74	----	1.99
Acid Reacted Calcium (23X)	----	0.02	% Ca		1.44	----	1.58	----	1.83
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		720	----	788	----	912
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		1.15	----	1.26	----	1.46
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		0.04	----	0.04	----	0.04
Peroxide Magnesium (23Tm)	----	0.02	% Mg		0.13	----	0.09	----	0.14
Acid Reacted Magnesium (23U)	----	0.02	% Mg		0.09	----	0.05	----	0.10
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		75	----	40	----	79
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		0.12	----	0.06	----	0.13
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		4.16	----	4.16	----	5.04
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		831	----	831	----	1010
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		1.33	----	1.33	----	1.61

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB17 0.0 C	WB17 0.25 C	WB17 0.5 C	WB17 0.75 C	WB17 1.0C
				Client sampling date / time	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512673-051	EB1512673-052	EB1512673-053	EB1512673-054	EB1512673-055
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.4**	**----**	**8.5**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**7.2**	**----**	**7.8**	**----**
ø **Reaction Rate**	----	1	-		**----**	**4**	**----**	**4**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	ASS DUPLICATE 16	ASS DUPLICATE 17	ASS DUPLICATE 18	----	----
			Client sampling date / time	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	----	----
Compound	CAS Number	LOR	Unit	EB1512673-056	EB1512673-057	EB1512673-058	--------	--------
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	**9.5**	**8.5**	**8.8**	----	----
pH OX (23B)	----	0.1	pH Unit	**8.6**	**7.3**	**7.7**	----	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	<2	----	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	<2	----	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	<2	----	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	<0.02	----	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	<0.02	----	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	<0.02	----	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	**0.06**	**0.18**	**0.14**	----	----
Peroxide Sulfur (23De)	----	0.02	% S	**0.07**	**2.24**	**0.75**	----	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	**2.06**	**0.61**	----	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	**1280**	**381**	----	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	**0.16**	**0.33**	**0.29**	----	----
Peroxide Calcium (23Wh)	----	0.02	% Ca	**1.85**	**3.36**	**3.16**	----	----
Acid Reacted Calcium (23X)	----	0.02	% Ca	**1.69**	**3.02**	**2.86**	----	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	**843**	**1510**	**1430**	----	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	**1.35**	**2.42**	**2.29**	----	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	**0.04**	**0.18**	**0.14**	----	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg	**0.12**	**0.36**	**0.25**	----	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg	**0.08**	**0.18**	**0.11**	----	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	**69**	**149**	**89**	----	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	**0.11**	**0.24**	**0.14**	----	----
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	**4.66**	**3.11**	**6.08**	----	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	**931**	**622**	**1210**	----	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	**1.49**	**1.00**	**1.94**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	ASS DUPLICATE 16	ASS DUPLICATE 17	ASS DUPLICATE 18	----	----
				Client sampling date / time	[11-Feb-2015]	[11-Feb-2015]	[11-Feb-2015]	----	----
Compound	CAS Number	LOR	Unit		EB1512673-056	EB1512673-057	EB1512673-058	--------	--------
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**1.5**	**1.5**	**----**	**----**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**0.02**	<0.02	**----**	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**13**	<10	**----**	**----**
Liming Rate	----	1	kg CaCO3/t		<1	**1**	<1	**----**	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**----**	**----**	**----**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**----**	**----**	**----**	**----**
ø **Reaction Rate**	----	1	-		**----**	**----**	**----**	**----**	**----**

QUALITY CONTROL REPORT

Work Order	: **EB1512673**	Page	: 1 of 10
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: sally.leyland@aurecongroup.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61-7-3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553	Date Samples Received	: 13-Feb-2015
C-O-C number	: ----	Date Analysis Commenced	: 18-Feb-2015
Sampler	: GEORGINA KERR	Issue Date	: 20-Feb-2015
Site	: ----	No. of samples received	: 58
Quote number	: ----	No. of samples analysed	: 58

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out ir compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-A: pH Measurements (QC Lot: 65730)									
EB1512673-001	WB19 0.0 C	EA029: pH KCl (23A)	----	0.1	pH Unit	9.6	9.6	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	8.7	8.7	0.00	0% - 20%
EB1512673-018	BE4 0.5C	EA029: pH KCl (23A)	----	0.1	pH Unit	8.8	8.8	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	7.8	7.8	0.00	0% - 20%
EA029-A: pH Measurements (QC Lot: 65731)									
EB1512673-035	BE8 1.0C	EA029: pH KCl (23A)	----	0.1	pH Unit	6.6	6.6	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	2.0	1.9	5.13	0% - 20%
EB1512673-051	WB17 0.0 C	EA029: pH KCl (23A)	----	0.1	pH Unit	9.4	9.4	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	8.6	8.7	1.16	0% - 20%
EA029-B: Acidity Trail (QC Lot: 65730)									
EB1512673-001	WB19 0.0 C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EB1512673-018	BE4 0.5C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EA029-B: Acidity Trail (QC Lot: 65731)									
EB1512673-035	BE8 1.0C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	2.93	2.98	1.47	0% - 20%
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	2.93	2.98	1.47	0% - 20%
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	1830	1860	1.47	0% - 20%
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	1830	1860	1.47	0% - 20%
EB1512673-051	WB17 0.0 C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-B: Acidity Trail (QC Lot: 65731) - continued									
EB1512673-051	WB17 0.0 C	EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EA029-C: Sulfur Trail (QC Lot: 65730)									
EB1512673-001	WB19 0.0 C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.04	0.05	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.04	0.04	0.00	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EB1512673-018	BE4 0.5C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.13	0.14	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.47	0.43	8.56	0% - 20%
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.60	0.57	5.48	0% - 20%
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	294	270	8.56	0% - 20%
EA029-C: Sulfur Trail (QC Lot: 65731)									
EB1512673-035	BE8 1.0C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.18	0.18	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	3.53	3.33	5.84	0% - 20%
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	3.72	3.52	5.53	0% - 20%
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	2200	2080	5.84	0% - 20%
EB1512673-051	WB17 0.0 C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.07	0.08	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.08	0.09	0.00	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA029-D: Calcium Values (QC Lot: 65730)									
EB1512673-001	WB19 0.0 C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	1.56	1.60	2.54	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.17	0.17	0.00	No Limit
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	1.72	1.77	2.52	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	1.24	1.28	2.54	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	776	796	2.54	0% - 20%
EB1512673-018	BE4 0.5C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	2.01	1.90	5.65	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.27	0.27	0.00	0% - 50%
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	2.28	2.18	4.67	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	1.61	1.52	5.65	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	1000	949	5.65	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-D: Calcium Values (QC Lot: 65731)									
EB1512673-035	BE8 1.0C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	0.04	0.02	53.9	No Limit
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.24	0.24	0.00	0% - 50%
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	0.28	0.26	6.12	0% - 50%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	0.03	<0.02	50.1	No Limit
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	21	12	53.9	No Limit
EB1512673-051	WB17 0.0 C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	1.44	1.45	0.00	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.16	0.17	0.00	No Limit
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	1.60	1.62	0.744	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	1.15	1.16	0.00	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	720	724	0.435	0% - 20%
EA029-E: Magnesium Values (QC Lot: 65730)									
EB1512673-001	WB19 0.0 C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.08	0.07	0.00	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.04	0.04	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.11	0.11	0.00	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.10	0.09	10.9	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	62	56	10.9	No Limit
EB1512673-018	BE4 0.5C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.07	0.06	19.3	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.12	0.13	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.20	0.19	0.00	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.09	0.08	19.3	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	59	49	19.3	No Limit
EA029-E: Magnesium Values (QC Lot: 65731)									
EB1512673-035	BE8 1.0C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.05	0.03	53.8	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.33	0.33	0.00	0% - 50%
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.38	0.36	5.11	0% - 50%
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.06	0.04	53.8	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	40	23	53.8	No Limit
EB1512673-051	WB17 0.0 C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.09	0.10	0.00	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.04	0.04	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.13	0.14	8.57	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.12	0.13	9.23	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	75	82	9.23	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-F: Excess Acid Neutralising Capacity (QC Lot: 65730)									
EB1512673-001	WB19 0.0 C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	5.60	5.66	1.11	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	1.79	1.81	1.11	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	1120	1130	1.11	0% - 20%
EB1512673-018	BE4 0.5C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	5.54	5.60	1.12	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	1.77	1.79	1.12	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	1110	1120	1.12	0% - 20%
EA029-F: Excess Acid Neutralising Capacity (QC Lot: 65731)									
EB1512673-051	WB17 0.0 C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	4.16	4.16	0.00	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	1.33	1.33	0.00	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	831	831	0.00	0% - 20%
EA029-H: Acid Base Accounting (QC Lot: 65730)									
EB1512673-001	WB19 0.0 C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EB1512673-018	BE4 0.5C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA029-H: Acid Base Accounting (QC Lot: 65731)									
EB1512673-035	BE8 1.0C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	3.13	3.09	1.22	0% - 20%
		EA029: Liming Rate	----	1	kg CaCO3/t	146	145	1.22	0% - 20%
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	1950	1930	1.22	0% - 20%
EB1512673-051	WB17 0.0 C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA037: Ass Field Screening Analysis (QC Lot: 65737)									
EB1512673-002	WB19 0.25 C	EA037: pH (F)	----	0.1	pH Unit	8.3	8.2	1.21	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	7.7	7.8	1.29	0% - 20%
EB1512673-027	BE6 0.25 C	EA037: pH (F)	----	0.1	pH Unit	8.5	8.5	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	4.1	4.0	2.47	0% - 20%
EA037: Ass Field Screening Analysis (QC Lot: 65738)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA037: Ass Field Screening Analysis (QC Lot: 65738) - continued									
EB1512673-052	WB17 0.25 C	EA037: pH (F)	----	0.1	pH Unit	8.4	8.4	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	7.2	7.1	1.40	0% - 20%

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EA029-A: pH Measurements (QCLot: 65730)								
EA029: pH KCl (23A)	----	0.1	pH Unit	<0.1	4.9 pH Unit	100	70	130
EA029: pH OX (23B)	----	0.1	pH Unit	<0.1	4.4 pH Unit	95.4	70	130
EA029-A: pH Measurements (QCLot: 65731)								
EA029: pH KCl (23A)	----	0.1	pH Unit	<0.1	4.9 pH Unit	100	70	130
EA029: pH OX (23B)	----	0.1	pH Unit	<0.1	4.4 pH Unit	95.4	70	130
EA029-B: Acidity Trail (QCLot: 65730)								
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	14.32 mole H+ / t	102	70	130
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	68 mole H+ / t	109	70	130
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
EA029-B: Acidity Trail (QCLot: 65731)								
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	14.32 mole H+ / t	105	70	130
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	68 mole H+ / t	106	70	130
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
EA029-C: Sulfur Trail (QCLot: 65730)								
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.069 % S	95.2	70	130
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	----	----	----
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	0.204 % S	108	70	130
EA029-C: Sulfur Trail (QCLot: 65731)								
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.069 % S	92.3	70	130
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	----	----	----
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	0.204 % S	109	70	130
EA029-D: Calcium Values (QCLot: 65730)								
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.02	0.125 % Ca	94.9	70	130
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.02	0.289 % Ca	101	70	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EA029-D: Calcium Values (QCLot: 65730) - continued								
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.02	----	----	----	----
EA029-D: Calcium Values (QCLot: 65731)								
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.02	0.125 % Ca	99.4	70	130
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.02	0.289 % Ca	104	70	130
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.02	----	----	----	----
EA029-E: Magnesium Values (QCLot: 65730)								
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	0.285 % Mg	107	70	130
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	0.285 % Mg	106	70	130
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	----	----	----
EA029-E: Magnesium Values (QCLot: 65731)								
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	0.285 % Mg	112	70	130
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	0.285 % Mg	98.4	70	130
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	----	----	----
EA029-F: Excess Acid Neutralising Capacity (QCLot: 65730)								
EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	<0.02	----	----	----	----
EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	<0.02	----	----	----	----
EA029-F: Excess Acid Neutralising Capacity (QCLot: 65731)								
EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	<0.02	----	----	----	----
EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	<0.02	----	----	----	----
EA029-H: Acid Base Accounting (QCLot: 65730)								
EA029: ANC Fineness Factor	----	0.5	-	<0.5	----	----	----	----
EA029: Liming Rate	----	1	kg CaCO3/t	<1	----	----	----	----
EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	----	----	----	----
EA029-H: Acid Base Accounting (QCLot: 65731)								
EA029: ANC Fineness Factor	----	0.5	-	<0.5	----	----	----	----
EA029: Liming Rate	----	1	kg CaCO3/t	<1	----	----	----	----
EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	----	----	----	----

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EA029-H: Acid Base Accounting (QCLot: 65731) - continued								
EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

QA/QC Compliance Assessment for DQO Reporting

Work Order	: **EB1512673**	Page	: 1 of 5
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Telephone	: +61-7-3243 7222
Project	: GPC Geochemical Investigation	Date Samples Received	: 13-Feb-2015
Site	: ----	Issue Date	: 20-Feb-2015
Sampler	: GEORGINA KERR	No. of samples received	: 58
Order number	: 245553	No. of samples analysed	: 58

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA029-A: pH Measurements							
Snap Lock Bag - frozen (EA029)							
WB19 0.5 C, WB19 1.0C, WB20 0.0 C, WB20 0.5 C, WB20 1.0C, WB23 0.0C, WB23 0.5C, WB23 1.0C, BE4 0.0 C, BE4 0.5C, BE4 1.0 C, BE5 0.0C, BE5 0.5C, BE5 1.0C, BE6 0.0 C, BE6 0.5 C, BE6 1.0C, BE8 0.0 C, BE8 0.5 C, BE8 1.0C, BE11 0.0 C, BE11 0.5 C, BE11 1.0C, BE12 0.0 C, BE12 0.5 C, BE12 1.0C, BE13 0.0 C, BE13 0.5 C, BE13 1.0C, WB17 0.0 C, WB17 0.5 C, WB17 1.0C, ASS DUPLICATE 16, ASS DUPLICATE 17, ASS DUPLICATE 18	**11-Feb-2015**	**18-Feb-2015**	11-Feb-2016	✓	**20-Feb-2015**	19-May-2015	✓
EA029-C: Sulfur Trail							
Snap Lock Bag - frozen (EA029)							
WB19 0.0 C	**11-Feb-2015**	**18-Feb-2015**	11-Feb-2016	✓	**20-Feb-2015**	19-May-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA037: Ass Field Screening Analysis								
Snap Lock Bag - frozen (EA037)								
WB19 0.25 C,	WB19 0.75 C,	**11-Feb-2015**	**18-Feb-2015**	10-Aug-2015	✓	**20-Feb-2015**	10-Aug-2015	✓
WB20 0.25 C,	WB20 0.75 C,							
WB23 0.25C,	WB23 0.75C,							
BE4 0.25C,	BE4 0.75C,							
BE5 0.25C,	BE5 0.75C,							
BE6 0.25 C,	BE6 0.75 C,							
BE8 0.25 C,	BE8 0.75 C,							
BE11 0.25 C,	BE11 0.75 C,							
BE12 0.25 C,	BE12 0.75 C,							
BE13 0.25 C,	BE13 0.75 C,							
WB17 0.25 C,	WB17 0.75 C							

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
ASS Field Screening Analysis	EA037	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	SOIL	In house: Referenced to Ahern et al 2004 - a suspension peroxide oxidation method following the 'sulfur trail' by determining the level of 1M KCL extractable sulfur and the sulfur level after oxidation of soil sulphides. The 'acidity trail' is followed by measurement of TAA, TPA and TSA. Liming Rate is based on results for samples as submitted and incorporates a minimum safety factor of 1.5.
ASS Field Screening Analysis	* EA037	SOIL	In house: Referenced to Acid Sulfate Soils Laboratory Methods Guidelines, version 2.1 June 2004. As received samples are tested for pH field and pH fox and assessed for a reaction rating.

Preparation Methods	Method	Matrix	Method Descriptions
Drying only	EN020D	SOIL	In House
Drying at 85 degrees, bagging and labelling (ASS)	EN020PR	SOIL	In house

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT **(List due date):**	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		**Yes - Non Standard or urgent TAT (List due date):**	**5 day turnaround**
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:**	**SY - 1021-14 V2**	**COC SEQUENCE NUMBER (Circle)** COC: (1) 2 3 4 5 6 7 OF: 1 2 3 4 5 6 (8)
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006		
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		12 February 2015	12 February 2015 1730

RELINQUISHED BY:	**RECEIVED BY:**
KS	AM
DATE/TIME: 16.2.15 1600	DATE/TIME: 17.02.15 08:25

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	BH14 0.0 C	12/02/2015	S	Bag (Green label)	1					1				
2	BH14 0.25 C	12/02/2015	S	Bag (Green label)	1						1			
3	BH14 0.5 C	12/02/2015	S	Bag (Green label)	1					1				
4	BH14 0.75 C	12/02/2015	S	Bag (Green label)	1						1			
				TOTAL	4					2	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Brisbane
Work Order Reference
EB1512747

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date):			NC NA
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround			NC NA
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**			
ORDER NUMBER: 245553		COC: 1 (2) 3 4 5 6 7			
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (8)			
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*	KS	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		12 February 2015	12 February 2015 1730	16.2.15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price)
Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Additional Information
5	BH23 0.0 C	12/02/2015	S	Bag (Green label)	1					1				
6	BH23 0.25 C	12/02/2015	S	Bag (Green label)	1						1			
7	BH23 0.5 C	12/02/2015	S	Bag (Green label)	1					1				
				TOTAL	3					2	1	#REF!	#REF!	

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) **Yes - Non Standard or urgent TAT (List due date):**	**5 day turnaround**	
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	
ORDER NUMBER: 245553		COC: 1 2 (3) 4 5 6 7	
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (8)	
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		12 February 2015	12 February 2015 1730

RELINQUISHED BY:	**RECEIVED BY:**
KS	
DATE/TIME:	DATE/TIME:
16-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

						ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								**Additional Information**
LAB ID	**SAMPLE ID**	**DATE / TIME**	**MATRIX**	**TYPE & PRESERVATIVE** *(refer to codes below)*	**TOTAL CONTAINERS**	**Aurecon Suite 1**	**Aurecon Suite 2**		**Dioxins**	**Acid Sulfate Soils: SPOCAS**	**Acid Sulfate Soils: pH**			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
8	BH25 0.0C	12/02/2015	S	Bag (Green label)	1					1				
9	BH25 0.25C	12/02/2015	S	Bag (Green label)	1						1			
10	BH25 0.5C	12/02/2015	S	Bag (Green label)	1					1				
11	BH25 0.75C	12/02/2015	S	Bag (Green label)	1						1			
12	BH25 1.0C	12/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date):	5 day turnaround
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2		
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006		
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

COC SEQUENCE NUMBER (Circle)

COC: 1 2 3 (4) 5 6 7

OF: 1 2 3 4 5 6 (7)

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	KS	
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
12 February 2015	12 February 2015 1730	16.2.15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Additional Information
13	WB26 0.0 C	12/02/2015	S	Bag (Green label)	1					1				
14	WB26 0.25C	12/02/2015	S	Bag (Green label)	1						1			
15	WB26 0.5C	12/02/2015	S	Bag (Green label)	1					1				
16	WB26 0.75C	12/02/2015	S	Bag (Green label)	1						1			
17	WB26 1.0 C	12/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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☐TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: [illegible]
☐WOLLONGONG 2/3 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / Frozen Chicken Pieces Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7 8	Other Comments
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	KS	
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
12 February 2015	12 February 2015 1730	16.2.15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX, SOLID/WATER					ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
18	BH28 0.0C	12/02/2015	S	Bag (Green label)	1					1				
19	BH28 0.25C	12/02/2015	S	Bag (Green label)	1						1			
20	BH28 0.5C	12/02/2015	S	Bag (Green label)	1					1				
				TOTAL	3					2	1			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006		
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
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Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		12 February 2015	12 February 2015 1730

RELINQUISHED BY:	**RECEIVED BY:**
KS	
DATE/TIME: 16-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
21	WB25 0.0 C	12/02/2015	S	Bag (Green label)	1					1				
22	WB25 0.25 C	12/02/2015	S	Bag (Green label)	1						1			
23	WB25 0.5 C	12/02/2015	S	Bag (Green label)	1					1				
24	WB25 0.75 C	12/02/2015	S	Bag (Green label)	1						1			
25	WB25 1.0C	12/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

ADELAIDE 21 Burma Road Pooraka SA 5095
Ph: 08 8359 0890 E: adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053
Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 46 Callemondah Drive Clinton QLD 4680
Ph: 07 7471 5800 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Cooling Method: Ice / Ice Pack / Frozen / None / Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7 8	Custody Seal Intact? Yes / No / N/A
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6	Cooling Method: Ice / Ice Pack / Frozen / None / Yes / No / N/A
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 12 February 2015	DATE/TIME: 12 February 2015 1730
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		**RELINQUISHED BY:**	**RECEIVED BY:**
		DATE/TIME: 16.2.15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS					ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
26	WB27 0.0 C	12/02/2015	S	Bag (Green label)	1					1				
27	WB27 0.25 C	12/02/2015	S	Bag (Green label)	1						1			
28	WB27 0.5 C	12/02/2015	S	Bag (Green label)	1					1				
29	WB27 0.75 C	12/02/2015	S	Bag (Green label)	1						1			
30	WB27 1.0C	12/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 07 4944 0177 E: mackay@alsglobal.com
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Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
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Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free Ice / Frozen Ice Packs Present upon Receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6	Other Comments:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
Georgina Kerr	*Kelly Schafer*		
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
12 February 2015	12 February 2015 17:30	16.2.15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOIL (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
31	ASS DUPLICATE 19	12/02/2015	S	Bag (Green label)	1					1				
32	ASS DUPLICATE 20	12/02/2015	S	Bag (Green label)	1					1				
				TOTAL	2					2				

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CERTIFICATE OF ANALYSIS

Work Order	: **EB1512747**	Page	: 1 of 16
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: sally.leyland@aurecongroup.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61-7-3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553	Date Samples Received	: 17-Feb-2015 08:25
C-O-C number	: ----	Date Analysis Commenced	: 19-Feb-2015
Sampler	: GEORGINA KERR	Issue Date	: 24-Feb-2015 12:10
Site	: ----		
		No. of samples received	: 32
Quote number	: ----	No. of samples analysed	: 32

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.

- ASS: EA029 (SPOCAS): Retained Acidity not required because pH KCl greater than or equal to 4.5
- ASS: EA037 (Rapid Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme
- EA037 ASS Field Screening: NATA accreditation does not cover performance of this service.
- ASS: EA029 (SPOCAS): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO3) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from kg/t dry weight to kg/m3 in-situ soil, multiply reported results x wet bulk density of soil in t/m3.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH14 0.0 C	BH14 0.25 C	BH14 0.5 C	BH14 0.75 C	BH23 0.0 C
				Client sampling date / time	[12-Feb-2015]	[12-Feb-2015]	[12-Feb-2015]	[12-Feb-2015]	[12-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512747-001	EB1512747-002	EB1512747-003	EB1512747-004	EB1512747-005
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		9.6	----	8.9	----	9.4
pH OX (23B)	----	0.1	pH Unit		8.7	----	8.5	----	8.5
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		0.02	----	0.04	----	0.06
Peroxide Sulfur (23De)	----	0.02	% S		0.07	----	0.06	----	0.10
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		0.04	----	<0.02	----	0.04
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		26	----	12	----	25
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		0.23	----	0.23	----	0.16
Peroxide Calcium (23Wh)	----	0.02	% Ca		7.15	----	0.99	----	1.51
Acid Reacted Calcium (23X)	----	0.02	% Ca		6.92	----	0.76	----	1.35
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		3450	----	377	----	676
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		5.53	----	0.60	----	1.08
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		0.04	----	0.11	----	0.04
Peroxide Magnesium (23Tm)	----	0.02	% Mg		0.16	----	0.21	----	0.11
Acid Reacted Magnesium (23U)	----	0.02	% Mg		0.12	----	0.09	----	0.07
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		98	----	76	----	62
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		0.16	----	0.12	----	0.10
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		16.8	----	2.43	----	3.65
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		3360	----	486	----	729
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		5.38	----	0.78	----	1.17

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH14 0.0 C	BH14 0.25 C	BH14 0.5 C	BH14 0.75 C	BH23 0.0 C
				Client sampling date / time	[12-Feb-2015]	[12-Feb-2015]	[12-Feb-2015]	[12-Feb-2015]	[12-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512747-001	EB1512747-002	EB1512747-003	EB1512747-004	EB1512747-005
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.6**	**----**	**8.3**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**7.3**	**----**	**7.5**	**----**
ø **Reaction Rate**	----	1	-		**----**	**3**	**----**	**3**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH23 0.25 C	BH23 0.5 C	BH25 0.0C	BH25 0.25C	BH25 0.5C
				Client sampling date / time	[12-Feb-2015]	[12-Feb-2015]	[12-Feb-2015]	[12-Feb-2015]	[12-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512747-006	EB1512747-007	EB1512747-008	EB1512747-009	EB1512747-010
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		----	9.5	9.6	----	9.6
pH OX (23B)	----	0.1	pH Unit		----	8.3	8.3	----	8.6
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		----	<2	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		----	<2	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		----	<2	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		----	<0.02	<0.02	----	<0.02
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		----	0.02	0.04	----	0.03
Peroxide Sulfur (23De)	----	0.02	% S		----	0.04	0.05	----	0.05
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		----	<0.02	<0.02	----	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		----	12	<10	----	12
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		----	0.13	0.12	----	0.13
Peroxide Calcium (23Wh)	----	0.02	% Ca		----	1.12	0.52	----	1.51
Acid Reacted Calcium (23X)	----	0.02	% Ca		----	0.98	0.39	----	1.38
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		----	492	196	----	690
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		----	0.79	0.31	----	1.11
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		----	0.02	0.03	----	0.02
Peroxide Magnesium (23Tm)	----	0.02	% Mg		----	0.06	0.06	----	0.08
Acid Reacted Magnesium (23U)	----	0.02	% Mg		----	0.04	0.03	----	0.06
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		----	34	25	----	46
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		----	0.05	0.04	----	0.07
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		----	2.50	1.06	----	3.72
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		----	500	212	----	743
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		----	0.80	0.34	----	1.19

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH23 0.25 C	BH23 0.5 C	BH25 0.0C	BH25 0.25C	BH25 0.5C
				Client sampling date / time	[12-Feb-2015]	[12-Feb-2015]	[12-Feb-2015]	[12-Feb-2015]	[12-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512747-006	EB1512747-007	EB1512747-008	EB1512747-009	EB1512747-010
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**----**	**1.5**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		**----**	<0.02	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		**----**	<10	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		**----**	<1	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**8.8**	**----**	**----**	**8.8**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**6.8**	**----**	**----**	**6.4**	**----**
ø **Reaction Rate**	----	1	-		**3**	**----**	**----**	**3**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH25 0.75C	BH25 1.0C	WB26 0.0 C	WB26 0.25C	WB26 0.5C
			Client sampling date / time	[12-Feb-2015]	[12-Feb-2015]	[12-Feb-2015]	[12-Feb-2015]	[12-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512747-011	EB1512747-012	EB1512747-013	EB1512747-014	EB1512747-015
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	----	9.5	9.6	----	9.5
pH OX (23B)	----	0.1	pH Unit	----	8.2	8.7	----	8.8
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	----	<2	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	----	<2	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	----	<2	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	----	0.04	0.03	----	0.05
Peroxide Sulfur (23De)	----	0.02	% S	----	0.10	0.05	----	0.06
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	----	0.06	<0.02	----	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	----	36	<10	----	12
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	----	0.13	0.14	----	0.22
Peroxide Calcium (23Wh)	----	0.02	% Ca	----	0.52	1.44	----	2.36
Acid Reacted Calcium (23X)	----	0.02	% Ca	----	0.40	1.29	----	2.14
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	----	198	645	----	1070
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	----	0.32	1.03	----	1.72
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	----	0.03	0.04	----	0.05
Peroxide Magnesium (23Tm)	----	0.02	% Mg	----	0.06	0.03	----	0.24
Acid Reacted Magnesium (23U)	----	0.02	% Mg	----	0.03	<0.02	----	0.19
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	----	23	<10	----	158
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	----	0.04	<0.02	----	0.25
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	----	0.56	3.06	----	7.13
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	----	112	612	----	1420
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	----	0.18	0.98	----	2.28

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH25 0.75C	BH25 1.0C	WB26 0.0 C	WB26 0.25C	WB26 0.5C
				Client sampling date / time	[12-Feb-2015]	[12-Feb-2015]	[12-Feb-2015]	[12-Feb-2015]	[12-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512747-011	EB1512747-012	EB1512747-013	EB1512747-014	EB1512747-015
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**----**	**1.5**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		**----**	<0.02	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		**----**	<10	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		**----**	<1	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**9.0**	**----**	**----**	**8.5**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**6.8**	**----**	**----**	**6.7**	**----**
ø **Reaction Rate**	----	1	-		**3**	**----**	**----**	**3**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB26 0.75C	WB26 1.0 C	BH28 0.0C	BH28 0.25C	BH28 0.5C
			Client sampling date / time	[12-Feb-2015]	[12-Feb-2015]	[12-Feb-2015]	[12-Feb-2015]	[12-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512747-016	EB1512747-017	EB1512747-018	EB1512747-019	EB1512747-020
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	----	9.5	9.6	----	9.4
pH OX (23B)	----	0.1	pH Unit	----	8.7	8.8	----	8.7
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	----	<2	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	----	<2	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	----	<2	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	----	0.05	0.03	----	0.06
Peroxide Sulfur (23De)	----	0.02	% S	----	0.12	0.04	----	0.14
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	----	0.06	<0.02	----	0.08
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	----	38	<10	----	47
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	----	0.16	0.21	----	0.17
Peroxide Calcium (23Wh)	----	0.02	% Ca	----	2.50	2.62	----	2.36
Acid Reacted Calcium (23X)	----	0.02	% Ca	----	2.34	2.40	----	2.19
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	----	1170	1200	----	1090
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	----	1.87	1.92	----	1.75
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	----	0.04	0.04	----	0.04
Peroxide Magnesium (23Tm)	----	0.02	% Mg	----	0.14	0.03	----	0.08
Acid Reacted Magnesium (23U)	----	0.02	% Mg	----	0.10	<0.02	----	0.04
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	----	85	<10	----	33
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	----	0.14	<0.02	----	0.05
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	----	6.19	6.26	----	5.57
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	----	1240	1250	----	1110
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	----	1.98	2.00	----	1.78

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB26 0.75C	WB26 1.0 C	BH28 0.0C	BH28 0.25C	BH28 0.5C
				Client sampling date / time	[12-Feb-2015]	[12-Feb-2015]	[12-Feb-2015]	[12-Feb-2015]	[12-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512747-016	EB1512747-017	EB1512747-018	EB1512747-019	EB1512747-020
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**----**	**1.5**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		**----**	<0.02	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		**----**	<10	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		**----**	<1	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**8.7**	**----**	**----**	**9.0**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**6.9**	**----**	**----**	**6.7**	**----**
ø **Reaction Rate**	----	1	-		**3**	**----**	**----**	**3**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB25 0.0 C	WB25 0.25 C	WB25 0.5 C	WB25 0.75 C	WB25 1.0C
				Client sampling date / time	[12-Feb-2015]	[12-Feb-2015]	[12-Feb-2015]	[12-Feb-2015]	[12-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512747-021	EB1512747-022	EB1512747-023	EB1512747-024	EB1512747-025
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		9.6	----	9.6	----	9.6
pH OX (23B)	----	0.1	pH Unit		8.8	----	8.8	----	9.0
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		0.03	----	0.04	----	0.04
Peroxide Sulfur (23De)	----	0.02	% S		0.04	----	0.07	----	0.06
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		<0.02	----	0.02	----	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		<10	----	14	----	12
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		0.14	----	0.16	----	0.16
Peroxide Calcium (23Wh)	----	0.02	% Ca		1.55	----	1.79	----	2.30
Acid Reacted Calcium (23X)	----	0.02	% Ca		1.41	----	1.63	----	2.13
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		702	----	815	----	1060
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		1.13	----	1.31	----	1.71
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		0.04	----	0.04	----	0.04
Peroxide Magnesium (23Tm)	----	0.02	% Mg		0.12	----	0.06	----	0.13
Acid Reacted Magnesium (23U)	----	0.02	% Mg		0.09	----	0.02	----	0.09
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		72	----	18	----	73
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		0.12	----	0.03	----	0.12
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		4.32	----	4.07	----	6.38
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		862	----	812	----	1280
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		1.38	----	1.30	----	2.04

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB25 0.0 C	WB25 0.25 C	WB25 0.5 C	WB25 0.75 C	WB25 1.0C
				Client sampling date / time	[12-Feb-2015]	[12-Feb-2015]	[12-Feb-2015]	[12-Feb-2015]	[12-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512747-021	EB1512747-022	EB1512747-023	EB1512747-024	EB1512747-025
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.5**	**----**	**8.5**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**7.1**	**----**	**7.3**	**----**
ø **Reaction Rate**	----	1	-		**----**	**3**	**----**	**3**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB27 0.0 C	WB27 0.25 C	WB27 0.5 C	WB27 0.75 C	WB27 1.0C
			Client sampling date / time	[12-Feb-2015]	[12-Feb-2015]	[12-Feb-2015]	[12-Feb-2015]	[12-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512747-026	EB1512747-027	EB1512747-028	EB1512747-029	EB1512747-030
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	**9.6**	----	**9.6**	----	**9.6**
pH OX (23B)	----	0.1	pH Unit	**8.2**	----	**9.2**	----	**9.1**
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	**0.04**	----	**0.04**	----	**0.04**
Peroxide Sulfur (23De)	----	0.02	% S	**0.03**	----	**0.05**	----	**0.05**
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	<0.02	----	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	<10	----	<10
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	**0.22**	----	**0.16**	----	**0.16**
Peroxide Calcium (23Wh)	----	0.02	% Ca	**1.75**	----	**2.81**	----	**2.13**
Acid Reacted Calcium (23X)	----	0.02	% Ca	**1.53**	----	**2.65**	----	**1.96**
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	**765**	----	**1320**	----	**981**
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	**1.23**	----	**2.12**	----	**1.57**
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	**0.05**	----	**0.04**	----	**0.04**
Peroxide Magnesium (23Tm)	----	0.02	% Mg	**0.04**	----	**0.16**	----	**0.08**
Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	**0.12**	----	**0.04**
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	**99**	----	**35**
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	**0.16**	----	**0.06**
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	**3.75**	----	**7.63**	----	**5.07**
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	**750**	----	**1520**	----	**1010**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	**1.20**	----	**2.44**	----	**1.62**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB27 0.0 C	WB27 0.25 C	WB27 0.5 C	WB27 0.75 C	WB27 1.0C
				Client sampling date / time	[12-Feb-2015]	[12-Feb-2015]	[12-Feb-2015]	[12-Feb-2015]	[12-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512747-026	EB1512747-027	EB1512747-028	EB1512747-029	EB1512747-030
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.6**	**----**	**8.5**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**8.5**	**----**	**7.3**	**----**
ø **Reaction Rate**	----	1	-		**----**	**4**	**----**	**3**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	ASS DUPLICATE 19	ASS DUPLICATE 20	----	----	----
			Client sampling date / time	[12-Feb-2015]	[12-Feb-2015]	----	----	----
Compound	CAS Number	LOR	Unit	EB1512747-031	EB1512747-032	--------	--------	--------
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	**9.6**	**9.6**	----	----	----
pH OX (23B)	----	0.1	pH Unit	**8.9**	**8.9**	----	----	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	----	----	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	----	----	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	----	----	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	----	----	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	----	----	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	----	----	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	**0.04**	**0.04**	----	----	----
Peroxide Sulfur (23De)	----	0.02	% S	**0.04**	**0.05**	----	----	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	<0.02	----	----	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	<10	----	----	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	**0.15**	**0.19**	----	----	----
Peroxide Calcium (23Wh)	----	0.02	% Ca	**1.75**	**2.23**	----	----	----
Acid Reacted Calcium (23X)	----	0.02	% Ca	**1.60**	**2.04**	----	----	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	**798**	**1020**	----	----	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	**1.28**	**1.63**	----	----	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	**0.04**	**0.04**	----	----	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg	**0.06**	**0.13**	----	----	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg	**0.02**	**0.09**	----	----	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	**20**	**71**	----	----	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	**0.03**	**0.11**	----	----	----
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	**4.38**	**6.38**	----	----	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	**875**	**1280**	----	----	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	**1.40**	**2.04**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	ASS DUPLICATE 19	ASS DUPLICATE 20	----	----	----
				Client sampling date / time	[12-Feb-2015]	[12-Feb-2015]	----	----	----
Compound	CAS Number	LOR	Unit		EB1512747-031	EB1512747-032	--------	--------	--------
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**1.5**	**----**	**----**	**----**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	<0.02	**----**	**----**	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	<10	**----**	**----**	**----**
Liming Rate	----	1	kg CaCO3/t		<1	<1	**----**	**----**	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**----**	**----**	**----**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**----**	**----**	**----**	**----**
ø **Reaction Rate**	----	1	-		**----**	**----**	**----**	**----**	**----**

QUALITY CONTROL REPORT

Work Order	: **EB1512747**	Page	: 1 of 7
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: sally.leyland@aurecongroup.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61-7-3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553	Date Samples Received	: 17-Feb-2015
C-O-C number	: ----	Date Analysis Commenced	: 19-Feb-2015
Sampler	: GEORGINA KERR	Issue Date	: 24-Feb-2015
Site	: ----	No. of samples received	: 32
Quote number	: ----	No. of samples analysed	: 32

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out ir compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-A: pH Measurements (QC Lot: 66181)									
EB1512747-001	BH14 0.0 C	EA029: pH KCl (23A)	----	0.1	pH Unit	9.6	9.6	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	8.7	8.8	1.14	0% - 20%
EB1512747-018	BH28 0.0C	EA029: pH KCl (23A)	----	0.1	pH Unit	9.6	9.6	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	8.8	8.9	1.13	0% - 20%
EA029-B: Acidity Trail (QC Lot: 66181)									
EB1512747-001	BH14 0.0 C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EB1512747-018	BH28 0.0C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EA029-C: Sulfur Trail (QC Lot: 66181)									
EB1512747-001	BH14 0.0 C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.02	0.02	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.04	0.04	0.00	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.07	0.06	0.00	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	26	23	9.15	No Limit
EB1512747-018	BH28 0.0C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.03	0.03	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.04	0.04	0.00	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA029-D: Calcium Values (QC Lot: 66181)									
EB1512747-001	BH14 0.0 C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	6.92	6.89	0.418	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.23	0.23	0.00	0% - 50%
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	7.15	7.12	0.482	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-D: Calcium Values (QC Lot: 66181) - continued									
EB1512747-001	BH14 0.0 C	EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	5.53	5.51	0.418	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	3450	3440	0.418	0% - 20%
EB1512747-018	BH28 0.0C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	2.40	2.40	0.00	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.21	0.23	5.39	0% - 50%
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	2.62	2.63	0.442	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	1.92	1.92	0.00	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	1200	1200	0.00	0% - 20%
EA029-E: Magnesium Values (QC Lot: 66181)									
EB1512747-001	BH14 0.0 C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.12	0.12	0.00	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.04	0.04	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.16	0.16	0.00	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.16	0.16	0.00	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	98	102	4.41	0% - 50%
EB1512747-018	BH28 0.0C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	<0.02	0.00	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.04	0.04	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.03	0.02	0.00	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA029-F: Excess Acid Neutralising Capacity (QC Lot: 66181)									
EB1512747-001	BH14 0.0 C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	16.8	16.9	0.371	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	5.38	5.40	0.371	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	3360	3380	0.371	0% - 20%
EB1512747-018	BH28 0.0C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	6.26	6.38	1.98	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	2.00	2.04	1.98	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	1250	1280	1.98	0% - 20%
EA029-H: Acid Base Accounting (QC Lot: 66181)									
EB1512747-001	BH14 0.0 C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EB1512747-018	BH28 0.0C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-H: Acid Base Accounting (QC Lot: 66181) - continued									
EB1512747-018	BH28 0.0C	EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA037: Ass Field Screening Analysis (QC Lot: 66269)									
EB1512747-002	BH14 0.25 C	EA037: pH (F)	----	0.1	pH Unit	8.6	8.7	1.16	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	7.3	7.2	1.38	0% - 20%
EB1512747-027	WB27 0.25 C	EA037: pH (F)	----	0.1	pH Unit	8.6	8.5	1.17	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	8.5	8.5	0.00	0% - 20%

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EA029-A: pH Measurements (QCLot: 66181)								
EA029: pH KCl (23A)	----	0.1	pH Unit	<0.1	4.9 pH Unit	100	70	130
EA029: pH OX (23B)	----	0.1	pH Unit	<0.1	4.4 pH Unit	95.4	70	130
EA029-B: Acidity Trail (QCLot: 66181)								
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	14.32 mole H+ / t	105	70	130
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	68 mole H+ / t	106	70	130
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
EA029-C: Sulfur Trail (QCLot: 66181)								
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.069 % S	101	70	130
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	----	----	----
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	0.204 % S	107	70	130
EA029-D: Calcium Values (QCLot: 66181)								
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.02	0.125 % Ca	95.7	70	130
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.02	0.289 % Ca	106	70	130
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.02	----	----	----	----
EA029-E: Magnesium Values (QCLot: 66181)								
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	0.285 % Mg	113	70	130
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	0.285 % Mg	106	70	130
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	----	----	----
EA029-F: Excess Acid Neutralising Capacity (QCLot: 66181)								
EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	<0.02	----	----	----	----
EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	<0.02	----	----	----	----
EA029-H: Acid Base Accounting (QCLot: 66181)								
EA029: ANC Fineness Factor	----	0.5	-	<0.5	----	----	----	----
EA029: Liming Rate	----	1	kg CaCO3/t	<1	----	----	----	----

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EA029-H: Acid Base Accounting (QCLot: 66181) - continued								
EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

QA/QC Compliance Assessment for DQO Reporting

Work Order	: **EB1512747**	Page	: 1 of 4
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Telephone	: +61-7-3243 7222
Project	: GPC Geochemical Investigation	Date Samples Received	: 17-Feb-2015
Site	: ----	Issue Date	: 24-Feb-2015
Sampler	: GEORGINA KERR	No. of samples received	: 32
Order number	: 245553	No. of samples analysed	: 32

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA029-F: Excess Acid Neutralising Capacity								
Snap Lock Bag - frozen on receipt at ALS (EA029)								
BH14 0.0 C,	BH14 0.5 C,	**12-Feb-2015**	**19-Feb-2015**	12-Feb-2016	✓	**23-Feb-2015**	20-May-2015	✓
BH23 0.0 C,	BH25 0.5C							
EA029-A: pH Measurements								
Snap Lock Bag - frozen on receipt at ALS (EA029)								
BH23 0.5 C,	BH25 0.0C,	**12-Feb-2015**	**19-Feb-2015**	12-Feb-2016	✓	**23-Feb-2015**	20-May-2015	✓
BH25 1.0C,	WB26 0.0 C,							
WB26 0.5C,	WB26 1.0 C,							
BH28 0.0C,	BH28 0.5C,							
WB25 0.0 C,	WB25 0.5 C,							
WB25 1.0C,	WB27 0.0 C,							
WB27 0.5 C,	WB27 1.0C,							
ASS DUPLICATE 19,	ASS DUPLICATE 20							
EA037: Ass Field Screening Analysis								
Snap Lock Bag - frozen on receipt at ALS (EA037)								
BH14 0.25 C,	BH14 0.75 C,	**12-Feb-2015**	**19-Feb-2015**	11-Aug-2015	✓	**24-Feb-2015**	11-Aug-2015	✓
BH23 0.25 C,	BH25 0.25C,							
BH25 0.75C,	WB26 0.25C,							
WB26 0.75C,	BH28 0.25C,							
WB25 0.25 C,	WB25 0.75 C,							
WB27 0.25 C,	WB27 0.75 C							

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
ASS Field Screening Analysis	EA037	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	SOIL	In house: Referenced to Ahern et al 2004 - a suspension peroxide oxidation method following the 'sulfur trail' by determining the level of 1M KCL extractable sulfur and the sulfur level after oxidation of soil sulphides. The 'acidity trail' is followed by measurement of TAA, TPA and TSA. Liming Rate is based on results for samples as submitted and incorporates a minimum safety factor of 1.5.
ASS Field Screening Analysis	* EA037	SOIL	In house: Referenced to Acid Sulfate Soils Laboratory Methods Guidelines, version 2.1 June 2004. As received samples are tested for pH field and pH fox and assessed for a reaction rating.

Preparation Methods	Method	Matrix	Method Descriptions
Drying only	EN020D	SOIL	In House
Drying at 85 degrees, bagging and labelling (ASS)	EN020PR	SOIL	In house

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MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-16 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: (1) 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (12)	Other comment:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		13 February 2015	13 February 2015 1730

RELINQUISHED BY:	**RECEIVED BY:**
KSchafer	AM
DATE/TIME:	DATE/TIME:
16-2-15 1600	17-02-15 08:25

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

	SAMPLE DETAILS MATRIX: SOIL (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
1	BH1 0.0 C	13/02/2015	S	Bag (Green label)	1					1				
2	BH1 0.25 C	13/02/2015	S	Bag (Green label)	1						1			
3	BH1 0.5 C	13/02/2015	S	Bag (Green label)	1					1				
				TOTAL	3					2	1			

...lastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
...um Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
...ved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Environmental Division
Brisbane
Work Order Reference
EB1512896

Telephone : +61-7-3243 7222

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Ph: 08 9209 7655 E: samples.perth@alsglobal.com
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Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free Ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 (2) 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (12)	Other comment:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 13 February 2015	DATE/TIME: 13 February 2015 1730
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		**RELINQUISHED BY:** KS	**RECEIVED BY:**
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:		DATE/TIME: 16-2-15 1600	DATE/TIME:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
4	BH6 0.0 C	13/02/2015	S	Bag (Green label)	1					1				
5	BH6 0.25 C	13/02/2015	S	Bag (Green label)	1						1			
6	BH6 0.5 C	13/02/2015	S	Bag (Green label)	1					1				
7	BH6 0.75 C	13/02/2015	S	Bag (Green label)	1						1			
				TOTAL	4					2	2	#REF!	#REF!	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) **Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround		Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free Ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 2 (3) 4 5 6 7	Random Sample Temperature on Receipt °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comment:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	KS	
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
13 February 2015	13 February 2015 1730	16-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
8	BH10 0.0C	13/02/2015	S	Bag (Green label)	1					1				
9	BH10 0.25C	13/02/2015	S	Bag (Green label)	1						1			
				TOTAL	2					1	1			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) **Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround		Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 2 3 (4) 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comments:

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		13 February 2015	13 February 2015 1730	16-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
10	BH15 0.0C	13/02/2015	S	Bag (Green label)	1					1				
11	BH15 0.25C	13/02/2015	S	Bag (Green label)	1						1			
12	BH15 0.5C	13/02/2015	S	Bag (Green label)	1					1				
13	BH15 1.0C	13/02/2015	S	Bag (Green label)	1					1				
				TOTAL	4					3	1			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date):	5 day turnaround
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt		C	
Other comment:			

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer	KS	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		13 February 2015	13 February 2015 1730	16-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
14	BH17 0.0 C	13/02/2015	S	Bag (Green label)	1					1				
				TOTAL	1					1				

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date):	5 day turnaround
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 7	
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
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RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*		
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
13 February 2015	13 February 2015 1730	16-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
15	BH21 0.0C	13/02/2015	S	Bag (Green label)	1					1				
16	BH21 0.5C	13/02/2015	S	Bag (Green label)	1					1				
				TOTAL	2					2				

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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GLADSTONE 46 Callemondah Drive Clinton QLD 4680
Ph: 07 7471 5600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 6433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date):	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		**Yes - Non Standard or urgent TAT (List due date):**	**5 day turnaround**
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (7)	
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		13 February 2015	13 February 2015 1730
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:		**RELINQUISHED BY:**	**RECEIVED BY:**
			DATE/TIME: 16-2-15 1600

ALS USE	SAMPLE DETAILS – MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
17	BH22 0.0 C	13/02/2015	S	Bag (Green label)	1					1				
				TOTAL	1					1				

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 024403 2069 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT **(List due date):**	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		**Yes - Non Standard or urgent TAT (List due date):**	**5 day turnaround**
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:**	**SY - 1021-14 V2**	**COC SEQUENCE NUMBER (Circle)** COC: 1 2 3 4 5 6 (8) OF: 1 2 3 4 5 6 (2)
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006		
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:** *Georgina Kerr* DATE/TIME: 13 February 2015	**RECEIVED BY:** *Kelly Schafer* DATE/TIME: 13 February 2015 1730
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**		**RELINQUISHED BY:** KS DATE/TIME: 16-2-15 1600
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			**RECEIVED BY:** DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminent levels, dilutions, or samples requiring specific QC analysis etc.
18	BH27 0.0 C	13/02/2015	S	Bag (Green label)	1					1				
				TOTAL	1					1				

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ENVIRONMENTAL
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Ph: 07 7471 5800 E: gladstone@alsglobal.com
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Ph: 07 4944 0177 E: mackay@alsglobal.com
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NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date):	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date):	5 day turnaround
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6	9
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6	12
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		13 February 2015	13 February 2015 1730

RELINQUISHED BY:	**RECEIVED BY:**
KS	
DATE/TIME: 16-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
19	WB21 0.0 C	13/02/2015	S	Bag (Green label)	1					1				
20	WB21 0.25 C	13/02/2015	S	Bag (Green label)	1						1			
21	WB21 0.5 C	13/02/2015	S	Bag (Green label)	1					1				
22	WB21 0.75 C	13/02/2015	S	Bag (Green label)	1						1			
23	WB21 1.0C	13/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		**Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Cooler Present? Yes / No
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (10)	Cooler Temperature:
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (12)	
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		13 February 2015	13 February 2015 1730

RELINQUISHED BY:	**RECEIVED BY:**
KS	
DATE/TIME: 16-2-15 16-00	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
24	WB22 0.0 C	13/02/2015	S	Bag (Green label)	1					1				
25	WB22 0.25 C	13/02/2015	S	Bag (Green label)	1						1			
26	WB22 0.5 C	13/02/2015	S	Bag (Green label)	1					1				
27	WB22 0.75 C	13/02/2015	S	Bag (Green label)	1						1			
28	WB22 1.0C	13/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date):	5 day turnaround
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (1)	
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (1)	
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:** Georgina Kerr	**RECEIVED BY:** Kelly Schafer
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	DATE/TIME: 13 February 2015	DATE/TIME: 13 February 2015 1730
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		**RELINQUISHED BY:** KS	**RECEIVED BY:**
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 16-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
29	WB24 0.0 C	13/02/2015	S	Bag (Green label)	1					1				
30	WB24 0.25 C	13/02/2015	S	Bag (Green label)	1						1			
31	WB24 0.5 C	13/02/2015	S	Bag (Green label)	1					1				
32	WB24 0.75 C	13/02/2015	S	Bag (Green label)	1						1			
				TOTAL	4					2	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT **(List due date):**	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		**Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround	Custody Seal Intact?
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt?
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (12)	Random Sample Temperature on Receipt
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (12)	Other comment
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	KS	
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
13 February 2015	13 February 2015 1730	16.2.15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
33	ASS DUPLICATE 21	13/02/2015	S	Bag (Green label)	1					1				
34	ASS DUPLICATE 22	13/02/2015	S	Bag (Green label)	1					1				
				TOTAL	2					2				

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CERTIFICATE OF ANALYSIS

Work Order	: **EB1512896**	Page	: 1 of 16
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
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Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553	Date Samples Received	: 17-Feb-2015 08:25
C-O-C number	: ----	Date Analysis Commenced	: 19-Feb-2015
Sampler	: GEORGINA KERR	Issue Date	: 24-Feb-2015 12:11
Site	: ----		
		No. of samples received	: 34
Quote number	: ----	No. of samples analysed	: 34

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.

- ASS: EA029 (SPOCAS): Retained Acidity not required because pH KCl greater than or equal to 4.5
- ASS: EA037 (Rapid Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme
- EA037 ASS Field Screening: NATA accreditation does not cover performance of this service.
- ASS: EA029 (SPOCAS): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO3) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from kg/t dry weight to kg/m3 in-situ soil, multiply reported results x wet bulk density of soil in t/m3.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH1 0.0 C	BH1 0.25 C	BH1 0.5 C	BH6 0.0 C	BH6 0.25 C
				Client sampling date / time	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512896-001	EB1512896-002	EB1512896-003	EB1512896-004	EB1512896-005
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		**8.9**	----	**8.9**	**9.3**	----
pH OX (23B)	----	0.1	pH Unit		**8.1**	----	**8.9**	**8.3**	----
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		<2	----	<2	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		<2	----	<2	<2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		<2	----	<2	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		<0.02	----	<0.02	<0.02	----
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		**0.03**	----	**0.03**	**0.04**	----
Peroxide Sulfur (23De)	----	0.02	% S		**0.03**	----	**0.03**	**0.16**	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		<0.02	----	<0.02	**0.12**	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		<10	----	<10	**74**	----
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		**0.21**	----	**0.22**	**0.18**	----
Peroxide Calcium (23Wh)	----	0.02	% Ca		**0.44**	----	**0.39**	**6.96**	----
Acid Reacted Calcium (23X)	----	0.02	% Ca		**0.23**	----	**0.17**	**6.78**	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		**114**	----	**86**	**3380**	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		**0.18**	----	**0.14**	**5.42**	----
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		**0.10**	----	**0.10**	**0.04**	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg		**0.15**	----	**0.14**	**0.21**	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg		**0.04**	----	**0.04**	**0.17**	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		**36**	----	**33**	**138**	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		**0.06**	----	**0.05**	**0.22**	----
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		**1.19**	----	**1.18**	**17.0**	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		**238**	----	**236**	**3400**	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		**0.38**	----	**0.38**	**5.44**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH1 0.0 C	BH1 0.25 C	BH1 0.5 C	BH6 0.0 C	BH6 0.25 C
				Client sampling date / time	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512896-001	EB1512896-002	EB1512896-003	EB1512896-004	EB1512896-005
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**1.5**	**----**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	<0.02	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	<10	**----**
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	<1	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.1**	**----**	**----**	**8.8**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**6.1**	**----**	**----**	**6.6**
ø **Reaction Rate**	----	1	-		**----**	**2**	**----**	**----**	**3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH6 0.5 C	BH6 0.75 C	BH10 0.0C	BH10 0.25C	BH15 0.0C
				Client sampling date / time	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512896-006	EB1512896-007	EB1512896-008	EB1512896-009	EB1512896-010
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		8.0	----	9.5	----	9.4
pH OX (23B)	----	0.1	pH Unit		7.3	----	8.6	----	8.5
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		0.03	----	0.02	----	0.03
Peroxide Sulfur (23De)	----	0.02	% S		0.03	----	0.08	----	0.08
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		<0.02	----	0.05	----	0.05
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		<10	----	32	----	32
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		0.11	----	0.18	----	0.16
Peroxide Calcium (23Wh)	----	0.02	% Ca		0.13	----	9.18	----	3.89
Acid Reacted Calcium (23X)	----	0.02	% Ca		0.02	----	9.01	----	3.72
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		10	----	4490	----	1860
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		<0.02	----	7.20	----	2.98
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		0.10	----	0.03	----	0.03
Peroxide Magnesium (23Tm)	----	0.02	% Mg		0.12	----	0.17	----	0.14
Acid Reacted Magnesium (23U)	----	0.02	% Mg		0.02	----	0.14	----	0.11
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		18	----	117	----	90
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		0.03	----	0.19	----	0.14
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		0.29	----	31.3	----	9.51
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		58	----	6250	----	1900
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		0.09	----	10.0	----	3.04

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH6 0.5 C	BH6 0.75 C	BH10 0.0C	BH10 0.25C	BH15 0.0C
				Client sampling date / time	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512896-006	EB1512896-007	EB1512896-008	EB1512896-009	EB1512896-010
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.0**	**----**	**9.1**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**5.9**	**----**	**6.9**	**----**
ø **Reaction Rate**	----	1	-		**----**	**2**	**----**	**3**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH15 0.25C	BH15 0.5C	BH15 1.0C	BH17 0.0 C	BH21 0.0C
				Client sampling date / time	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512896-011	EB1512896-012	EB1512896-013	EB1512896-014	EB1512896-015
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		----	9.4	9.4	9.7	9.6
pH OX (23B)	----	0.1	pH Unit		----	8.7	8.5	8.4	8.5
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		----	<2	<2	<2	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		----	<2	<2	<2	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		----	<2	<2	<2	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		----	<0.02	<0.02	<0.02	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		----	<0.02	<0.02	<0.02	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		----	<0.02	<0.02	<0.02	<0.02
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		----	0.03	0.04	<0.02	0.02
Peroxide Sulfur (23De)	----	0.02	% S		----	0.10	0.10	0.03	0.06
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		----	0.07	0.07	0.03	0.04
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		----	45	41	19	22
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		----	0.19	0.17	0.13	0.17
Peroxide Calcium (23Wh)	----	0.02	% Ca		----	6.93	4.60	3.64	4.25
Acid Reacted Calcium (23X)	----	0.02	% Ca		----	6.74	4.42	3.51	4.08
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		----	3360	2210	1750	2040
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		----	5.39	3.54	2.81	3.26
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		----	0.04	0.04	<0.02	0.02
Peroxide Magnesium (23Tm)	----	0.02	% Mg		----	0.17	0.13	0.03	0.08
Acid Reacted Magnesium (23U)	----	0.02	% Mg		----	0.13	0.09	0.03	0.06
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		----	106	75	22	46
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		----	0.17	0.12	0.04	0.07
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		----	16.0	10.4	8.88	9.88
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		----	3200	2080	1780	1980
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		----	5.12	3.32	2.84	3.16

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH15 0.25C	BH15 0.5C	BH15 1.0C	BH17 0.0 C	BH21 0.0C
				Client sampling date / time	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512896-011	EB1512896-012	EB1512896-013	EB1512896-014	EB1512896-015
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**----**	**1.5**	**1.5**	**1.5**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		**----**	<0.02	<0.02	<0.02	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		**----**	<10	<10	<10	<10
Liming Rate	----	1	kg CaCO3/t		**----**	<1	<1	<1	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**8.4**	**----**	**----**	**----**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**6.8**	**----**	**----**	**----**	**----**
ø **Reaction Rate**	----	1	-		**3**	**----**	**----**	**----**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH21 0.5C	BH22 0.0 C	BH27 0.0 C	WB21 0.0 C	WB21 0.25 C
				Client sampling date / time	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512896-016	EB1512896-017	EB1512896-018	EB1512896-019	EB1512896-020
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		9.5	9.5	9.4	9.6	----
pH OX (23B)	----	0.1	pH Unit		8.5	8.7	8.5	9.2	----
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		<2	<2	<2	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		<2	<2	<2	<2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		<2	<2	<2	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		<0.02	<0.02	<0.02	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		<0.02	<0.02	<0.02	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		<0.02	<0.02	<0.02	<0.02	----
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		0.04	0.03	0.06	0.04	----
Peroxide Sulfur (23De)	----	0.02	% S		0.06	0.06	0.13	0.06	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		0.02	0.02	0.07	0.02	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		14	16	45	14	----
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		0.21	0.15	0.17	0.16	----
Peroxide Calcium (23Wh)	----	0.02	% Ca		2.38	1.28	2.39	3.10	----
Acid Reacted Calcium (23X)	----	0.02	% Ca		2.17	1.13	2.22	2.94	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		1080	564	1110	1460	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		1.74	0.90	1.77	2.35	----
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		0.04	0.03	0.04	0.04	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg		0.04	0.03	0.09	0.12	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg		<0.02	<0.02	0.05	0.08	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		<10	<10	41	66	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		<0.02	<0.02	0.06	0.11	----
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		4.75	2.69	5.50	7.51	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		950	538	1100	1500	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		1.52	0.86	1.76	2.40	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH21 0.5C	BH22 0.0 C	BH27 0.0 C	WB21 0.0 C	WB21 0.25 C
				Client sampling date / time	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512896-016	EB1512896-017	EB1512896-018	EB1512896-019	EB1512896-020
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**1.5**	**1.5**	**1.5**	**----**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	<0.02	<0.02	<0.02	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	<10	<10	<10	**----**
Liming Rate	----	1	kg CaCO3/t		<1	<1	<1	<1	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**----**	**----**	**----**	**8.5**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**----**	**----**	**----**	**7.5**
ø **Reaction Rate**	----	1	-		**----**	**----**	**----**	**----**	**3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB21 0.5 C	WB21 0.75 C	WB21 1.0C	WB22 0.0 C	WB22 0.25 C
				Client sampling date / time	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512896-021	EB1512896-022	EB1512896-023	EB1512896-024	EB1512896-025
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		9.6	----	9.5	9.6	----
pH OX (23B)	----	0.1	pH Unit		8.5	----	8.5	8.4	----
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		<2	----	<2	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		<2	----	<2	<2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		<2	----	<2	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		<0.02	----	<0.02	<0.02	----
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		0.04	----	0.04	0.03	----
Peroxide Sulfur (23De)	----	0.02	% S		0.07	----	0.08	0.04	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		0.03	----	0.04	<0.02	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		18	----	26	<10	----
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		0.16	----	0.15	0.15	----
Peroxide Calcium (23Wh)	----	0.02	% Ca		2.37	----	2.02	1.47	----
Acid Reacted Calcium (23X)	----	0.02	% Ca		2.21	----	1.87	1.33	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		1100	----	932	663	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		1.77	----	1.50	1.06	----
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		0.03	----	0.03	0.03	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg		0.09	----	0.06	0.04	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg		0.06	----	0.02	<0.02	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		45	----	20	12	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		0.07	----	0.03	<0.02	----
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		5.32	----	4.38	3.13	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		1060	----	875	625	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		1.70	----	1.40	1.00	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB21 0.5 C	WB21 0.75 C	WB21 1.0C	WB22 0.0 C	WB22 0.25 C
				Client sampling date / time	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512896-021	EB1512896-022	EB1512896-023	EB1512896-024	EB1512896-025
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**1.5**	**----**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	<0.02	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	<10	**----**
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	<1	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.4**	**----**	**----**	**8.5**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**7.5**	**----**	**----**	**7.0**
ø **Reaction Rate**	----	1	-		**----**	**3**	**----**	**----**	**3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	WB22 0.5 C	WB22 0.75 C	WB22 1.0C	WB24 0.0 C	WB24 0.25 C
			Client sampling date / time	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512896-026	EB1512896-027	EB1512896-028	EB1512896-029	EB1512896-030
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	9.5	----	9.6	9.6	----
pH OX (23B)	----	0.1	pH Unit	8.6	----	8.5	8.5	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	<2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	<0.02	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.04	----	0.04	0.03	----
Peroxide Sulfur (23De)	----	0.02	% S	0.06	----	0.06	0.04	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.03	----	0.02	<0.02	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	18	----	13	<10	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.15	----	0.15	0.15	----
Peroxide Calcium (23Wh)	----	0.02	% Ca	1.71	----	1.71	1.73	----
Acid Reacted Calcium (23X)	----	0.02	% Ca	1.56	----	1.56	1.58	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	780	----	776	788	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	1.25	----	1.24	1.26	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.03	----	0.03	0.03	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.07	----	0.05	0.05	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.04	----	<0.02	0.02	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	30	----	16	20	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.05	----	0.03	0.03	----
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	3.88	----	3.75	4.13	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	775	----	750	825	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	1.24	----	1.20	1.32	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB22 0.5 C	WB22 0.75 C	WB22 1.0C	WB24 0.0 C	WB24 0.25 C
				Client sampling date / time	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512896-026	EB1512896-027	EB1512896-028	EB1512896-029	EB1512896-030
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**1.5**	**----**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	<0.02	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	<10	**----**
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	<1	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.5**	**----**	**----**	**8.6**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**7.2**	**----**	**----**	**7.0**
ø **Reaction Rate**	----	1	-		**----**	**3**	**----**	**----**	**3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB24 0.5 C	WB24 0.75 C	ASS DUPLICATE 21	ASS DUPLICATE 22	----
				Client sampling date / time	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]	----
Compound	CAS Number	LOR	Unit		EB1512896-031	EB1512896-032	EB1512896-033	EB1512896-034	--------
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		**9.6**	----	**9.6**	**9.7**	----
pH OX (23B)	----	0.1	pH Unit		**8.6**	----	**8.2**	**8.6**	----
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		<2	----	<2	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		<2	----	<2	<2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		<2	----	<2	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		<0.02	----	<0.02	<0.02	----
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		**0.04**	----	**0.05**	<0.02	----
Peroxide Sulfur (23De)	----	0.02	% S		**0.05**	----	**0.07**	**0.03**	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		<0.02	----	**0.02**	**0.03**	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		<10	----	**13**	**18**	----
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		**0.16**	----	**0.16**	**0.14**	----
Peroxide Calcium (23Wh)	----	0.02	% Ca		**2.67**	----	**1.92**	**3.26**	----
Acid Reacted Calcium (23X)	----	0.02	% Ca		**2.51**	----	**1.75**	**3.12**	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		**1250**	----	**875**	**1560**	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		**2.01**	----	**1.40**	**2.50**	----
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		**0.04**	----	**0.04**	**0.02**	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg		**0.11**	----	**0.05**	**0.02**	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg		**0.06**	----	<0.02	<0.02	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		**54**	----	<10	<10	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		**0.09**	----	<0.02	<0.02	----
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		**6.63**	----	**3.88**	**8.51**	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		**1320**	----	**775**	**1700**	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		**2.12**	----	**1.24**	**2.72**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WB24 0.5 C	WB24 0.75 C	ASS DUPLICATE 21	ASS DUPLICATE 22	----
				Client sampling date / time	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]	[13-Feb-2015]	----
Compound	CAS Number	LOR	Unit		EB1512896-031	EB1512896-032	EB1512896-033	EB1512896-034	--------
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**1.5**	**----**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	<0.02	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	<10	**----**
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	<1	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.5**	**----**	**----**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**7.2**	**----**	**----**	**----**
ø **Reaction Rate**	----	1	-		**----**	**3**	**----**	**----**	**----**

QUALITY CONTROL REPORT

Work Order	: **EB1512896**	Page	: 1 of 9
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
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Telephone	: +61 07 3173 8006	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61-7-3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553	Date Samples Received	: 17-Feb-2015
C-O-C number	: ----	Date Analysis Commenced	: 19-Feb-2015
Sampler	: GEORGINA KERR	Issue Date	: 24-Feb-2015
Site	: ----	No. of samples received	: 34
Quote number	: ----	No. of samples analysed	: 34

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out ir compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-A: pH Measurements (QC Lot: 66182)									
EB1512896-001	BH1 0.0 C	EA029: pH KCl (23A)	----	0.1	pH Unit	8.9	8.9	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	8.1	8.9	9.41	0% - 20%
EB1512896-016	BH21 0.5C	EA029: pH KCl (23A)	----	0.1	pH Unit	9.5	9.5	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	8.5	8.7	2.32	0% - 20%
EA029-A: pH Measurements (QC Lot: 66183)									
EB1512896-031	WB24 0.5 C	EA029: pH KCl (23A)	----	0.1	pH Unit	9.6	9.6	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	8.6	8.6	0.00	0% - 20%
EA029-B: Acidity Trail (QC Lot: 66182)									
EB1512896-001	BH1 0.0 C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EB1512896-016	BH21 0.5C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EA029-B: Acidity Trail (QC Lot: 66183)									
EB1512896-031	WB24 0.5 C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EA029-C: Sulfur Trail (QC Lot: 66182)									
EB1512896-001	BH1 0.0 C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.03	0.03	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	<0.02	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-C: Sulfur Trail (QC Lot: 66182) - continued									
EB1512896-001	BH1 0.0 C	EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.03	0.03	0.00	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EB1512896-016	BH21 0.5C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.04	0.05	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.02	<0.02	0.00	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.06	0.07	0.00	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	14	12	15.7	No Limit
EA029-C: Sulfur Trail (QC Lot: 66183)									
EB1512896-031	WB24 0.5 C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.04	0.04	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.05	0.06	0.00	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA029-D: Calcium Values (QC Lot: 66182)									
EB1512896-001	BH1 0.0 C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	0.23	0.25	9.08	0% - 50%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.21	0.21	0.00	0% - 50%
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	0.44	0.46	4.53	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	0.18	0.20	9.08	0% - 50%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	114	125	9.08	0% - 50%
EB1512896-016	BH21 0.5C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	2.17	2.34	7.57	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.21	0.21	0.00	0% - 50%
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	2.38	2.56	7.06	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	1.74	1.88	7.57	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	1080	1170	7.57	0% - 20%
EA029-D: Calcium Values (QC Lot: 66183)									
EB1512896-031	WB24 0.5 C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	2.51	2.62	4.09	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.16	0.16	0.00	No Limit
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	2.67	2.78	3.78	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	2.01	2.09	4.09	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	1250	1310	4.09	0% - 20%
EA029-E: Magnesium Values (QC Lot: 66182)									
EB1512896-001	BH1 0.0 C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.04	0.05	0.00	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.10	0.10	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.15	0.15	0.00	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.06	0.06	0.00	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	36	39	8.01	No Limit
EB1512896-016	BH21 0.5C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	<0.02	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-E: Magnesium Values (QC Lot: 66182) - continued									
EB1512896-016	BH21 0.5C	EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.04	0.04	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.04	0.04	0.00	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA029-E: Magnesium Values (QC Lot: 66183)									
EB1512896-031	WB24 0.5 C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.06	0.07	0.00	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.04	0.04	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.11	0.11	0.00	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.09	0.09	0.00	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	54	54	0.00	No Limit
EA029-F: Excess Acid Neutralising Capacity (QC Lot: 66182)									
EB1512896-001	BH1 0.0 C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	1.19	1.17	1.86	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	0.38	0.37	0.00	0% - 50%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	238	234	1.86	0% - 20%
EB1512896-016	BH21 0.5C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	4.75	4.88	2.60	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	1.52	1.56	2.60	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	950	975	2.60	0% - 20%
EA029-F: Excess Acid Neutralising Capacity (QC Lot: 66183)									
EB1512896-031	WB24 0.5 C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	6.63	6.69	0.939	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	2.12	2.14	0.939	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	1320	1340	0.939	0% - 20%
EA029-H: Acid Base Accounting (QC Lot: 66182)									
EB1512896-001	BH1 0.0 C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EB1512896-016	BH21 0.5C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-H: Acid Base Accounting (QC Lot: 66183)									
EB1512896-031	WB24 0.5 C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA037: Ass Field Screening Analysis (QC Lot: 66269)									
EB1512747-002	Anonymous	EA037: pH (F)	----	0.1	pH Unit	8.6	8.7	1.16	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	7.3	7.2	1.38	0% - 20%
EB1512747-027	Anonymous	EA037: pH (F)	----	0.1	pH Unit	8.6	8.5	1.17	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	8.5	8.5	0.00	0% - 20%
EA037: Ass Field Screening Analysis (QC Lot: 66270)									
EB1512896-027	WB22 0.75 C	EA037: pH (F)	----	0.1	pH Unit	8.5	8.5	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	7.2	7.1	1.40	0% - 20%
EB1512899-012	Anonymous	EA037: pH (F)	----	0.1	pH Unit	8.6	8.7	1.16	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	4.9	4.7	4.17	0% - 20%

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EA029-A: pH Measurements (QCLot: 66182)								
EA029: pH KCl (23A)	----	0.1	pH Unit	<0.1	4.9 pH Unit	100	70	130
EA029: pH OX (23B)	----	0.1	pH Unit	<0.1	4.4 pH Unit	93.2	70	130
EA029-A: pH Measurements (QCLot: 66183)								
EA029: pH KCl (23A)	----	0.1	pH Unit	<0.1	4.9 pH Unit	100	70	130
EA029: pH OX (23B)	----	0.1	pH Unit	<0.1	4.4 pH Unit	93.2	70	130
EA029-B: Acidity Trail (QCLot: 66182)								
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	14.32 mole H+ / t	100	70	130
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	68 mole H+ / t	106	70	130
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
EA029-B: Acidity Trail (QCLot: 66183)								
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	14.32 mole H+ / t	98.5	70	130
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	68 mole H+ / t	103	70	130
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
EA029-C: Sulfur Trail (QCLot: 66182)								
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.069 % S	94.8	70	130
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	----	----	----
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	0.204 % S	109	70	130
EA029-C: Sulfur Trail (QCLot: 66183)								
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.069 % S	94.2	70	130
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	----	----	----
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	0.204 % S	97.2	70	130
EA029-D: Calcium Values (QCLot: 66182)								
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.02	0.125 % Ca	89.1	70	130
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.02	0.289 % Ca	104	70	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EA029-D: Calcium Values (QCLot: 66182) - continued								
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.02	----	----	----	----
EA029-D: Calcium Values (QCLot: 66183)								
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.02	0.125 % Ca	97.7	70	130
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.02	0.289 % Ca	103	70	130
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.02	----	----	----	----
EA029-E: Magnesium Values (QCLot: 66182)								
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	0.285 % Mg	109	70	130
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	0.285 % Mg	102	70	130
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	----	----	----
EA029-E: Magnesium Values (QCLot: 66183)								
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	0.285 % Mg	115	70	130
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	0.285 % Mg	99.6	70	130
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	----	----	----
EA029-F: Excess Acid Neutralising Capacity (QCLot: 66182)								
EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	<0.02	----	----	----	----
EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	<0.02	----	----	----	----
EA029-F: Excess Acid Neutralising Capacity (QCLot: 66183)								
EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	<0.02	----	----	----	----
EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	<0.02	----	----	----	----
EA029-H: Acid Base Accounting (QCLot: 66182)								
EA029: ANC Fineness Factor	----	0.5	-	<0.5	----	----	----	----
EA029: Liming Rate	----	1	kg CaCO3/t	<1	----	----	----	----
EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	----	----	----	----
EA029-H: Acid Base Accounting (QCLot: 66183)								
EA029: ANC Fineness Factor	----	0.5	-	<0.5	----	----	----	----
EA029: Liming Rate	----	1	kg CaCO3/t	<1	----	----	----	----
EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	----	----	----	----

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EA029-H: Acid Base Accounting (QCLot: 66183) - continued								
EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

QA/QC Compliance Assessment for DQO Reporting

Work Order	: **EB1512896**	Page	: 1 of 4
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Telephone	: +61-7-3243 7222
Project	: GPC Geochemical Investigation	Date Samples Received	: 17-Feb-2015
Site	: ----	Issue Date	: 24-Feb-2015
Sampler	: GEORGINA KERR	No. of samples received	: 34
Order number	: 245553	No. of samples analysed	: 34

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA029-F: Excess Acid Neutralising Capacity								
Snap Lock Bag - frozen on receipt at ALS (EA029)								
BH1 0.0 C,	BH1 0.5 C,	**13-Feb-2015**	**19-Feb-2015**	13-Feb-2016	✓	**23-Feb-2015**	20-May-2015	✓
BH6 0.0 C,	BH6 0.5 C,							
BH10 0.0C,	BH15 0.0C,							
BH15 0.5C,	BH15 1.0C,							
BH17 0.0 C,	BH21 0.0C,							
BH21 0.5C,	BH22 0.0 C,							
BH27 0.0 C,	WB21 0.0 C,							
WB21 0.5 C,	WB21 1.0C,							
WB22 1.0C,	ASS DUPLICATE 22							
EA029-A: pH Measurements								
Snap Lock Bag - frozen on receipt at ALS (EA029)								
WB22 0.0 C,	WB22 0.5 C,	**13-Feb-2015**	**19-Feb-2015**	13-Feb-2016	✓	**23-Feb-2015**	20-May-2015	✓
WB24 0.0 C,	WB24 0.5 C,							
ASS DUPLICATE 21								
EA037: Ass Field Screening Analysis								
Snap Lock Bag - frozen on receipt at ALS (EA037)								
BH1 0.25 C,	BH6 0.25 C,	**13-Feb-2015**	**19-Feb-2015**	12-Aug-2015	✓	**24-Feb-2015**	12-Aug-2015	✓
BH6 0.75 C,	BH10 0.25C,							
BH15 0.25C,	WB21 0.25 C,							
WB21 0.75 C,	WB22 0.25 C,							
WB22 0.75 C,	WB24 0.25 C,							
WB24 0.75 C								

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
ASS Field Screening Analysis	EA037	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	SOIL	In house: Referenced to Ahern et al 2004 - a suspension peroxide oxidation method following the 'sulfur trail' by determining the level of 1M KCL extractable sulfur and the sulfur level after oxidation of soil sulphides. The 'acidity trail' is followed by measurement of TAA, TPA and TSA. Liming Rate is based on results for samples as submitted and incorporates a minimum safety factor of 1.5.
ASS Field Screening Analysis	* EA037	SOIL	In house: Referenced to Acid Sulfate Soils Laboratory Methods Guidelines, version 2.1 June 2004. As received samples are tested for pH field and pH fox and assessed for a reaction rating.

Preparation Methods	Method	Matrix	Method Descriptions
Drying only	EN020D	SOIL	In House
Drying at 85 degrees, bagging and labelling (ASS)	EN020PR	SOIL	In house

ALS Environmental

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Ph: 07 7471 5600 E: gladstone@alsglobal.com

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NOWRA 4.13 Geary Place North Nowra NSW 2541
Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com

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Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	[redacted]
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)** COC: 1 2 3 4 5 6 7	
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 7	
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006		
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:** Georgina Kerr	**RECEIVED BY:** Kelly Schafer
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	DATE/TIME: 14 February 2015	DATE/TIME: 14 February 2015 1830
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		**RELINQUISHED BY:** KSchafer	**RECEIVED BY:** AM
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 16.2.15 1600	DATE/TIME: 17.02.15 08:25

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
	BH3 0.0 C	14/02/2015	S	Bag (Green label)	1					1				
				TOTAL	1					1				

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Environmental Division
Brisbane
Work Order Reference
EB1512898

Telephone : +61-7-3243 7222

ALS Environmental

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Ph: 07 7471 5600 E: gladstone@alsglobal.com

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Ph: 024423 2063 E: nowra@alsglobal.com
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Ph: 08 9209 7655 E: samples.perth@alsglobal.com

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Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date):	5 day turnaround
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	
ORDER NUMBER: 245553		COC: 1 (2) 3 4 5 6 7	
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 (3) 4 5 6 7	
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*		
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
14 February 2015	14 February 2015 1830	16-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
2	BH4 0.0 C	14/02/2015	S	Bag (Green label)	1					1				
3	BH4 0.25 C	14/02/2015	S	Bag (Green label)	1						1			
4	BH4 0.5 C	14/02/2015	S	Bag (Green label)	1					1				
				TOTAL	3					2	1	#REF!	#REF!	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circled)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody seal intact: Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2		Temperature on receipt (°C):
ORDER NUMBER: 245553		**COC SEQUENCE NUMBER (Circle)** COC: 1 2 (3) 4 5 6 7	Receipt Temperature (°C):
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 (3) 4 5 6 7	Cooling Method:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		Blue Ice / Ice / Frozen / None
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	AS	
DATE/TIME: 14 February 2015	DATE/TIME: 14 February 2015 1830	DATE/TIME: 16-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
5	BH30 0.0 C	14/02/2015	S	Bag (Green label)	1					1				
6	BH30 0.25 C	14/02/2015	S	Bag (Green label)	1						1			
7	BH30 0.5 C	14/02/2015	S	Bag (Green label)	1					1				
8	BH30 0.75 C	14/02/2015	S	Bag (Green label)	1						1			
9	BH30 1.0C	14/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CERTIFICATE OF ANALYSIS

Work Order	: **EB1512898**	Page	: 1 of 6
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: sally.leyland@aurecongroup.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61-7-3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553	Date Samples Received	: 17-Feb-2015 08:25
C-O-C number	: ----	Date Analysis Commenced	: 19-Feb-2015
Sampler	: GEORGINA KERR	Issue Date	: 24-Feb-2015 14:33
Site	: ----		
		No. of samples received	: 9
Quote number	: ----	No. of samples analysed	: 9

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.

- ASS: EA029 (SPOCAS): Retained Acidity not required because pH KCl greater than or equal to 4.5
- ASS: EA037 (Rapid Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme
- EA037 ASS Field Screening: NATA accreditation does not cover performance of this service.
- ASS: EA029 (SPOCAS): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime ($CaCO_3$) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from kg/t dry weight to kg/m3 in-situ soil, multiply reported results x wet bulk density of soil in t/m3.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH3 0.0 C	BH4 0.0 C	BH4 0.25 C	BH4 0.5 C	BH30 0.0 C
				Client sampling date / time	[14-Feb-2015]	[14-Feb-2015]	[14-Feb-2015]	[14-Feb-2015]	[14-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512898-001	EB1512898-002	EB1512898-003	EB1512898-004	EB1512898-005
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		8.8	9.5	----	9.0	9.6
pH OX (23B)	----	0.1	pH Unit		9.1	8.8	----	7.1	8.8
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		<2	<2	----	<2	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		<2	<2	----	<2	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		<2	<2	----	<2	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		<0.02	<0.02	----	<0.02	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		<0.02	<0.02	----	<0.02	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		<0.02	<0.02	----	<0.02	<0.02
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		0.03	<0.02	----	0.02	0.03
Peroxide Sulfur (23De)	----	0.02	% S		0.03	<0.02	----	0.03	0.03
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		<0.02	<0.02	----	<0.02	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		<10	<10	----	<10	<10
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		0.24	0.12	----	0.09	0.15
Peroxide Calcium (23Wh)	----	0.02	% Ca		0.51	0.53	----	0.10	2.68
Acid Reacted Calcium (23X)	----	0.02	% Ca		0.27	0.40	----	<0.02	2.53
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		135	201	----	<10	1260
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		0.22	0.32	----	<0.02	2.02
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		0.12	0.02	----	0.03	0.02
Peroxide Magnesium (23Tm)	----	0.02	% Mg		0.12	0.04	----	0.04	0.02
Acid Reacted Magnesium (23U)	----	0.02	% Mg		<0.02	<0.02	----	<0.02	<0.02
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		<10	<10	----	12	<10
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		<0.02	<0.02	----	<0.02	<0.02
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		1.19	1.38	----	0.20	6.38
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		238	275	----	40	1280
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		0.38	0.44	----	0.06	2.04

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH3 0.0 C	BH4 0.0 C	BH4 0.25 C	BH4 0.5 C	BH30 0.0 C
				Client sampling date / time	[14-Feb-2015]	[14-Feb-2015]	[14-Feb-2015]	[14-Feb-2015]	[14-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512898-001	EB1512898-002	EB1512898-003	EB1512898-004	EB1512898-005
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**1.5**	**----**	**1.5**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	<0.02	**----**	<0.02	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	<10	**----**	<10	<10
Liming Rate	----	1	kg CaCO3/t		<1	<1	**----**	<1	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**----**	**8.8**	**----**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**----**	**6.0**	**----**	**----**
ø **Reaction Rate**	----	1	-		**----**	**----**	**2**	**----**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH30 0.25	BH30 0.5 C	BH30 0.75 C	BH30 1.0C	----
				Client sampling date / time	[14-Feb-2015]	[14-Feb-2015]	[14-Feb-2015]	[14-Feb-2015]	----
Compound	CAS Number	LOR	Unit		EB1512898-006	EB1512898-007	EB1512898-008	EB1512898-009	--------
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		----	9.5	----	9.3	----
pH OX (23B)	----	0.1	pH Unit		----	8.7	----	8.9	----
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		----	<2	----	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		----	<2	----	<2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		----	<2	----	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		----	<0.02	----	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		----	<0.02	----	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		----	<0.02	----	<0.02	----
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		----	0.03	----	0.03	----
Peroxide Sulfur (23De)	----	0.02	% S		----	0.03	----	0.04	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		----	<0.02	----	<0.02	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		----	<10	----	<10	----
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		----	0.16	----	0.19	----
Peroxide Calcium (23Wh)	----	0.02	% Ca		----	2.16	----	2.70	----
Acid Reacted Calcium (23X)	----	0.02	% Ca		----	1.99	----	2.51	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		----	994	----	1250	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		----	1.59	----	2.01	----
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		----	0.02	----	0.07	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg		----	0.02	----	0.12	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg		----	<0.02	----	0.05	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		----	<10	----	44	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		----	<0.02	----	0.07	----
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		----	5.00	----	6.51	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		----	1000	----	1300	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		----	1.60	----	2.08	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH30 0.25	BH30 0.5 C	BH30 0.75 C	BH30 1.0C	----
				Client sampling date / time	[14-Feb-2015]	[14-Feb-2015]	[14-Feb-2015]	[14-Feb-2015]	----
Compound	CAS Number	LOR	Unit		EB1512898-006	EB1512898-007	EB1512898-008	EB1512898-009	--------
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**----**	**1.5**	**----**	**1.5**	**----**
Net Acidity (sulfur units)	----	0.02	% S		**----**	<0.02	**----**	<0.02	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		**----**	<10	**----**	<10	**----**
Liming Rate	----	1	kg CaCO3/t		**----**	<1	**----**	<1	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**8.6**	**----**	**7.7**	**----**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**9.2**	**----**	**8.6**	**----**	**----**
ø **Reaction Rate**	----	1	-		**4**	**----**	**4**	**----**	**----**

QUALITY CONTROL REPORT

Work Order	: **EB1512898**	Page	: 1 of 7
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: sally.leyland@aurecongroup.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61-7-3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553	Date Samples Received	: 17-Feb-2015
C-O-C number	: ----	Date Analysis Commenced	: 19-Feb-2015
Sampler	: GEORGINA KERR	Issue Date	: 24-Feb-2015
Site	: ----	No. of samples received	: 9
Quote number	: ----	No. of samples analysed	: 9

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out ir compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-A: pH Measurements (QC Lot: 66651)									
EB1512898-001	BH3 0.0 C	EA029: pH KCl (23A)	----	0.1	pH Unit	8.8	8.8	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	9.1	9.0	1.10	0% - 20%
EB1512982-008	Anonymous	EA029: pH KCl (23A)	----	0.1	pH Unit	8.9	8.9	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	6.8	6.7	1.48	0% - 20%
EA029-B: Acidity Trail (QC Lot: 66651)									
EB1512898-001	BH3 0.0 C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EB1512982-008	Anonymous	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EA029-C: Sulfur Trail (QC Lot: 66651)									
EB1512898-001	BH3 0.0 C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.03	0.03	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.03	0.03	0.00	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EB1512982-008	Anonymous	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.14	0.14	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	1.27	1.30	2.86	0% - 20%
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	1.41	1.44	2.32	0% - 20%
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	791	814	2.86	0% - 20%
EA029-D: Calcium Values (QC Lot: 66651)									
EB1512898-001	BH3 0.0 C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	0.27	0.27	0.00	0% - 50%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.24	0.24	0.00	0% - 50%
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	0.51	0.51	0.00	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-D: Calcium Values (QC Lot: 66651) - continued									
EB1512898-001	BH3 0.0 C	EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	0.22	0.22	0.00	0% - 50%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	135	137	1.39	0% - 50%
EB1512982-008	Anonymous	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	1.35	1.40	3.20	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.25	0.25	0.00	0% - 50%
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	1.60	1.64	2.40	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	1.08	1.12	3.20	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	674	696	3.20	0% - 20%
EA029-E: Magnesium Values (QC Lot: 66651)									
EB1512898-001	BH3 0.0 C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	<0.02	0.00	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.12	0.11	10.2	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.12	0.11	0.00	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EB1512982-008	Anonymous	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.07	0.08	0.00	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.11	0.11	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.18	0.18	0.00	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.09	0.10	0.00	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	58	63	8.78	No Limit
EA029-F: Excess Acid Neutralising Capacity (QC Lot: 66651)									
EB1512898-001	BH3 0.0 C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	1.19	1.06	11.1	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	0.38	0.34	11.1	0% - 50%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	238	212	11.1	0% - 20%
EB1512982-008	Anonymous	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	0.31	0.31	0.00	0% - 50%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	0.10	0.10	0.00	No Limit
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	62	62	0.00	No Limit
EA029-H: Acid Base Accounting (QC Lot: 66651)									
EB1512898-001	BH3 0.0 C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EB1512982-008	Anonymous	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	0.36	0.37	3.39	0% - 50%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-H: Acid Base Accounting (QC Lot: 66651) - continued									
EB1512982-008	Anonymous	EA029: Liming Rate	----	1	kg CaCO3/t	17	17	0.00	0% - 50%
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	222	230	3.39	0% - 20%
EA037: Ass Field Screening Analysis (QC Lot: 66270)									
EB1512896-027	Anonymous	EA037: pH (F)	----	0.1	pH Unit	8.5	8.5	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	7.2	7.1	1.40	0% - 20%
EB1512899-012	Anonymous	EA037: pH (F)	----	0.1	pH Unit	8.6	8.7	1.16	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	4.9	4.7	4.17	0% - 20%

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EA029-A: pH Measurements (QCLot: 66651)								
EA029: pH KCl (23A)	----	0.1	pH Unit	<0.1	4.9 pH Unit	100	70	130
EA029: pH OX (23B)	----	0.1	pH Unit	<0.1	4.4 pH Unit	95.4	70	130
EA029-B: Acidity Trail (QCLot: 66651)								
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	14.32 mole H+ / t	105	70	130
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	68 mole H+ / t	102	70	130
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
EA029-C: Sulfur Trail (QCLot: 66651)								
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.069 % S	92.3	70	130
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	----	----	----
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	0.204 % S	101	70	130
EA029-D: Calcium Values (QCLot: 66651)								
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.02	0.125 % Ca	98.4	70	130
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.02	0.289 % Ca	108	70	130
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.02	----	----	----	----
EA029-E: Magnesium Values (QCLot: 66651)								
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	0.285 % Mg	110	70	130
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	0.285 % Mg	104	70	130
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	----	----	----
EA029-F: Excess Acid Neutralising Capacity (QCLot: 66651)								
EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	<0.02	----	----	----	----
EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	<0.02	----	----	----	----
EA029-H: Acid Base Accounting (QCLot: 66651)								
EA029: ANC Fineness Factor	----	0.5	-	<0.5	----	----	----	----
EA029: Liming Rate	----	1	kg CaCO3/t	<1	----	----	----	----

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EA029-H: Acid Base Accounting (QCLot: 66651) - continued								
EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

QA/QC Compliance Assessment for DQO Reporting

Work Order	: **EB1512898**	Page	: 1 of 4
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Telephone	: +61-7-3243 7222
Project	: GPC Geochemical Investigation	Date Samples Received	: 17-Feb-2015
Site	: ----	Issue Date	: 24-Feb-2015
Sampler	: GEORGINA KERR	No. of samples received	: 9
Order number	: 245553	No. of samples analysed	: 9

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA029-B: Acidity Trail							
Snap Lock Bag - frozen (EA029)							
BH3 0.0 C, BH4 0.0 C	**14-Feb-2015**	**20-Feb-2015**	14-Feb-2016	✓	**23-Feb-2015**	21-May-2015	✓
EA029-F: Excess Acid Neutralising Capacity							
Snap Lock Bag - frozen (EA029)							
BH4 0.5 C, BH30 1.0C	**14-Feb-2015**	**20-Feb-2015**	14-Feb-2016	✓	**23-Feb-2015**	21-May-2015	✓
EA029-A: pH Measurements							
Snap Lock Bag - frozen (EA029)							
BH30 0.0 C, BH30 0.5 C	**14-Feb-2015**	**20-Feb-2015**	14-Feb-2016	✓	**23-Feb-2015**	21-May-2015	✓
EA037: Ass Field Screening Analysis							
Snap Lock Bag - frozen (EA037)							
BH4 0.25 C, BH30 0.25, BH30 0.75 C	**14-Feb-2015**	**19-Feb-2015**	13-Aug-2015	✓	**24-Feb-2015**	13-Aug-2015	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
ASS Field Screening Analysis	EA037	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	2	14	**14.29**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	14	**7.14**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	14	**7.14**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	SOIL	In house: Referenced to Ahern et al 2004 - a suspension peroxide oxidation method following the 'sulfur trail' by determining the level of 1M KCL extractable sulfur and the sulfur level after oxidation of soil sulphides. The 'acidity trail' is followed by measurement of TAA, TPA and TSA. Liming Rate is based on results for samples as submitted and incorporates a minimum safety factor of 1.5.
ASS Field Screening Analysis	* EA037	SOIL	In house: Referenced to Acid Sulfate Soils Laboratory Methods Guidelines, version 2.1 June 2004. As received samples are tested for pH field and pH fox and assessed for a reaction rating.

Preparation Methods	Method	Matrix	Method Descriptions
Drying only	EN020D	SOIL	In House
Drying at 85 degrees, bagging and labelling (ASS)	EN020PR	SOIL	In house

ENVIRONMENTAL

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MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4958 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/12 Geary Place North Nowra NSW 2541
Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: (1) 2 3 4 5 6 7	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		OF: 1 2 3 4 5 (6)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006		Other comment:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:** Georgina Kerr	**RECEIVED BY:** Kelly Schafer
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	DATE/TIME: 15 February 2015	DATE/TIME: 15 February 2015 1850
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		**RELINQUISHED BY:** Kschafer	**RECEIVED BY:** AM
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 16.2.15 1600	DATE/TIME: 17-02-15 08:25

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	BE1 0.0 C	15/02/2015	S	Bag (Green label)	1					1				
2	BE1 0.25 C	15/02/2015	S	Bag (Green label)	1						1			
3	BE1 0.5 C	15/02/2015	S	Bag (Green label)	1					1				
4	BE1 0.75 C	15/02/2015	S	Bag (Green label)	1						1			
5	BE1 1.0 C	15/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Environmental Division
Brisbane
Work Order Reference
EB1512899

Telephone : +61-7-3243 7222

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Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
ISLANDS ONE 46 Caltex Indian Drive Garbutt QLD 4814
Ph: 07 7471 5800 E: gladstone@alsglobal.com
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Ph: 02 8372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
ORANGE 1-13 Geary Place North Orange NSW 2541
Ph: 02 4423 2063 E: orange@alsglobal.com
PERTH 10 Hod Way, Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		**Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 (2) 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (8)	Other comment:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*		
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
15 February 2015	15 February 2015 1850	16.2.15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
6	BE2 0.0 C	15/02/2015	S	Bag (Green label)	1					1				
7	BE2 0.25 C	15/02/2015	S	Bag (Green label)	1						1			
8	BE2 0.5 C	15/02/2015	S	Bag (Green label)	1					1				
9	BE2 0.75 C	15/02/2015	S	Bag (Green label)	1						1			
10	BE2 1.0 C	15/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2	#REF!	#REF!	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) **Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround		Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)** COC: 1 2 (3) 4 5 6 7	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 (7)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006		Other comment:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
Georgina Kerr	*Kelly Schafer*		
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
15 February 2015	15 February 2015 1850	16-2-15 16:00	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
11	BE3 0.0C	15/02/2015	S	Bag (Green label)	1					1				
12	BE3 0.25C	15/02/2015	S	Bag (Green label)	1						1			
13	BE3 0.5C	15/02/2015	S	Bag (Green label)	1					1				
14	BE3 0.75C	15/02/2015	S	Bag (Green label)	1						1			
15	BE3 1.0C	15/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 08 8359 0890 E: adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053
Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 46 Callemondah Drive Clinton QLD 4680
Ph: 07 7471 5900 E: gladstone@alsglobal.com
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Ph: 02 4423 2063 E: nowra@alsglobal.com
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Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobe.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2		Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		**COC SEQUENCE NUMBER (Circle)** COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 8	Other comment:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	AS	
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
15 February 2015	15 February 2015 1850	16-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION	ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
16	BE9 0.0 C	15/02/2015	S	Bag (Green label)	1					1				
17	BE9 0.25C	15/02/2015	S	Bag (Green label)	1						1			
18	BE9 0.5C	15/02/2015	S	Bag (Green label)	1					1				
19	BE9 0.75C	15/02/2015	S	Bag (Green label)	1						1			
20	BE9 1.0 C	15/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 07 7471 5300 E: gladstone@alsglobal.com
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Ph: 07 4944 0177 E: mackay@alsglobal.com
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NOWRA 2/12 Geary Place North Nowra NSW 2541
Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 (5) 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (8)	Other comment:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 15 February 2015	DATE/TIME: 15 February 2015 1850
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		**RELINQUISHED BY:**	**RECEIVED BY:**
			DATE/TIME: 16.2.15 1600

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
21	BE16 0.0 C	15/02/2015	S	Bag (Green label)	1					1				
22	BE16 0.25C	15/02/2015	S	Bag (Green label)	1						1			
23	BE16 0.5C	15/02/2015	S	Bag (Green label)	1					1				
24	BE16 0.75C	15/02/2015	S	Bag (Green label)	1						1			
25	BE16 1.0 C	15/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
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Ph: 08 9209 7655 E: samples.perth@alsglobal.com
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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 (6) 7	Random Sample Temperature on Receipt: 1 C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (8)	Other comment:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		15 February 2015	15 February 2015 1850

RELINQUISHED BY:	**RECEIVED BY:**
XS	
DATE/TIME:	DATE/TIME:
16-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
26	BE17 0.0 C	15/02/2015	S	Bag (Green label)	1					1				
27	BE17 0.25 C	15/02/2015	S	Bag (Green label)	1						1			
28	BE17 0.5 C	15/02/2015	S	Bag (Green label)	1					1				
29	BE17 0.75 C	15/02/2015	S	Bag (Green label)	1						1			
30	BE17 1.0C	15/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

ADELAIDE 21 Burma Road Pooraka SA 5095
Ph: 08 8359 0890 E: adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053
Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 46 Callemondah Drive Clinton QLD 4680
Ph: 07 7471 5600 E: gladstone@alsglobal.com

MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com

NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com

SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date):	5 day turnaround
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 8	
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		15 February 2015	15 February 2015 1850

RELINQUISHED BY:	**RECEIVED BY:**
DATE/TIME:	DATE/TIME:
16.2.15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOIL (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
31	BE18 0.0 C	15/02/2015	S	Bag (Green label)	1					1				
32	BE18 0.25 C	15/02/2015	S	Bag (Green label)	1						1			
33	BE18 0.5 C	15/02/2015	S	Bag (Green label)	1					1				
34	BE18 0.75 C	15/02/2015	S	Bag (Green label)	1						1			
35	BE18 1.0C	15/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

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Ph: 07 7471 5600 E: gladstone@alsglobal.com

☐MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
☐MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
☐MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com

☐NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
☐NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 024423 2063 E: nowra@alsglobal.com
☐PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com

☐SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free Ice / Frozen Ice
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 7	Other Comments

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		15 February 2015	15 February 2015 1850	16-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
36	ASS DUPLICATE 21	15/02/2015	S	Bag (Green label)	1					1				
37	ASS DUPLICATE 22	15/02/2015	S	Bag (Green label)	1					1				
38	ASS DUPLICATE 23	15/02/2015	S	Bag (Green label)	1					1				
				TOTAL	3					3				

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CERTIFICATE OF ANALYSIS

Work Order	: **EB1512899**	Page	: 1 of 18
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: sally.leyland@aurecongroup.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61-7-3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553	Date Samples Received	: 17-Feb-2015 08:25
C-O-C number	: ----	Date Analysis Commenced	: 19-Feb-2015
Sampler	: GEORGINA KERR	Issue Date	: 24-Feb-2015 13:39
Site	: ----		
		No. of samples received	: 38
Quote number	: ----	No. of samples analysed	: 38

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.

- ASS: EA029 (SPOCAS): Retained Acidity not required because pH KCl greater than or equal to 4.5
- ASS: EA037 (Rapid Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme
- EA037 ASS Field Screening: NATA accreditation does not cover performance of this service.
- ASS: EA029 (SPOCAS): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO3) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from kg/t dry weight to kg/m3 in-situ soil, multiply reported results x wet bulk density of soil in t/m3.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BE1 0.0 C	BE1 0.25 C	BE1 0.5 C	BE1 0.75 C	BE1 1.0 C
			Client sampling date / time	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512899-001	EB1512899-002	EB1512899-003	EB1512899-004	EB1512899-005
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	8.9	----	8.3	----	8.4
pH OX (23B)	----	0.1	pH Unit	7.9	----	2.3	----	2.2
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	566	----	580
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	566	----	580
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	0.91	----	0.93
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	0.91	----	0.93
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.13	----	0.13	----	0.18
Peroxide Sulfur (23De)	----	0.02	% S	0.65	----	1.58	----	1.70
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.52	----	1.45	----	1.52
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	327	----	902	----	950
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.27	----	0.34	----	0.37
Peroxide Calcium (23Wh)	----	0.02	% Ca	4.41	----	0.50	----	0.59
Acid Reacted Calcium (23X)	----	0.02	% Ca	4.14	----	0.16	----	0.22
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	2060	----	79	----	110
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	3.31	----	0.13	----	0.18
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.10	----	0.19	----	0.20
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.16	----	0.26	----	0.26
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.06	----	0.08	----	0.06
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	54	----	63	----	52
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.09	----	0.10	----	0.08
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	11.5	----	----	----	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	2300	----	----	----	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	3.69	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE1 0.0 C	BE1 0.25 C	BE1 0.5 C	BE1 0.75 C	BE1 1.0 C
				Client sampling date / time	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512899-001	EB1512899-002	EB1512899-003	EB1512899-004	EB1512899-005
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	**1.09**	**----**	**1.13**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	**678**	**----**	**703**
Liming Rate	----	1	kg CaCO3/t		<1	**----**	**51**	**----**	**53**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.6**	**----**	**8.2**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**2.8**	**----**	**1.8**	**----**
ø **Reaction Rate**	----	1	-		**----**	**4**	**----**	**4**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE2 0.0 C	BE2 0.25 C	BE2 0.5 C	BE2 0.75 C	BE2 1.0 C
				Client sampling date / time	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512899-006	EB1512899-007	EB1512899-008	EB1512899-009	EB1512899-010
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		8.8	----	8.6	----	8.6
pH OX (23B)	----	0.1	pH Unit		7.8	----	2.9	----	3.0
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		<2	----	270	----	120
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		<2	----	270	----	120
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		<0.02	----	0.43	----	0.19
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		<0.02	----	0.43	----	0.19
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		0.16	----	0.16	----	0.16
Peroxide Sulfur (23De)	----	0.02	% S		0.94	----	1.70	----	0.40
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		0.77	----	1.54	----	0.24
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		482	----	962	----	151
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		0.35	----	0.32	----	0.30
Peroxide Calcium (23Wh)	----	0.02	% Ca		4.79	----	1.23	----	0.29
Acid Reacted Calcium (23X)	----	0.02	% Ca		4.44	----	0.91	----	<0.02
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		2210	----	453	----	<10
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		3.55	----	0.73	----	<0.02
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		0.15	----	0.17	----	0.15
Peroxide Magnesium (23Tm)	----	0.02	% Mg		0.26	----	0.28	----	0.14
Acid Reacted Magnesium (23U)	----	0.02	% Mg		0.11	----	0.11	----	<0.02
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		89	----	90	----	<10
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		0.14	----	0.14	----	<0.02
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		10.2	----	----	----	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		2030	----	----	----	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		3.25	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE2 0.0 C	BE2 0.25 C	BE2 0.5 C	BE2 0.75 C	BE2 1.0 C
				Client sampling date / time	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512899-006	EB1512899-007	EB1512899-008	EB1512899-009	EB1512899-010
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	**0.80**	**----**	**0.21**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	**500**	**----**	**130**
Liming Rate	----	1	kg CaCO3/t		<1	**----**	**38**	**----**	**10**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.6**	**----**	**8.3**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**3.6**	**----**	**2.2**	**----**
ø **Reaction Rate**	----	1	-		**----**	**4**	**----**	**4**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BE3 0.0C	BE3 0.25C	BE3 0.5C	BE3 0.75C	BE3 1.0C
			Client sampling date / time	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512899-011	EB1512899-012	EB1512899-013	EB1512899-014	EB1512899-015
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	9.0	----	8.7	----	8.5
pH OX (23B)	----	0.1	pH Unit	8.0	----	7.7	----	2.7
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	----	314
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	----	314
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	----	0.50
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	----	0.50
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.13	----	0.13	----	0.17
Peroxide Sulfur (23De)	----	0.02	% S	0.49	----	0.84	----	1.51
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.36	----	0.71	----	1.34
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	227	----	443	----	838
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.28	----	0.34	----	0.39
Peroxide Calcium (23Wh)	----	0.02	% Ca	6.50	----	2.22	----	1.04
Acid Reacted Calcium (23X)	----	0.02	% Ca	6.22	----	1.88	----	0.64
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	3100	----	940	----	320
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	4.97	----	1.51	----	0.51
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.13	----	0.17	----	0.22
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.19	----	0.26	----	0.27
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.06	----	0.09	----	0.05
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	49	----	72	----	38
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.08	----	0.12	----	0.06
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	17.4	----	4.15	----	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	3480	----	828	----	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	5.56	----	1.33	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE3 0.0C	BE3 0.25C	BE3 0.5C	BE3 0.75C	BE3 1.0C
				Client sampling date / time	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512899-011	EB1512899-012	EB1512899-013	EB1512899-014	EB1512899-015
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	**0.78**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	**488**
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	**37**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.6**	**----**	**8.3**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**4.9**	**----**	**1.8**	**----**
ø **Reaction Rate**	----	1	-		**----**	**3**	**----**	**4**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BE9 0.0 C	BE9 0.25C	BE9 0.5C	BE9 0.75C	BE9 1.0 C
			Client sampling date / time	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512899-016	EB1512899-017	EB1512899-018	EB1512899-019	EB1512899-020
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	8.6	----	8.9	----	7.5
pH OX (23B)	----	0.1	pH Unit	7.9	----	8.0	----	2.0
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	----	1300
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	----	1300
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	----	2.08
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	----	2.08
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.14	----	0.17	----	0.17
Peroxide Sulfur (23De)	----	0.02	% S	0.58	----	0.76	----	2.66
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.43	----	0.60	----	2.49
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	270	----	372	----	1550
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.33	----	0.33	----	0.26
Peroxide Calcium (23Wh)	----	0.02	% Ca	1.47	----	7.43	----	0.27
Acid Reacted Calcium (23X)	----	0.02	% Ca	1.14	----	7.10	----	<0.02
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	567	----	3540	----	<10
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	0.91	----	5.68	----	<0.02
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.22	----	0.12	----	0.23
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.33	----	0.19	----	0.25
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.11	----	0.07	----	0.02
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	92	----	61	----	19
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.15	----	0.10	----	0.03
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	2.69	----	21.5	----	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	538	----	4300	----	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	0.86	----	6.89	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE9 0.0 C	BE9 0.25C	BE9 0.5C	BE9 0.75C	BE9 1.0 C
				Client sampling date / time	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512899-016	EB1512899-017	EB1512899-018	EB1512899-019	EB1512899-020
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	**2.22**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	**1380**
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	**104**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.6**	**----**	**8.4**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**5.2**	**----**	**2.4**	**----**
ø **Reaction Rate**	----	1	-		**----**	**3**	**----**	**4**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BE16 0.0 C	BE16 0.25C	BE16 0.5C	BE16 0.75C	BE16 1.0 C
			Client sampling date / time	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512899-021	EB1512899-022	EB1512899-023	EB1512899-024	EB1512899-025
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	9.0	----	8.5	----	8.3
pH OX (23B)	----	0.1	pH Unit	8.3	----	7.7	----	3.0
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	----	245
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	----	245
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	----	0.39
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	----	0.39
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.11	----	0.13	----	0.14
Peroxide Sulfur (23De)	----	0.02	% S	0.38	----	0.99	----	1.12
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.27	----	0.86	----	0.98
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	168	----	534	----	615
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.29	----	0.34	----	0.40
Peroxide Calcium (23Wh)	----	0.02	% Ca	8.16	----	2.28	----	0.70
Acid Reacted Calcium (23X)	----	0.02	% Ca	7.87	----	1.94	----	0.30
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	3930	----	968	----	150
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	6.30	----	1.55	----	0.24
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.11	----	0.17	----	0.25
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.20	----	0.28	----	0.33
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.09	----	0.11	----	0.07
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	73	----	90	----	61
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.12	----	0.14	----	0.10
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	19.1	----	3.97	----	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	3820	----	794	----	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	6.13	----	1.27	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE16 0.0 C	BE16 0.25C	BE16 0.5C	BE16 0.75C	BE16 1.0 C
				Client sampling date / time	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512899-021	EB1512899-022	EB1512899-023	EB1512899-024	EB1512899-025
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	**0.59**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	**368**
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	**28**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.8**	**----**	**8.4**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**5.9**	**----**	**1.6**	**----**
ø **Reaction Rate**	----	1	-		**----**	**3**	**----**	**4**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BE17 0.0 C	BE17 0.25 C	BE17 0.5 C	BE17 0.75 C	BE17 1.0C
			Client sampling date / time	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512899-026	EB1512899-027	EB1512899-028	EB1512899-029	EB1512899-030
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	8.7	----	8.7	----	6.0
pH OX (23B)	----	0.1	pH Unit	8.0	----	7.7	----	2.0
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	8
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	----	1120
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	----	1110
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	----	1.79
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	----	1.78
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.10	----	0.13	----	0.26
Peroxide Sulfur (23De)	----	0.02	% S	0.32	----	1.16	----	2.23
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.22	----	1.02	----	1.97
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	136	----	640	----	1230
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.30	----	0.32	----	0.16
Peroxide Calcium (23Wh)	----	0.02	% Ca	1.09	----	7.68	----	0.19
Acid Reacted Calcium (23X)	----	0.02	% Ca	0.80	----	7.36	----	0.02
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	398	----	3670	----	13
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	0.64	----	5.88	----	0.02
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.16	----	0.16	----	0.30
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.31	----	0.30	----	0.33
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.15	----	0.14	----	0.03
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	126	----	116	----	28
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.20	----	0.18	----	0.04
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	2.38	----	18.0	----	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	475	----	3590	----	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	0.76	----	5.76	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE17 0.0 C	BE17 0.25 C	BE17 0.5 C	BE17 0.75 C	BE17 1.0C
				Client sampling date / time	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512899-026	EB1512899-027	EB1512899-028	EB1512899-029	EB1512899-030
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	**1.98**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	**1230**
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	**93**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.6**	**----**	**8.4**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**6.5**	**----**	**1.5**	**----**
ø **Reaction Rate**	----	1	-		**----**	**3**	**----**	**4**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BE18 0.0 C	BE18 0.25 C	BE18 0.5 C	BE18 0.75 C	BE18 1.0C
			Client sampling date / time	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512899-031	EB1512899-032	EB1512899-033	EB1512899-034	EB1512899-035
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	8.7	----	8.8	----	8.1
pH OX (23B)	----	0.1	pH Unit	8.0	----	7.9	----	2.4
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	----	361
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	----	361
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	----	0.58
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	----	0.58
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.11	----	0.12	----	0.21
Peroxide Sulfur (23De)	----	0.02	% S	0.45	----	0.85	----	1.91
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.34	----	0.73	----	1.70
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	214	----	455	----	1060
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.30	----	0.28	----	0.42
Peroxide Calcium (23Wh)	----	0.02	% Ca	2.54	----	5.98	----	1.23
Acid Reacted Calcium (23X)	----	0.02	% Ca	2.24	----	5.69	----	0.81
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	1120	----	2840	----	403
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	1.79	----	4.55	----	0.65
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.15	----	0.13	----	0.23
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.28	----	0.30	----	0.30
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.13	----	0.17	----	0.06
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	109	----	139	----	53
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.18	----	0.22	----	0.08
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	4.87	----	12.0	----	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	972	----	2400	----	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	1.56	----	3.84	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BE18 0.0 C	BE18 0.25 C	BE18 0.5 C	BE18 0.75 C	BE18 1.0C
				Client sampling date / time	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512899-031	EB1512899-032	EB1512899-033	EB1512899-034	EB1512899-035
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	**0.95**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	**594**
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	**44**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.8**	**----**	**8.6**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**6.5**	**----**	**1.7**	**----**
ø **Reaction Rate**	----	1	-		**----**	**3**	**----**	**4**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	ASS DUPLICATE 21	ASS DUPLICATE 22	ASS DUPLICATE 23	----	----
			Client sampling date / time	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]	----	----
Compound	CAS Number	LOR	Unit	EB1512899-036	EB1512899-037	EB1512899-038	--------	--------
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	8.8	7.3	8.7	----	----
pH OX (23B)	----	0.1	pH Unit	7.8	2.1	7.9	----	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	<2	----	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	699	<2	----	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	699	<2	----	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	<0.02	----	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	1.12	<0.02	----	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	1.12	<0.02	----	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.14	0.14	0.14	----	----
Peroxide Sulfur (23De)	----	0.02	% S	1.01	1.65	0.80	----	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.87	1.50	0.66	----	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	541	939	411	----	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.29	0.19	0.36	----	----
Peroxide Calcium (23Wh)	----	0.02	% Ca	3.70	0.21	4.46	----	----
Acid Reacted Calcium (23X)	----	0.02	% Ca	3.42	<0.02	4.10	----	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	1700	<10	2050	----	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	2.73	<0.02	3.28	----	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.13	0.26	0.15	----	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.27	0.30	0.24	----	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.14	0.03	0.09	----	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	112	27	72	----	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.18	0.04	0.12	----	----
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	6.11	----	11.7	----	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	1220	----	2330	----	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	1.95	----	3.74	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	ASS DUPLICATE 21	ASS DUPLICATE 22	ASS DUPLICATE 23	----	----
				Client sampling date / time	[15-Feb-2015]	[15-Feb-2015]	[15-Feb-2015]	----	----
Compound	CAS Number	LOR	Unit		EB1512899-036	EB1512899-037	EB1512899-038	--------	--------
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**1.5**	**1.5**	**----**	**----**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**1.25**	<0.02	**----**	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**779**	<10	**----**	**----**
Liming Rate	----	1	kg CaCO3/t		<1	**58**	<1	**----**	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**----**	**----**	**----**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**----**	**----**	**----**	**----**
ø **Reaction Rate**	----	1	-		**----**	**----**	**----**	**----**	**----**

QUALITY CONTROL REPORT

Work Order	: **EB1512899**	Page	: 1 of 9
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: sally.leyland@aurecongroup.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61-7-3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553	Date Samples Received	: 17-Feb-2015
C-O-C number	: ----	Date Analysis Commenced	: 19-Feb-2015
Sampler	: GEORGINA KERR	Issue Date	: 24-Feb-2015
Site	: ----	No. of samples received	: 38
Quote number	: ----	No. of samples analysed	: 38

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out ir compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-A: pH Measurements (QC Lot: 67101)									
EB1512899-001	BE1 0.0 C	EA029: pH KCl (23A)	----	0.1	pH Unit	8.9	8.9	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	7.9	7.9	0.00	0% - 20%
EB1512899-018	BE9 0.5C	EA029: pH KCl (23A)	----	0.1	pH Unit	8.9	8.9	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	8.0	8.0	0.00	0% - 20%
EA029-A: pH Measurements (QC Lot: 67102)									
EB1512899-035	BE18 1.0C	EA029: pH KCl (23A)	----	0.1	pH Unit	8.1	8.1	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	2.4	2.4	0.00	0% - 20%
EA029-B: Acidity Trail (QC Lot: 67101)									
EB1512899-001	BE1 0.0 C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EB1512899-018	BE9 0.5C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EA029-B: Acidity Trail (QC Lot: 67102)									
EB1512899-035	BE18 1.0C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	0.58	0.57	1.94	0% - 20%
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	0.58	0.57	1.94	0% - 20%
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	361	354	1.94	0% - 20%
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	361	354	1.94	0% - 20%
EA029-C: Sulfur Trail (QC Lot: 67101)									
EB1512899-001	BE1 0.0 C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.13	0.13	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.52	0.59	12.7	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-C: Sulfur Trail (QC Lot: 67101) - continued									
EB1512899-001	BE1 0.0 C	EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.65	0.73	11.1	0% - 20%
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	327	371	12.7	0% - 20%
EB1512899-018	BE9 0.5C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.17	0.17	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.60	0.69	14.2	0% - 20%
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.76	0.86	11.5	0% - 20%
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	372	429	14.2	0% - 20%
EA029-C: Sulfur Trail (QC Lot: 67102)									
EB1512899-035	BE18 1.0C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.21	0.22	0.00	0% - 50%
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	1.70	1.61	5.04	0% - 20%
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	1.91	1.83	4.22	0% - 20%
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	1060	1010	5.04	0% - 20%
EA029-D: Calcium Values (QC Lot: 67101)									
EB1512899-001	BE1 0.0 C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	4.14	4.22	2.13	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.27	0.28	4.44	0% - 50%
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	4.41	4.51	2.27	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	3.31	3.38	2.13	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	2060	2110	2.13	0% - 20%
EB1512899-018	BE9 0.5C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	7.10	8.03	12.3	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.33	0.32	0.00	0% - 50%
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	7.43	8.36	11.8	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	5.68	6.43	12.3	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	3540	4010	12.3	0% - 20%
EA029-D: Calcium Values (QC Lot: 67102)									
EB1512899-035	BE18 1.0C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	0.81	0.78	3.74	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.42	0.43	0.00	0% - 20%
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	1.23	1.21	1.80	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	0.65	0.62	3.74	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	403	389	3.74	0% - 20%
EA029-E: Magnesium Values (QC Lot: 67101)									
EB1512899-001	BE1 0.0 C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.06	0.09	31.0	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.10	0.10	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.16	0.19	15.3	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.09	0.12	31.0	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	54	74	31.0	No Limit
EB1512899-018	BE9 0.5C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.07	0.10	32.2	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EA029-E: Magnesium Values (QC Lot: 67101) - continued									
EB1512899-018	BE9 0.5C	EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.12	0.12	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.19	0.22	13.3	0% - 50%
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.10	0.14	32.2	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	61	84	32.2	No Limit
EA029-E: Magnesium Values (QC Lot: 67102)									
EB1512899-035	BE18 1.0C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.06	0.05	20.5	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.23	0.24	0.00	0% - 50%
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.30	0.29	0.00	0% - 50%
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.08	0.07	20.5	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	53	43	20.5	No Limit
EA029-F: Excess Acid Neutralising Capacity (QC Lot: 67101)									
EB1512899-001	BE1 0.0 C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	11.5	11.5	0.109	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	3.69	3.68	0.00	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	2300	2300	0.109	0% - 20%
EB1512899-018	BE9 0.5C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	21.5	21.4	0.794	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	6.89	6.83	0.794	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	4300	4270	0.794	0% - 20%
EA029-H: Acid Base Accounting (QC Lot: 67101)									
EB1512899-001	BE1 0.0 C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EB1512899-018	BE9 0.5C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA029-H: Acid Base Accounting (QC Lot: 67102)									
EB1512899-035	BE18 1.0C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	0.95	0.92	3.77	0% - 20%
		EA029: Liming Rate	----	1	kg CaCO3/t	44	43	3.77	0% - 20%
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	594	572	3.77	0% - 20%
EA037: Ass Field Screening Analysis (QC Lot: 66270)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA037: Ass Field Screening Analysis (QC Lot: 66270) - continued									
EB1512896-027	Anonymous	EA037: pH (F)	----	0.1	pH Unit	8.5	8.5	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	7.2	7.1	1.40	0% - 20%
EB1512899-012	BE3 0.25C	EA037: pH (F)	----	0.1	pH Unit	8.6	8.7	1.16	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	4.9	4.7	4.17	0% - 20%

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EA029-A: pH Measurements (QCLot: 67101)								
EA029: pH KCl (23A)	----	0.1	pH Unit	<0.1	4.9 pH Unit	100	70	130
EA029: pH OX (23B)	----	0.1	pH Unit	<0.1	4.4 pH Unit	90.9	70	130
EA029-A: pH Measurements (QCLot: 67102)								
EA029: pH KCl (23A)	----	0.1	pH Unit	<0.1	4.9 pH Unit	102	70	130
EA029: pH OX (23B)	----	0.1	pH Unit	<0.1	4.4 pH Unit	93.2	70	130
EA029-B: Acidity Trail (QCLot: 67101)								
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	14.32 mole H+ / t	105	70	130
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	68 mole H+ / t	108	70	130
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
EA029-B: Acidity Trail (QCLot: 67102)								
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	14.32 mole H+ / t	99.4	70	130
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	68 mole H+ / t	102	70	130
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
EA029-C: Sulfur Trail (QCLot: 67101)								
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.069 % S	86.7	70	130
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	----	----	----
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	0.204 % S	98.0	70	130
EA029-C: Sulfur Trail (QCLot: 67102)								
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.069 % S	82.9	70	130
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	----	----	----
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	0.204 % S	100	70	130
EA029-D: Calcium Values (QCLot: 67101)								
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.02	0.125 % Ca	98.2	70	130
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.02	0.289 % Ca	107	70	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EA029-D: Calcium Values (QCLot: 67101) - continued								
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.02	----	----	----	----
EA029-D: Calcium Values (QCLot: 67102)								
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.02	0.125 % Ca	95.5	70	130
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.02	0.289 % Ca	101	70	130
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.02	----	----	----	----
EA029-E: Magnesium Values (QCLot: 67101)								
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	0.285 % Mg	110	70	130
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	0.285 % Mg	103	70	130
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	----	----	----
EA029-E: Magnesium Values (QCLot: 67102)								
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	0.285 % Mg	106	70	130
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	0.285 % Mg	102	70	130
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	----	----	----
EA029-F: Excess Acid Neutralising Capacity (QCLot: 67101)								
EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	<0.02	----	----	----	----
EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	<0.02	----	----	----	----
EA029-F: Excess Acid Neutralising Capacity (QCLot: 67102)								
EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	<0.02	----	----	----	----
EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	<0.02	----	----	----	----
EA029-H: Acid Base Accounting (QCLot: 67101)								
EA029: ANC Fineness Factor	----	0.5	-	<0.5	----	----	----	----
EA029: Liming Rate	----	1	kg CaCO3/t	<1	----	----	----	----
EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	----	----	----	----
EA029-H: Acid Base Accounting (QCLot: 67102)								
EA029: ANC Fineness Factor	----	0.5	-	<0.5	----	----	----	----
EA029: Liming Rate	----	1	kg CaCO3/t	<1	----	----	----	----
EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	----	----	----	----

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EA029-H: Acid Base Accounting (QCLot: 67102) - continued								
EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

QA/QC Compliance Assessment for DQO Reporting

Work Order	: **EB1512899**	Page	: 1 of 4
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Telephone	: +61-7-3243 7222
Project	: GPC Geochemical Investigation	Date Samples Received	: 17-Feb-2015
Site	: ----	Issue Date	: 24-Feb-2015
Sampler	: GEORGINA KERR	No. of samples received	: 38
Order number	: 245553	No. of samples analysed	: 38

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA029-A: pH Measurements								
Snap Lock Bag - frozen on receipt at ALS (EA029)								
BE1 0.0 C,	BE1 0.5 C,	**15-Feb-2015**	**23-Feb-2015**	15-Feb-2016	✓	**24-Feb-2015**	24-May-2015	✓
BE1 1.0 C,	BE2 0.0 C,							
BE2 0.5 C,	BE2 1.0 C,							
BE3 0.0C,	BE3 0.5C,							
BE3 1.0C,	BE9 0.0 C,							
BE9 0.5C,	BE9 1.0 C,							
BE16 0.0 C,	BE16 0.5C,							
BE16 1.0 C,	BE17 0.0 C,							
BE17 0.5 C,	BE17 1.0C,							
BE18 0.0 C,	BE18 0.5 C,							
BE18 1.0C,	ASS DUPLICATE 21,							
ASS DUPLICATE 22,	ASS DUPLICATE 23							
EA037: Ass Field Screening Analysis								
Snap Lock Bag - frozen on receipt at ALS (EA037)								
BE1 0.25 C,	BE1 0.75 C,	**15-Feb-2015**	**19-Feb-2015**	14-Aug-2015	✓	**24-Feb-2015**	14-Aug-2015	✓
BE2 0.25 C,	BE2 0.75 C,							
BE3 0.25C,	BE3 0.75C,							
BE9 0.25C,	BE9 0.75C,							
BE16 0.25C,	BE16 0.75C,							
BE17 0.25 C,	BE17 0.75 C,							
BE18 0.25 C,	BE18 0.75 C							

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
ASS Field Screening Analysis	EA037	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	SOIL	In house: Referenced to Ahern et al 2004 - a suspension peroxide oxidation method following the 'sulfur trail' by determining the level of 1M KCL extractable sulfur and the sulfur level after oxidation of soil sulphides. The 'acidity trail' is followed by measurement of TAA, TPA and TSA. Liming Rate is based on results for samples as submitted and incorporates a minimum safety factor of 1.5.
ASS Field Screening Analysis	* EA037	SOIL	In house: Referenced to Acid Sulfate Soils Laboratory Methods Guidelines, version 2.1 June 2004. As received samples are tested for pH field and pH fox and assessed for a reaction rating.

Preparation Methods	Method	Matrix	Method Descriptions
Drying only	EN020D	SOIL	In House
Drying at 85 degrees, bagging and labelling (ASS)	EN020PR	SOIL	In house

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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: (1) 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 (3) 4 5 6 7	Other comments:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	Schafer	
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
16 February 2015	16 February 2015 1830	16.2.15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
1	BH38 0.0 C	16/02/2015	S	Bag (Green label)	1					1				
2	BH38 0.25 C	16/02/2015	S	Bag (Green label)	1						1			
3	BH38 0.5 C	16/02/2015	S	Bag (Green label)	1					1				
4	BH38 0.75 C	16/02/2015	S	Bag (Green label)	1						1			
5	BH38 1.0 C	16/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2	#REF!	#REF!	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Environmental Division
Brisbane
Work Order Reference
EB1512982

Telephone : +61-7-3243 7222

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) **Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround		Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 (2) 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 (3) 4 5 6 7	Other comment:

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		16 February 2015	16 February 2015 1830

RELINQUISHED BY:	**RECEIVED BY:**
Kschafer	
DATE/TIME:	DATE/TIME:
16-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
6	PC10 0.0C	16/02/2015	S	Bag (Green label)	1					1				
7	PC10 0.25C	16/02/2015	S	Bag (Green label)	1						1			
8	PC10 0.5C	16/02/2015	S	Bag (Green label)	1					1				
9	PC10 0.75C	16/02/2015	S	Bag (Green label)	1						1			
10	PC10 1.0C	16/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle):**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice blicks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 (3) 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 (3) 4 5 6 7	Other comment:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
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Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		16 February 2015	16 February 2015 1830

RELINQUISHED BY:	**RECEIVED BY:**
K Schafer	
DATE/TIME:	DATE/TIME:
17.2.15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
11	ASS DUPLICATE 24	16/02/2015	S	Bag (Green label)	1					1				
12	ASS DUPLICATE 25	16/02/2015	S	Bag (Green label)	1					1				
				TOTAL	2					2				

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CERTIFICATE OF ANALYSIS

Work Order	: **EB1512982**	Page	: 1 of 8
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: sally.leyland@aurecongroup.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61-7-3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553	Date Samples Received	: 18-Feb-2015 09:00
C-O-C number	: ----	Date Analysis Commenced	: 20-Feb-2015
Sampler	: GEORGINA KERR	Issue Date	: 24-Feb-2015 14:26
Site	: ----		
		No. of samples received	: 12
Quote number	: ----	No. of samples analysed	: 12

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.

- ASS: EA029 (SPOCAS): Retained Acidity not required because pH KCl greater than or equal to 4.5
- ASS: EA037 (Rapid Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme
- EA037 ASS Field Screening: NATA accreditation does not cover performance of this service.
- ASS: EA029 (SPOCAS): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO3) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from kg/t dry weight to kg/m3 in-situ soil, multiply reported results x wet bulk density of soil in t/m3.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH38 01.0 C	BH38 0.25 C	BH38 0.5 C	BH38 0.75 C	BH38 1.0 C
			Client sampling date / time	[16-Feb-2015]	[16-Feb-2015]	[16-Feb-2015]	[16-Feb-2015]	[16-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1512982-001	EB1512982-002	EB1512982-003	EB1512982-004	EB1512982-005
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	**9.6**	----	**9.5**	----	**9.4**
pH OX (23B)	----	0.1	pH Unit	**8.6**	----	**8.5**	----	**8.4**
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	**0.04**	----	**0.06**	----	**0.07**
Peroxide Sulfur (23De)	----	0.02	% S	**0.07**	----	**0.13**	----	**0.22**
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	**0.03**	----	**0.07**	----	**0.15**
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	**19**	----	**45**	----	**96**
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	**0.17**	----	**0.18**	----	**0.16**
Peroxide Calcium (23Wh)	----	0.02	% Ca	**3.66**	----	**2.66**	----	**1.77**
Acid Reacted Calcium (23X)	----	0.02	% Ca	**3.49**	----	**2.48**	----	**1.60**
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	**1740**	----	**1240**	----	**798**
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	**2.79**	----	**1.98**	----	**1.28**
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	**0.04**	----	**0.04**	----	**0.05**
Peroxide Magnesium (23Tm)	----	0.02	% Mg	**0.05**	----	**0.08**	----	**0.10**
Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	**0.04**	----	**0.04**
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	**29**	----	**35**
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	**0.05**	----	**0.06**
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	**8.82**	----	**6.32**	----	**3.75**
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	**1760**	----	**1260**	----	**750**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	**2.82**	----	**2.02**	----	**1.20**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH38 01.0 C	BH38 0.25 C	BH38 0.5 C	BH38 0.75 C	BH38 1.0 C
				Client sampling date / time	[16-Feb-2015]	[16-Feb-2015]	[16-Feb-2015]	[16-Feb-2015]	[16-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512982-001	EB1512982-002	EB1512982-003	EB1512982-004	EB1512982-005
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**9.0**	**----**	**9.0**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**6.8**	**----**	**7.0**	**----**
ø **Reaction Rate**	----	1	-		**----**	**3**	**----**	**3**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	PC10 0.0C	PC10 0.25C	PC10 0.5C	PC10 0.75C	PC10 1.0C
				Client sampling date / time	[16-Feb-2015]	[16-Feb-2015]	[16-Feb-2015]	[16-Feb-2015]	[16-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512982-006	EB1512982-007	EB1512982-008	EB1512982-009	EB1512982-010
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		9.3	----	8.9	----	8.7
pH OX (23B)	----	0.1	pH Unit		8.0	----	6.8	----	2.8
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		<2	----	<2	----	272
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		<2	----	<2	----	272
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		<0.02	----	<0.02	----	0.44
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		<0.02	----	<0.02	----	0.44
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		0.12	----	0.14	----	0.17
Peroxide Sulfur (23De)	----	0.02	% S		0.51	----	1.41	----	1.67
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		0.39	----	1.27	----	1.50
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		242	----	791	----	936
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		0.24	----	0.25	----	0.31
Peroxide Calcium (23Wh)	----	0.02	% Ca		7.59	----	1.60	----	1.18
Acid Reacted Calcium (23X)	----	0.02	% Ca		7.35	----	1.35	----	0.87
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		3670	----	674	----	436
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		5.88	----	1.08	----	0.70
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		0.06	----	0.11	----	0.16
Peroxide Magnesium (23Tm)	----	0.02	% Mg		0.11	----	0.18	----	0.24
Acid Reacted Magnesium (23U)	----	0.02	% Mg		0.04	----	0.07	----	0.09
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		34	----	58	----	73
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		0.05	----	0.09	----	0.12
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		18.0	----	0.31	----	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		3600	----	62	----	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		5.76	----	0.10	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	PC10 0.0C	PC10 0.25C	PC10 0.5C	PC10 0.75C	PC10 1.0C
				Client sampling date / time	[16-Feb-2015]	[16-Feb-2015]	[16-Feb-2015]	[16-Feb-2015]	[16-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1512982-006	EB1512982-007	EB1512982-008	EB1512982-009	EB1512982-010
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	**0.36**	**----**	**0.79**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	**222**	**----**	**493**
Liming Rate	----	1	kg CaCO3/t		<1	**----**	**17**	**----**	**37**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.5**	**----**	**8.1**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**6.2**	**----**	**2.4**	**----**
ø **Reaction Rate**	----	1	-		**----**	**4**	**----**	**4**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	ASS DUPLICATE 24	ASS DUPLICATE 25	----	----	----
			Client sampling date / time	[16-Feb-2015]	[16-Feb-2015]	----	----	----
Compound	CAS Number	LOR	Unit	EB1512982-011	EB1512982-012	--------	--------	--------
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	**8.7**	**9.3**	----	----	----
pH OX (23B)	----	0.1	pH Unit	**2.5**	**8.3**	----	----	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	----	----	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	**332**	<2	----	----	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	**332**	<2	----	----	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	----	----	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	**0.53**	<0.02	----	----	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	**0.53**	<0.02	----	----	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	**0.16**	**0.09**	----	----	----
Peroxide Sulfur (23De)	----	0.02	% S	**1.52**	**0.32**	----	----	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	**1.36**	**0.23**	----	----	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	**849**	**144**	----	----	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	**0.28**	**0.21**	----	----	----
Peroxide Calcium (23Wh)	----	0.02	% Ca	**0.85**	**1.94**	----	----	----
Acid Reacted Calcium (23X)	----	0.02	% Ca	**0.57**	**1.72**	----	----	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	**287**	**861**	----	----	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	**0.46**	**1.38**	----	----	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	**0.13**	**0.07**	----	----	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg	**0.22**	**0.18**	----	----	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg	**0.09**	**0.11**	----	----	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	**75**	**91**	----	----	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	**0.12**	**0.15**	----	----	----
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	----	**3.82**	----	----	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	----	**762**	----	----	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	----	**1.22**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	ASS DUPLICATE 24	ASS DUPLICATE 25	----	----	----
				Client sampling date / time	[16-Feb-2015]	[16-Feb-2015]	----	----	----
Compound	CAS Number	LOR	Unit		EB1512982-011	EB1512982-012	--------	--------	--------
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**1.5**	----	----	----
Net Acidity (sulfur units)	----	0.02	% S		**0.81**	<0.02	----	----	----
Net Acidity (acidity units)	----	10	mole H+ / t		**504**	<10	----	----	----
Liming Rate	----	1	kg CaCO3/t		**38**	<1	----	----	----
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		----	----	----	----	----
ø **pH (Fox)**	----	0.1	pH Unit		----	----	----	----	----
ø **Reaction Rate**	----	1	-		----	----	----	----	----

QUALITY CONTROL REPORT

Work Order	: **EB1512982**	Page	: 1 of 7
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: sally.leyland@aurecongroup.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61-7-3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553	Date Samples Received	: 18-Feb-2015
C-O-C number	: ----	Date Analysis Commenced	: 20-Feb-2015
Sampler	: GEORGINA KERR	Issue Date	: 24-Feb-2015
Site	: ----	No. of samples received	: 12
Quote number	: ----	No. of samples analysed	: 12

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out ir compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-A: pH Measurements (QC Lot: 66651)									
EB1512898-001	Anonymous	EA029: pH KCl (23A)	----	0.1	pH Unit	8.8	8.8	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	9.1	9.0	1.10	0% - 20%
EB1512982-008	PC10 0.5C	EA029: pH KCl (23A)	----	0.1	pH Unit	8.9	8.9	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	6.8	6.7	1.48	0% - 20%
EA029-B: Acidity Trail (QC Lot: 66651)									
EB1512898-001	Anonymous	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EB1512982-008	PC10 0.5C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EA029-C: Sulfur Trail (QC Lot: 66651)									
EB1512898-001	Anonymous	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.03	0.03	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.03	0.03	0.00	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EB1512982-008	PC10 0.5C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.14	0.14	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	1.27	1.30	2.86	0% - 20%
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	1.41	1.44	2.32	0% - 20%
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	791	814	2.86	0% - 20%
EA029-D: Calcium Values (QC Lot: 66651)									
EB1512898-001	Anonymous	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	0.27	0.27	0.00	0% - 50%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.24	0.24	0.00	0% - 50%
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	0.51	0.51	0.00	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-D: Calcium Values (QC Lot: 66651) - continued									
EB1512898-001	Anonymous	EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	0.22	0.22	0.00	0% - 50%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	135	137	1.39	0% - 50%
EB1512982-008	PC10 0.5C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	1.35	1.40	3.20	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.25	0.25	0.00	0% - 50%
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	1.60	1.64	2.40	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	1.08	1.12	3.20	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	674	696	3.20	0% - 20%
EA029-E: Magnesium Values (QC Lot: 66651)									
EB1512898-001	Anonymous	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	<0.02	0.00	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.12	0.11	10.2	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.12	0.11	0.00	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EB1512982-008	PC10 0.5C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.07	0.08	0.00	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.11	0.11	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.18	0.18	0.00	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.09	0.10	0.00	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	58	63	8.78	No Limit
EA029-F: Excess Acid Neutralising Capacity (QC Lot: 66651)									
EB1512898-001	Anonymous	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	1.19	1.06	11.1	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	0.38	0.34	11.1	0% - 50%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	238	212	11.1	0% - 20%
EB1512982-008	PC10 0.5C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	0.31	0.31	0.00	0% - 50%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	0.10	0.10	0.00	No Limit
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	62	62	0.00	No Limit
EA029-H: Acid Base Accounting (QC Lot: 66651)									
EB1512898-001	Anonymous	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EB1512982-008	PC10 0.5C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	0.36	0.37	3.39	0% - 50%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-H: Acid Base Accounting (QC Lot: 66651) - continued									
EB1512982-008	PC10 0.5C	EA029: Liming Rate	----	1	kg CaCO3/t	17	17	0.00	0% - 50%
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	222	230	3.39	0% - 20%
EA037: Ass Field Screening Analysis (QC Lot: 66785)									
EB1512982-002	BH38 0.25 C	EA037: pH (F)	----	0.1	pH Unit	9.0	9.1	1.10	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	6.8	6.8	0.00	0% - 20%

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EA029-A: pH Measurements (QCLot: 66651)								
EA029: pH KCl (23A)	----	0.1	pH Unit	<0.1	4.9 pH Unit	100	70	130
EA029: pH OX (23B)	----	0.1	pH Unit	<0.1	4.4 pH Unit	95.4	70	130
EA029-B: Acidity Trail (QCLot: 66651)								
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	14.32 mole H+ / t	105	70	130
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	68 mole H+ / t	102	70	130
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
EA029-C: Sulfur Trail (QCLot: 66651)								
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.069 % S	92.3	70	130
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	----	----	----
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	0.204 % S	101	70	130
EA029-D: Calcium Values (QCLot: 66651)								
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.02	0.125 % Ca	98.4	70	130
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.02	0.289 % Ca	108	70	130
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.02	----	----	----	----
EA029-E: Magnesium Values (QCLot: 66651)								
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	0.285 % Mg	110	70	130
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	0.285 % Mg	104	70	130
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	----	----	----
EA029-F: Excess Acid Neutralising Capacity (QCLot: 66651)								
EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	<0.02	----	----	----	----
EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	<0.02	----	----	----	----
EA029-H: Acid Base Accounting (QCLot: 66651)								
EA029: ANC Fineness Factor	----	0.5	-	<0.5	----	----	----	----
EA029: Liming Rate	----	1	kg CaCO3/t	<1	----	----	----	----

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EA029-H: Acid Base Accounting (QCLot: 66651) - continued								
EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

QA/QC Compliance Assessment for DQO Reporting

Work Order	: **EB1512982**	Page	: 1 of 4
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Telephone	: +61-7-3243 7222
Project	: GPC Geochemical Investigation	Date Samples Received	: 18-Feb-2015
Site	: ----	Issue Date	: 24-Feb-2015
Sampler	: GEORGINA KERR	No. of samples received	: 12
Order number	: 245553	No. of samples analysed	: 12

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA029-F: Excess Acid Neutralising Capacity							
Snap Lock Bag - frozen on receipt at ALS (EA029)							
BH38 0.5 C, BH38 1.0 C, PC10 1.0C	**16-Feb-2015**	**20-Feb-2015**	16-Feb-2016	✓	**23-Feb-2015**	21-May-2015	✓
EA029-A: pH Measurements							
Snap Lock Bag - frozen on receipt at ALS (EA029)							
PC10 0.0C, PC10 0.5C, ASS DUPLICATE 24, ASS DUPLICATE 25	**16-Feb-2015**	**20-Feb-2015**	16-Feb-2016	✓	**23-Feb-2015**	21-May-2015	✓
EA029-C: Sulfur Trail							
Snap Lock Bag - frozen on receipt at ALS (EA029)							
BH38 01.0 C	**16-Feb-2015**	**20-Feb-2015**	16-Feb-2016	✓	**23-Feb-2015**	21-May-2015	✓
EA037: Ass Field Screening Analysis							
Snap Lock Bag - frozen on receipt at ALS (EA037)							
BH38 0.25 C, BH38 0.75 C, PC10 0.25C, PC10 0.75C	**16-Feb-2015**	**20-Feb-2015**	15-Aug-2015	✓	**24-Feb-2015**	15-Aug-2015	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
ASS Field Screening Analysis	EA037	1	9	**11.11**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	2	14	**14.29**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	14	**7.14**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	14	**7.14**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	SOIL	In house: Referenced to Ahern et al 2004 - a suspension peroxide oxidation method following the 'sulfur trail' by determining the level of 1M KCL extractable sulfur and the sulfur level after oxidation of soil sulphides. The 'acidity trail' is followed by measurement of TAA, TPA and TSA. Liming Rate is based on results for samples as submitted and incorporates a minimum safety factor of 1.5.
ASS Field Screening Analysis	* EA037	SOIL	In house: Referenced to Acid Sulfate Soils Laboratory Methods Guidelines, version 2.1 June 2004. As received samples are tested for pH field and pH fox and assessed for a reaction rating.

Preparation Methods	Method	Matrix	Method Descriptions
Drying only	EN020D	SOIL	In House
Drying at 85 degrees, bagging and labelling (ASS)	EN020PR	SOIL	In house

CHAIN OF CUSTODY

ALS Laboratory: please tick →

ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) **Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround		Received in Good Order? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Temperature upon Receipt: Yes / No / N/A °C
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 7	

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:** / **RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME: / DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		17 February 2015	17 February 2015 1500	18.2.15 1600

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)					ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	**SAMPLE ID**	**DATE / TIME**	**MATRIX**	**TYPE & PRESERVATIVE** *(refer to codes below)*	**TOTAL CONTAINERS**	**Aurecon Suite 1**	**Aurecon Suite 2**	**EP080-SD**	**Dioxins**	**Acid Sulfate Soils: SPOCAS**	**Acid Sulfate Soils: pH**			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	BH12 0.0C	17/02/2015	S	Bag (Green label)	1					1				
2	BH12 0.25C	17/02/2015	S	Bag (Green label)	1						1			
3	BH12 0.5C	17/02/2015	S	Bag (Green label)	1					1				
4	BH12 0.75C	17/02/2015	S	Bag (Green label)	1						1			
5	BH12 1.0C	17/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Pre
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Environmental Division Brisbane
Work Order Reference
EB1513055

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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	Presence / Frozen Ice Bricks present upon Receipt? Yes / No / N/A
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006		Other comments:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:** Georgina Kerr	**RECEIVED BY:** Kelly Schafer
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	DATE/TIME: 17 February 2015	DATE/TIME: 17 February 2015 1500
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		**RELINQUISHED BY:** KSchafer	**RECEIVED BY:**
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 18.2.15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
6	BH16 0.0 C	17/02/2015	S	Bag (Green label)	1					1				
				TOTAL	1					1				

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Environmental

ALS Laboratory: please tick →

☐ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
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☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT **(List due date):**		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) **Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround		Custody seal intact on sample cooler(s) Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice present on receipt Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 (3) 4 5 6 7	Random Sample Temperature on Receipt
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 (5) 6 7	Other comments:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
Georgina Kerr	*Kelly Schafer*	*KSchafer*	
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
17 February 2015	17 February 2015 1500	18.2.15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS – MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
7	BH18 0.0C	17/02/2015	S	Bag (Green label)	1					1				
8	BH18 0.25C	17/02/2015	S	Bag (Green label)	1						1			
9	BH18 0.5C	17/02/2015	S	Bag (Green label)	1					1				
10	BH18 0.75C	17/02/2015	S	Bag (Green label)	1						1			
11	BH18 1.0C	17/02/2015	S	Bag (Green label)	1					1				
12	BH18 1.25C	17/02/2015	S	Bag (Green label)	1						1			
				TOTAL	6					3	3			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice packs present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comments:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:** Georgina Kerr DATE/TIME: 17 February 2015	**RECEIVED BY:** Kelly Schafer DATE/TIME: 17 February 2015 1500
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	**RELINQUISHED BY:** KSchafer DATE/TIME: 18.2.15 1600	**RECEIVED BY:** DATE/TIME:
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH				Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
13	BH19 0.0C	17/02/2015	S	Bag (Green label)	1					1					
				TOTAL	1					1					

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 (5) 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 (5) 6 7	Other comment:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 17 February 2015	DATE/TIME: 17 February 2015 1500
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		**RELINQUISHED BY:** KSchafer	**RECEIVED BY:**
		DATE/TIME: 18-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
14	ASS DUPLICATE 26	17/02/2015	S	Bag (Green label)	1					1				
				TOTAL	1					1				

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CERTIFICATE OF ANALYSIS

Work Order	: **EB1513055**	Page	: 1 of 8
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: sally.leyland@aurecongroup.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61-7-3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553	Date Samples Received	: 19-Feb-2015 08:30
C-O-C number	: ----	Date Analysis Commenced	: 20-Feb-2015
Sampler	: GEORGINA KERR	Issue Date	: 26-Feb-2015 16:49
Site	: ----		
		No. of samples received	: 14
Quote number	: ----	No. of samples analysed	: 14

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.

- ASS: EA029 (SPOCAS): Retained Acidity not required because pH KCl greater than or equal to 4.5
- ASS: EA037 (Rapid Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme
- EA037 ASS Field Screening: NATA accreditation does not cover performance of this service.
- ASS: EA029 (SPOCAS): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO3) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from kg/t dry weight to kg/m3 in-situ soil, multiply reported results x wet bulk density of soil in t/m3.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH12 0.0C	BH12 0.25C	BH12 0.5C	BH12 0.75C	BH12 1.0C
			Client sampling date / time	[17-Feb-2015]	[17-Feb-2015]	[17-Feb-2015]	[17-Feb-2015]	[17-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513055-001	EB1513055-002	EB1513055-003	EB1513055-004	EB1513055-005
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	9.6	----	9.0	----	7.8
pH OX (23B)	----	0.1	pH Unit	9.4	----	8.3	----	7.3
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.03	----	0.09	----	0.05
Peroxide Sulfur (23De)	----	0.02	% S	0.08	----	0.30	----	0.06
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.04	----	0.20	----	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	27	----	127	----	12
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.15	----	0.21	----	0.11
Peroxide Calcium (23Wh)	----	0.02	% Ca	6.41	----	0.73	----	0.14
Acid Reacted Calcium (23X)	----	0.02	% Ca	6.26	----	0.51	----	0.03
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	3120	----	256	----	15
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	5.01	----	0.41	----	0.02
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.03	----	0.09	----	0.14
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.14	----	0.16	----	0.18
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.10	----	0.07	----	0.04
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	85	----	61	----	36
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.14	----	0.10	----	0.06
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	15.3	----	1.26	----	0.36
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	3060	----	251	----	73
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	4.90	----	0.40	----	0.12

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH12 0.0C	BH12 0.25C	BH12 0.5C	BH12 0.75C	BH12 1.0C
				Client sampling date / time	[17-Feb-2015]	[17-Feb-2015]	[17-Feb-2015]	[17-Feb-2015]	[17-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513055-001	EB1513055-002	EB1513055-003	EB1513055-004	EB1513055-005
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**9.0**	**----**	**9.1**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**6.9**	**----**	**5.6**	**----**
ø **Reaction Rate**	----	1	-		**----**	**3**	**----**	**3**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH16 0.0 C	BH18 0.0C	BH18 0.25C	BH18 0.5C	BH18 0.75C
			Client sampling date / time	[17-Feb-2015]	[17-Feb-2015]	[17-Feb-2015]	[17-Feb-2015]	[17-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513055-006	EB1513055-007	EB1513055-008	EB1513055-009	EB1513055-010
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	9.5	9.5	----	9.5	----
pH OX (23B)	----	0.1	pH Unit	8.9	9.4	----	9.2	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	----	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	----	<2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	----	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	----	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	----	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	----	<0.02	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.03	0.04	----	0.04	----
Peroxide Sulfur (23De)	----	0.02	% S	0.08	0.06	----	0.06	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.05	<0.02	----	<0.02	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	31	10	----	11	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.13	0.17	----	0.18	----
Peroxide Calcium (23Wh)	----	0.02	% Ca	6.80	4.00	----	3.56	----
Acid Reacted Calcium (23X)	----	0.02	% Ca	6.66	3.84	----	3.38	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	3330	1910	----	1680	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	5.33	3.07	----	2.70	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.03	0.04	----	0.03	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.13	0.11	----	0.09	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.10	0.07	----	0.06	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	85	58	----	51	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.14	0.09	----	0.08	----
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	17.6	10.3	----	10.2	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	3520	2060	----	2030	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	5.64	3.30	----	3.26	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH16 0.0 C	BH18 0.0C	BH18 0.25C	BH18 0.5C	BH18 0.75C
				Client sampling date / time	[17-Feb-2015]	[17-Feb-2015]	[17-Feb-2015]	[17-Feb-2015]	[17-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513055-006	EB1513055-007	EB1513055-008	EB1513055-009	EB1513055-010
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**1.5**	**----**	**1.5**	**----**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	<0.02	**----**	<0.02	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	<10	**----**	<10	**----**
Liming Rate	----	1	kg CaCO3/t		<1	<1	**----**	<1	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**----**	**9.0**	**----**	**8.5**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**----**	**6.8**	**----**	**6.7**
ø **Reaction Rate**	----	1	-		**----**	**----**	**3**	**----**	**3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH18 1.0C	BH18 1.25C	BH19 0.0C	ASS DUPLICATE 26	----
				Client sampling date / time	[17-Feb-2015]	[17-Feb-2015]	[17-Feb-2015]	[17-Feb-2015]	----
Compound	CAS Number	LOR	Unit		EB1513055-011	EB1513055-012	EB1513055-013	EB1513055-014	--------
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		9.5	----	9.5	9.1	----
pH OX (23B)	----	0.1	pH Unit		7.2	----	9.2	8.6	----
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		<2	----	<2	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		<2	----	<2	<2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		<2	----	<2	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		<0.02	----	<0.02	<0.02	----
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		0.03	----	0.03	0.07	----
Peroxide Sulfur (23De)	----	0.02	% S		0.03	----	0.06	0.18	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		<0.02	----	0.03	0.11	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		<10	----	19	69	----
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		0.12	----	0.16	0.18	----
Peroxide Calcium (23Wh)	----	0.02	% Ca		0.16	----	2.89	0.66	----
Acid Reacted Calcium (23X)	----	0.02	% Ca		0.03	----	2.74	0.48	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		16	----	1360	238	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		0.02	----	2.19	0.38	----
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		0.03	----	0.03	0.06	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg		0.05	----	0.06	0.11	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg		<0.02	----	0.03	0.04	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		14	----	23	37	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		0.02	----	0.04	0.06	----
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		0.20	----	6.29	1.16	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		40	----	1260	232	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		0.06	----	2.01	0.37	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH18 1.0C	BH18 1.25C	BH19 0.0C	ASS DUPLICATE 26	----
				Client sampling date / time	[17-Feb-2015]	[17-Feb-2015]	[17-Feb-2015]	[17-Feb-2015]	----
Compound	CAS Number	LOR	Unit		EB1513055-011	EB1513055-012	EB1513055-013	EB1513055-014	--------
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**1.5**	**----**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	<0.02	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	<10	**----**
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	<1	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.1**	**----**	**----**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**5.6**	**----**	**----**	**----**
ø **Reaction Rate**	----	1	-		**----**	**2**	**----**	**----**	**----**

QUALITY CONTROL REPORT

Work Order	: **EB1513055**	Page	: 1 of 6
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: sally.leyland@aurecongroup.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61-7-3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553	Date Samples Received	: 19-Feb-2015
C-O-C number	: ----	Date Analysis Commenced	: 20-Feb-2015
Sampler	: GEORGINA KERR	Issue Date	: 26-Feb-2015
Site	: ----	No. of samples received	: 14
Quote number	: ----	No. of samples analysed	: 14

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out ir compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key :
Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-A: pH Measurements (QC Lot: 67753)									
EB1513055-001	BH12 0.0C	EA029: pH KCl (23A)	----	0.1	pH Unit	9.6	9.6	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	9.4	9.4	0.00	0% - 20%
EA029-B: Acidity Trail (QC Lot: 67753)									
EB1513055-001	BH12 0.0C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EA029-C: Sulfur Trail (QC Lot: 67753)									
EB1513055-001	BH12 0.0C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.03	0.03	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.04	0.04	0.00	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.08	0.07	0.00	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	27	23	15.7	No Limit
EA029-D: Calcium Values (QC Lot: 67753)									
EB1513055-001	BH12 0.0C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	6.26	5.94	5.30	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.15	0.16	0.00	No Limit
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	6.41	6.09	5.07	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	5.01	4.75	5.30	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	3120	2960	5.30	0% - 20%
EA029-E: Magnesium Values (QC Lot: 67753)									
EB1513055-001	BH12 0.0C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.10	0.10	0.00	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.03	0.03	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.14	0.14	0.00	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.14	0.14	0.00	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	85	87	1.49	No Limit
EA029-F: Excess Acid Neutralising Capacity (QC Lot: 67753)									
EB1513055-001	BH12 0.0C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	15.3	15.4	0.408	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	4.90	4.92	0.408	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-F: Excess Acid Neutralising Capacity (QC Lot: 67753) - continued									
EB1513055-001	BH12 0.0C	EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	3060	3070	0.408	0% - 20%
EA029-H: Acid Base Accounting (QC Lot: 67753)									
EB1513055-001	BH12 0.0C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA037: Ass Field Screening Analysis (QC Lot: 66785)									
EB1512982-002	Anonymous	EA037: pH (F)	----	0.1	pH Unit	9.0	9.1	1.10	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	6.8	6.8	0.00	0% - 20%

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EA029-A: pH Measurements (QCLot: 67753)								
EA029: pH KCl (23A)	----	0.1	pH Unit	<0.1	4.9 pH Unit	100	70	130
EA029: pH OX (23B)	----	0.1	pH Unit	<0.1	4.4 pH Unit	90.9	70	130
EA029-B: Acidity Trail (QCLot: 67753)								
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	14.32 mole H+ / t	110	70	130
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	68 mole H+ / t	106	70	130
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
EA029-C: Sulfur Trail (QCLot: 67753)								
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.069 % S	92.9	70	130
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	----	----	----
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	0.204 % S	97.0	70	130
EA029-D: Calcium Values (QCLot: 67753)								
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.02	0.125 % Ca	97.8	70	130
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.02	0.289 % Ca	105	70	130
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.02	----	----	----	----
EA029-E: Magnesium Values (QCLot: 67753)								
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	0.285 % Mg	114	70	130
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	0.285 % Mg	101	70	130
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	----	----	----
EA029-F: Excess Acid Neutralising Capacity (QCLot: 67753)								
EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	<0.02	----	----	----	----
EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	<0.02	----	----	----	----
EA029-H: Acid Base Accounting (QCLot: 67753)								
EA029: ANC Fineness Factor	----	0.5	-	<0.5	----	----	----	----
EA029: Liming Rate	----	1	kg CaCO3/t	<1	----	----	----	----

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EA029-H: Acid Base Accounting (QCLot: 67753) - continued								
EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

QA/QC Compliance Assessment for DQO Reporting

Work Order	: **EB1513055**	Page	: 1 of 4
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Telephone	: +61-7-3243 7222
Project	: GPC Geochemical Investigation	Date Samples Received	: 19-Feb-2015
Site	: ----	Issue Date	: 26-Feb-2015
Sampler	: GEORGINA KERR	No. of samples received	: 14
Order number	: 245553	No. of samples analysed	: 14

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA029-H: Acid Base Accounting							
Snap Lock Bag - frozen on receipt at ALS (EA029)							
BH12 0.0C, BH12 0.5C	**17-Feb-2015**	**25-Feb-2015**	17-Feb-2016	✓	**26-Feb-2015**	26-May-2015	✓
EA029-F: Excess Acid Neutralising Capacity							
Snap Lock Bag - frozen on receipt at ALS (EA029)							
BH12 1.0C, BH18 0.5C	**17-Feb-2015**	**25-Feb-2015**	17-Feb-2016	✓	**26-Feb-2015**	26-May-2015	✓
EA029-A: pH Measurements							
Snap Lock Bag - frozen on receipt at ALS (EA029)							
BH16 0.0 C, BH18 0.0C, BH18 1.0C, BH19 0.0C, ASS DUPLICATE 26	**17-Feb-2015**	**25-Feb-2015**	17-Feb-2016	✓	**26-Feb-2015**	26-May-2015	✓
EA037: Ass Field Screening Analysis							
Snap Lock Bag - frozen on receipt at ALS (EA037)							
BH12 0.25C, BH12 0.75C, BH18 0.25C, BH18 0.75C, BH18 1.25C	**17-Feb-2015**	**20-Feb-2015**	16-Aug-2015	✓	**24-Feb-2015**	16-Aug-2015	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
ASS Field Screening Analysis	EA037	1	9	**11.11**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	9	**11.11**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	9	**11.11**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	9	**11.11**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	SOIL	In house: Referenced to Ahern et al 2004 - a suspension peroxide oxidation method following the 'sulfur trail' by determining the level of 1M KCL extractable sulfur and the sulfur level after oxidation of soil sulphides. The 'acidity trail' is followed by measurement of TAA, TPA and TSA. Liming Rate is based on results for samples as submitted and incorporates a minimum safety factor of 1.5.
ASS Field Screening Analysis	* EA037	SOIL	In house: Referenced to Acid Sulfate Soils Laboratory Methods Guidelines, version 2.1 June 2004. As received samples are tested for pH field and pH fox and assessed for a reaction rating.

Preparation Methods	Method	Matrix	Method Descriptions
Drying only	EN020D	SOIL	In House
Drying at 85 degrees, bagging and labelling (ASS)	EN020PR	SOIL	In house

ALS Environmental

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: (1) 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Other comment:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer	KSchafer	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		22-Feb-15	22-Feb-15 1845	23.2.15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	EB8 0.0 C	22/02/2015	S	Bag (Green label)	1					1				
2	EB8 0.25 C	22/02/2015	S	Bag (Green label)	1						1			
3	EB8 0.5 C	22/02/2015	S	Bag (Green label)	1					1				
4	EB8 0.75 C	22/02/2015	S	Bag (Green label)	1						1			
5	EB8 1.0 C	22/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Environmental Division
Brisbane
Work Order Reference
EB1513340



Telephone : +61-7-3243 7222

ENVIRONMENTAL

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 22-Feb-15	DATE/TIME: 22-Feb-15 1845
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 23.2.15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
6	EB10 0.0 C	22/02/2015	S	Bag (Green label)	1					1				
7	EB10 0.25 C	22/02/2015	S	Bag (Green label)	1						1			
8	EB10 0.5 C	22/02/2015	S	Bag (Green label)	1					1				
9	EB10 0.75 C	22/02/2015	S	Bag (Green label)	1						1			
10	EB10 1.0 C	22/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2	#REF!	#REF!	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround		Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free Ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 (3) 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Other comment:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		22-Feb-15	22-Feb-15 1845	23.2.15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
11	EB13 0.0C	22/02/2015	S	Bag (Green label)	1					1				
12	EB13 0.25C	22/02/2015	S	Bag (Green label)	1						1			
13	EB13 0.5C	22/02/2015	S	Bag (Green label)	1					1				
				TOTAL	3					2	1			

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround		Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 (4) 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Other comment:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		22-Feb-15	22-Feb-15 1845	23.2.15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
14	EB18 0.0 C	22/02/2015	S	Bag (Green label)	1					1				
15	EB18 0.25C	22/02/2015	S	Bag (Green label)	1						1			
16	EB18 0.5C	22/02/2015	S	Bag (Green label)	1					1				
17	EB18 0.75C	22/02/2015	S	Bag (Green label)	1						1			
				TOTAL	4					2	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 (5) 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Other comment:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		22-Feb-15	22-Feb-15 1845

RELINQUISHED BY: KS	RECEIVED BY:	
DATE/TIME: 23.2.15 1600	DATE/TIME:	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
18	EB19 0.0 C	22/02/2015	S	Bag (Green label)	1					1				
19	EB19 0.25C	22/02/2015	S	Bag (Green label)	1						1			
20	EB19 0.5C	22/02/2015	S	Bag (Green label)	1					1				
21	EB19 0.75C	22/02/2015	S	Bag (Green label)	1						1			
~~—~~	~~EB19 1.0 C~~	~~22/02/2015~~	~~S~~	~~Bag (Green label)~~	~~1~~					~~1~~				
				TOTAL	5					3	2			

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround		Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free Ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 (6) 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		22-Feb-15	22-Feb-15 1845

RELINQUISHED BY:	RECEIVED BY:
KS	
DATE/TIME: 23.2.15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
22	EB20 0.0 C	22/02/2015	S	Bag (Green label)	1					1				
23	EB20 0.25 C	22/02/2015	S	Bag (Green label)	1						1			
24	EB20 0.5 C	22/02/2015	S	Bag (Green label)	1					1				
				TOTAL	3					2	1	#REF!	#REF!	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free Ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comment:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		22-Feb-15	22-Feb-15 1845	23.2.15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
25	EB21 0.0 C	22/02/2015	S	Bag (Green label)	1					1				
26	EB21 0.25 C	22/02/2015	S	Bag (Green label)	1						1			
27	EB21 0.5 C	22/02/2015	S	Bag (Green label)	1					1				
28	EB21 0.75 C	22/02/2015	S	Bag (Green label)	1						1			
29	EB21 1.0C	22/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free Ice / frozen ice bricks present upon receipt?	Yes No N/A
ORDER NUMBER: 245553	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6	Random Sample Temperature on Receipt:	°C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6	Other comment:	

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		22-Feb-15	22-Feb-15 1845	23.2.15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required)								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
30	EB23 0.0 C	22/02/2015	S	Bag (Green label)	1					1				
31	EB23 0.25 C	22/02/2015	S	Bag (Green label)	1						1			
32	EB23 0.5 C	22/02/2015	S	Bag (Green label)	1					1				
				TOTAL	3					2	1			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround		Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free Ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (9)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (M)	Other comment:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*	KS	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		22-Feb-15	22-Feb-15 1815	23·2·15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
33	EB24 0.0 C	22/02/2015	S	Bag (Green label)	1					1				
34	EB24 0.25 C	22/02/2015	S	Bag (Green label)	1						1			
35	EB24 0.5 C	22/02/2015	S	Bag (Green label)	1					1				
36	EB24 0.75 C	22/02/2015	S	Bag (Green label)	1						1			
37	EB24 1.0 C	22/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 10	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 14	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 22-Feb-15	DATE/TIME: 22-Feb-15 1845
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: KS	RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 23.2.15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required)								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
38	EB25 0.0 C	22/02/2015	S	Bag (Green label)	1					1				
39	EB25 0.25 C	22/02/2015	S	Bag (Green label)	1						1			
40	EB25 0.5 C	22/02/2015	S	Bag (Green label)	1					1				
				TOTAL	3					2	1			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

| | | |

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS: ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround		Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (12)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Other comment:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		22-Feb-15	22-Feb-15 1805	23.2.15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
44	EB30 0.0 C	22/02/2015	S	Bag (Green label)	1					1				
45	EB30 0.25 C	22/02/2015	S	Bag (Green label)	1						1			
46	EB30 0.5 C	22/02/2015	S	Bag (Green label)	1					1				
47	EB30 0.75 C	22/02/2015	S	Bag (Green label)	1						1			
				TOTAL	4					2	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS: ☐ Standard TAT (List due date): (Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround		FOR LABORATORY USE ONLY (Circle) Custody Seal Intact? Yes No N/A; Free ice / frozen ice bricks present upon receipt? Yes No N/A; Random Sample Temperature on Receipt: °C; Other comment:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (3); OF: 1 2 3 4 5 6 (4)	
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr DATE/TIME: 22-Feb-15	RECEIVED BY: Kelly Schafer DATE/TIME: 22-Feb-15 1845
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:		RELINQUISHED BY: DATE/TIME: 23-2-15 1600	RECEIVED BY: DATE/TIME:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION	ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
48	EB35 0.0 C	22/02/2015	S	Bag (Green label)	1					1				
49	EB35 0.25 C	22/02/2015	S	Bag (Green label)	1						1			
50	EB35 0.5 C	22/02/2015	S	Bag (Green label)	1					1				
51	EB35 0.75 C	22/02/2015	S	Bag (Green label)	1						1			
52	EB35 1.0 C	22/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (14)	Random Sample Temperature on Receipt: C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Other comment:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer	RECEIVED BY:
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		22-Feb-15	22-Feb-15 1845	23.2.15 1600 DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
53	ASS DUPLICATE 27	22/02/2015	S	Bag (Green label)	1					1				
54	ASS DUPLICATE 28	22/02/2015	S	Bag (Green label)	1					1				
55	ASS DUPLICATE 29	22/02/2015	S	Bag (Green label)	1					1				
56	ASS DUPLICATE 30	22/02/2015	S	Bag (Green label)	1					1				
				TOTAL	4					4				

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CERTIFICATE OF ANALYSIS

Work Order	: **EB1513340**	Page	: 1 of 26
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: sally.leyland@aurecongroup.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61-7-3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553	Date Samples Received	: 24-Feb-2015 08:05
C-O-C number	: ----	Date Analysis Commenced	: 26-Feb-2015
Sampler	: GEORGINA KERR	Issue Date	: 03-Mar-2015 16:42
Site	: ----		
		No. of samples received	: 56
Quote number	: ----	No. of samples analysed	: 56

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.

- ASS: EA029 (SPOCAS): Retained Acidity not required because pH KCl greater than or equal to 4.5
- ASS: EA037 (Rapid Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme
- EA037 ASS Field Screening: NATA accreditation does not cover performance of this service.
- ASS: EA029 (SPOCAS): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime ($CaCO_3$) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from kg/t dry weight to kg/m3 in-situ soil, multiply reported results x wet bulk density of soil in t/m3.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB8 0.0 C	EB8 0.25 C	EB8 0.5 C	EB8 0.75 C	EB8 1.0 C
			Client sampling date / time	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513340-001	EB1513340-002	EB1513340-003	EB1513340-004	EB1513340-005
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	**9.4**	----	**9.4**	----	**9.3**
pH OX (23B)	----	0.1	pH Unit	**9.0**	----	**8.1**	----	**7.7**
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	**0.06**	----	**0.03**	----	**0.02**
Peroxide Sulfur (23De)	----	0.02	% S	**0.16**	----	**0.05**	----	**0.03**
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	**0.10**	----	**0.02**	----	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	**60**	----	**15**	----	<10
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	**0.19**	----	**0.12**	----	**0.14**
Peroxide Calcium (23Wh)	----	0.02	% Ca	**4.32**	----	**0.30**	----	**0.25**
Acid Reacted Calcium (23X)	----	0.02	% Ca	**4.13**	----	**0.17**	----	**0.11**
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	**2060**	----	**87**	----	**53**
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	**3.30**	----	**0.14**	----	**0.08**
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	**0.06**	----	**0.04**	----	**0.06**
Peroxide Magnesium (23Tm)	----	0.02	% Mg	**0.24**	----	**0.10**	----	**0.08**
Acid Reacted Magnesium (23U)	----	0.02	% Mg	**0.18**	----	**0.06**	----	**0.02**
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	**148**	----	**52**	----	**19**
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	**0.24**	----	**0.08**	----	**0.03**
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	**10.6**	----	**0.98**	----	**0.58**
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	**2120**	----	**196**	----	**116**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	**3.40**	----	**0.31**	----	**0.18**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB8 0.0 C	EB8 0.25 C	EB8 0.5 C	EB8 0.75 C	EB8 1.0 C
				Client sampling date / time	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513340-001	EB1513340-002	EB1513340-003	EB1513340-004	EB1513340-005
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**9.4**	**----**	**8.6**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**6.8**	**----**	**5.8**	**----**
ø **Reaction Rate**	----	1	-		**----**	**3**	**----**	**1**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB10 0.0 C	EB10 0.25 C	EB10 0.5 C	EB10 0.75 C	EB10 1.0 C
			Client sampling date / time	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513340-006	EB1513340-007	EB1513340-008	EB1513340-009	EB1513340-010
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	9.4	----	9.5	----	9.1
pH OX (23B)	----	0.1	pH Unit	9.2	----	9.3	----	9.3
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.05	----	0.04	----	0.03
Peroxide Sulfur (23De)	----	0.02	% S	0.15	----	0.16	----	0.08
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.10	----	0.12	----	0.05
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	62	----	72	----	34
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.19	----	0.18	----	0.21
Peroxide Calcium (23Wh)	----	0.02	% Ca	8.18	----	13.9	----	4.38
Acid Reacted Calcium (23X)	----	0.02	% Ca	7.99	----	13.8	----	4.17
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	3990	----	6860	----	2080
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	6.39	----	11.0	----	3.34
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.06	----	0.05	----	0.09
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.30	----	0.51	----	0.33
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.24	----	0.46	----	0.24
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	196	----	381	----	196
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.31	----	0.61	----	0.32
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	18.8	----	34.2	----	12.0
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	3750	----	6840	----	2400
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	6.01	----	11.0	----	3.85

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB10 0.0 C	EB10 0.25 C	EB10 0.5 C	EB10 0.75 C	EB10 1.0 C
				Client sampling date / time	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513340-006	EB1513340-007	EB1513340-008	EB1513340-009	EB1513340-010
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**9.0**	**----**	**9.0**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**6.5**	**----**	**6.6**	**----**
ø **Reaction Rate**	----	1	-		**----**	**2**	**----**	**2**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB13 0.0C	EB13 0.25C	EB13 0.5C	EB18 0.0 C	EB18 0.25C
			Client sampling date / time	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513340-011	EB1513340-012	EB1513340-013	EB1513340-014	EB1513340-015
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	9.3	----	9.0	9.5	----
pH OX (23B)	----	0.1	pH Unit	8.7	----	9.5	9.1	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	<2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	<0.02	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.06	----	0.03	0.04	----
Peroxide Sulfur (23De)	----	0.02	% S	0.18	----	0.05	0.10	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.11	----	<0.02	0.05	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	72	----	<10	33	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.20	----	0.20	0.18	----
Peroxide Calcium (23Wh)	----	0.02	% Ca	4.61	----	1.84	3.50	----
Acid Reacted Calcium (23X)	----	0.02	% Ca	4.40	----	1.64	3.32	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	2200	----	819	1660	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	3.52	----	1.31	2.66	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.07	----	0.12	0.05	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.31	----	0.24	0.18	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.23	----	0.12	0.12	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	192	----	101	102	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.31	----	0.16	0.16	----
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	12.1	----	4.99	9.27	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	2420	----	996	1850	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	3.88	----	1.60	2.97	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB13 0.0C	EB13 0.25C	EB13 0.5C	EB18 0.0 C	EB18 0.25C
				Client sampling date / time	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513340-011	EB1513340-012	EB1513340-013	EB1513340-014	EB1513340-015
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**1.5**	**----**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	<0.02	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	<10	**----**
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	<1	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**9.4**	**----**	**----**	**9.1**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**6.8**	**----**	**----**	**6.6**
ø **Reaction Rate**	----	1	-		**----**	**2**	**----**	**----**	**3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB18 0.5C	EB18 0.75C	EB19 0.0 C	EB19 0.25C	EB19 0.5C
			Client sampling date / time	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513340-016	EB1513340-017	EB1513340-018	EB1513340-019	EB1513340-020
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	9.3	----	9.3	----	9.4
pH OX (23B)	----	0.1	pH Unit	9.0	----	8.7	----	8.9
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.06	----	0.07	----	0.06
Peroxide Sulfur (23De)	----	0.02	% S	0.20	----	0.20	----	0.16
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.14	----	0.13	----	0.11
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	89	----	83	----	66
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.19	----	0.20	----	0.19
Peroxide Calcium (23Wh)	----	0.02	% Ca	4.55	----	4.36	----	6.54
Acid Reacted Calcium (23X)	----	0.02	% Ca	4.37	----	4.16	----	6.36
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	2180	----	2080	----	3170
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	3.49	----	3.33	----	5.08
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.06	----	0.07	----	0.05
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.20	----	0.27	----	0.30
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.13	----	0.21	----	0.25
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	110	----	172	----	203
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.18	----	0.28	----	0.32
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	11.4	----	10.6	----	3.54
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	2280	----	2120	----	708
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	3.64	----	3.40	----	1.13

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB18 0.5C	EB18 0.75C	EB19 0.0 C	EB19 0.25C	EB19 0.5C
				Client sampling date / time	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513340-016	EB1513340-017	EB1513340-018	EB1513340-019	EB1513340-020
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.7**	**----**	**9.1**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**6.3**	**----**	**6.4**	**----**
ø **Reaction Rate**	----	1	-		**----**	**2**	**----**	**2**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB19 0.75C	EB20 0.0 C	EB20 0.25 C	EB20 0.5 C	EB21 0.0 C
			Client sampling date / time	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513340-021	EB1513340-022	EB1513340-023	EB1513340-024	EB1513340-025
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	----	9.3	----	9.0	9.7
pH OX (23B)	----	0.1	pH Unit	----	9.0	----	9.2	10.1
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	----	<2	----	<2	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	----	<2	----	<2	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	----	<2	----	<2	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	----	<0.02	----	<0.02	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	----	<0.02	----	<0.02	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	----	<0.02	----	<0.02	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	----	0.05	----	0.03	0.02
Peroxide Sulfur (23De)	----	0.02	% S	----	0.12	----	0.04	0.05
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	----	0.07	----	<0.02	0.03
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	----	41	----	<10	16
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	----	0.19	----	0.21	0.15
Peroxide Calcium (23Wh)	----	0.02	% Ca	----	3.52	----	0.87	4.72
Acid Reacted Calcium (23X)	----	0.02	% Ca	----	3.33	----	0.66	4.57
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	----	1660	----	332	2280
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	----	2.66	----	0.53	3.66
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	----	0.08	----	0.11	0.03
Peroxide Magnesium (23Tm)	----	0.02	% Mg	----	0.23	----	0.18	0.22
Acid Reacted Magnesium (23U)	----	0.02	% Mg	----	0.15	----	0.07	0.18
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	----	125	----	58	150
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	----	0.20	----	0.09	0.24
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	----	9.38	----	3.56	12.4
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	----	1880	----	710	2480
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	----	3.00	----	1.14	3.96

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB19 0.75C	EB20 0.0 C	EB20 0.25 C	EB20 0.5 C	EB21 0.0 C
				Client sampling date / time	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513340-021	EB1513340-022	EB1513340-023	EB1513340-024	EB1513340-025
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**----**	**1.5**	**----**	**1.5**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		**----**	<0.02	**----**	<0.02	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		**----**	<10	**----**	<10	<10
Liming Rate	----	1	kg CaCO3/t		**----**	<1	**----**	<1	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**8.4**	**----**	**9.1**	**----**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**6.1**	**----**	**6.7**	**----**	**----**
ø **Reaction Rate**	----	1	-		**1**	**----**	**3**	**----**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB21 0.25 C	EB21 0.5 C	EB21 0.75 C	EB21 1.0C	EB23 0.0 C
			Client sampling date / time	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513340-026	EB1513340-027	EB1513340-028	EB1513340-029	EB1513340-030
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	----	9.6	----	9.7	9.6
pH OX (23B)	----	0.1	pH Unit	----	9.4	----	9.3	9.2
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	----	<2	----	<2	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	----	<2	----	<2	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	----	<2	----	<2	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	----	<0.02	----	<0.02	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	----	<0.02	----	<0.02	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	----	<0.02	----	<0.02	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	----	0.02	----	0.04	0.04
Peroxide Sulfur (23De)	----	0.02	% S	----	0.06	----	0.08	0.10
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	----	0.04	----	0.04	0.06
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	----	23	----	26	39
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	----	0.15	----	0.16	0.16
Peroxide Calcium (23Wh)	----	0.02	% Ca	----	4.84	----	5.08	4.75
Acid Reacted Calcium (23X)	----	0.02	% Ca	----	4.69	----	4.92	4.58
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	----	2340	----	2450	2290
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	----	3.75	----	3.93	3.67
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	----	0.04	----	0.04	0.05
Peroxide Magnesium (23Tm)	----	0.02	% Mg	----	0.21	----	0.19	0.20
Acid Reacted Magnesium (23U)	----	0.02	% Mg	----	0.18	----	0.15	0.16
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	----	146	----	124	128
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	----	0.23	----	0.20	0.20
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	----	13.5	----	12.8	12.0
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	----	2700	----	2560	2400
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	----	4.32	----	4.10	3.84

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB21 0.25 C	EB21 0.5 C	EB21 0.75 C	EB21 1.0C	EB23 0.0 C
				Client sampling date / time	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513340-026	EB1513340-027	EB1513340-028	EB1513340-029	EB1513340-030
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**----**	**1.5**	**----**	**1.5**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		**----**	<0.02	**----**	<0.02	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		**----**	<10	**----**	<10	<10
Liming Rate	----	1	kg CaCO3/t		**----**	<1	**----**	<1	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**8.8**	**----**	**9.0**	**----**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**6.4**	**----**	**6.5**	**----**	**----**
ø **Reaction Rate**	----	1	-		**2**	**----**	**2**	**----**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB23 0.25 C	EB23 0.5 C	EB24 0.0 C	EB24 0.25 C	EB24 0.5 C
			Client sampling date / time	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513340-031	EB1513340-032	EB1513340-033	EB1513340-034	EB1513340-035
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	----	8.9	9.7	----	9.5
pH OX (23B)	----	0.1	pH Unit	----	8.7	10.2	----	8.9
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	----	<2	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	----	<2	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	----	<2	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	----	0.03	<0.02	----	0.05
Peroxide Sulfur (23De)	----	0.02	% S	----	0.04	0.04	----	0.14
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	----	<0.02	<0.02	----	0.09
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	----	<10	12	----	55
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	----	0.21	0.14	----	0.18
Peroxide Calcium (23Wh)	----	0.02	% Ca	----	0.70	2.34	----	3.40
Acid Reacted Calcium (23X)	----	0.02	% Ca	----	0.49	2.20	----	3.22
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	----	246	1100	----	1610
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	----	0.39	1.76	----	2.58
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	----	0.14	0.03	----	0.05
Peroxide Magnesium (23Tm)	----	0.02	% Mg	----	0.20	0.12	----	0.23
Acid Reacted Magnesium (23U)	----	0.02	% Mg	----	0.06	0.10	----	0.18
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	----	53	79	----	150
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	----	0.08	0.13	----	0.24
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	----	2.00	5.76	----	8.51
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	----	399	1150	----	1700
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	----	0.64	1.84	----	2.72

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB23 0.25 C	EB23 0.5 C	EB24 0.0 C	EB24 0.25 C	EB24 0.5 C
				Client sampling date / time	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513340-031	EB1513340-032	EB1513340-033	EB1513340-034	EB1513340-035
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**----**	**1.5**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		**----**	<0.02	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		**----**	<10	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		**----**	<1	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**10.0**	**----**	**----**	**9.0**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**6.9**	**----**	**----**	**6.4**	**----**
ø **Reaction Rate**	----	1	-		**3**	**----**	**----**	**2**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB24 0.75 C	EB24 1.0 C	EB25 0.0 C	EB25 0.25 C	EB25 0.5 C
			Client sampling date / time	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513340-036	EB1513340-037	EB1513340-038	EB1513340-039	EB1513340-040
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	----	9.1	9.5	----	9.1
pH OX (23B)	----	0.1	pH Unit	----	8.8	9.7	----	9.0
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	----	<2	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	----	<2	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	----	<2	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	----	0.04	0.04	----	0.02
Peroxide Sulfur (23De)	----	0.02	% S	----	0.06	0.10	----	0.04
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	----	0.03	0.07	----	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	----	18	42	----	<10
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	----	0.20	0.16	----	0.19
Peroxide Calcium (23Wh)	----	0.02	% Ca	----	1.07	5.27	----	0.87
Acid Reacted Calcium (23X)	----	0.02	% Ca	----	0.87	5.11	----	0.69
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	----	436	2550	----	343
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	----	0.70	4.09	----	0.55
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	----	0.11	0.04	----	0.10
Peroxide Magnesium (23Tm)	----	0.02	% Mg	----	0.19	0.30	----	0.16
Acid Reacted Magnesium (23U)	----	0.02	% Mg	----	0.08	0.25	----	0.06
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	----	69	206	----	48
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	----	0.11	0.33	----	0.08
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	----	2.83	13.6	----	2.44
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	----	565	2720	----	488
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	----	0.90	4.36	----	0.78

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB24 0.75 C	EB24 1.0 C	EB25 0.0 C	EB25 0.25 C	EB25 0.5 C
				Client sampling date / time	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513340-036	EB1513340-037	EB1513340-038	EB1513340-039	EB1513340-040
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**----**	**1.5**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		**----**	<0.02	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		**----**	<10	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		**----**	<1	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**9.3**	**----**	**----**	**9.0**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**6.6**	**----**	**----**	**6.5**	**----**
ø **Reaction Rate**	----	1	-		**3**	**----**	**----**	**2**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB29 0.0 C	EB29 0.25 C	EB29 0.5 C	EB30 0.0 C	EB30 0.25 C
			Client sampling date / time	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513340-041	EB1513340-042	EB1513340-043	EB1513340-044	EB1513340-045
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	9.4	----	8.7	9.4	----
pH OX (23B)	----	0.1	pH Unit	9.1	----	8.8	9.0	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	<2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	<0.02	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.05	----	0.03	0.05	----
Peroxide Sulfur (23De)	----	0.02	% S	0.13	----	0.03	0.14	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.08	----	<0.02	0.09	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	49	----	<10	58	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.19	----	0.16	0.18	----
Peroxide Calcium (23Wh)	----	0.02	% Ca	4.21	----	0.20	3.58	----
Acid Reacted Calcium (23X)	----	0.02	% Ca	4.02	----	0.04	3.40	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	2000	----	23	1700	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	3.22	----	0.04	2.72	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.06	----	0.11	0.06	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.22	----	0.15	0.22	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.17	----	0.04	0.16	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	139	----	36	133	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.22	----	0.06	0.21	----
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	11.0	----	0.90	8.88	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	2200	----	180	1780	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	3.52	----	0.29	2.84	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB29 0.0 C	EB29 0.25 C	EB29 0.5 C	EB30 0.0 C	EB30 0.25 C
				Client sampling date / time	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513340-041	EB1513340-042	EB1513340-043	EB1513340-044	EB1513340-045
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**1.5**	**----**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	<0.02	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	<10	**----**
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	<1	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**9.2**	**----**	**----**	**9.2**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**6.6**	**----**	**----**	**6.6**
ø **Reaction Rate**	----	1	-		**----**	**3**	**----**	**----**	**2**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB30 0.5 C	EB30 0.75 C	EB35 0.0 C	EB35 0.25 C	EB35 0.5 C
				Client sampling date / time	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513340-046	EB1513340-047	EB1513340-048	EB1513340-049	EB1513340-050
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		9.3	----	9.5	----	9.1
pH OX (23B)	----	0.1	pH Unit		9.4	----	9.2	----	8.2
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		0.04	----	0.04	----	0.07
Peroxide Sulfur (23De)	----	0.02	% S		0.12	----	0.09	----	0.50
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		0.08	----	0.05	----	0.43
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		51	----	32	----	268
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		0.19	----	0.17	----	0.16
Peroxide Calcium (23Wh)	----	0.02	% Ca		6.67	----	3.90	----	4.63
Acid Reacted Calcium (23X)	----	0.02	% Ca		6.48	----	3.73	----	4.47
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		3230	----	1860	----	2230
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		5.18	----	2.99	----	3.58
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		0.06	----	0.05	----	0.09
Peroxide Magnesium (23Tm)	----	0.02	% Mg		0.27	----	0.25	----	0.40
Acid Reacted Magnesium (23U)	----	0.02	% Mg		0.21	----	0.20	----	0.31
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		170	----	169	----	256
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		0.27	----	0.27	----	0.41
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		17.6	----	11.3	----	11.3
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		3520	----	2260	----	2250
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		5.64	----	3.61	----	3.60

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB30 0.5 C	EB30 0.75 C	EB35 0.0 C	EB35 0.25 C	EB35 0.5 C
				Client sampling date / time	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513340-046	EB1513340-047	EB1513340-048	EB1513340-049	EB1513340-050
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**9.2**	**----**	**8.7**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**6.3**	**----**	**6.4**	**----**
ø **Reaction Rate**	----	1	-		**----**	**1**	**----**	**3**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB35 0.75 C	EB35 1.0 C	ASS DUPLICATE 27	ASS DUPLICATE 28	ASS DUPLICATE 29
				Client sampling date / time	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513340-051	EB1513340-052	EB1513340-053	EB1513340-054	EB1513340-055
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		----	8.9	9.4	9.3	9.0
pH OX (23B)	----	0.1	pH Unit		----	7.9	8.7	8.8	9.2
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		----	<2	<2	<2	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		----	<2	<2	<2	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		----	<2	<2	<2	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		----	<0.02	<0.02	<0.02	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		----	<0.02	<0.02	<0.02	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		----	<0.02	<0.02	<0.02	<0.02
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		----	0.07	0.05	0.07	0.03
Peroxide Sulfur (23De)	----	0.02	% S		----	0.29	0.16	0.20	0.05
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		----	0.22	0.11	0.13	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		----	138	68	81	<10
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		----	0.21	0.17	0.19	0.21
Peroxide Calcium (23Wh)	----	0.02	% Ca		----	0.51	3.78	3.91	1.74
Acid Reacted Calcium (23X)	----	0.02	% Ca		----	0.30	3.61	3.71	1.54
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		----	150	1800	1850	766
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		----	0.24	2.89	2.97	1.23
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		----	0.10	0.05	0.06	0.12
Peroxide Magnesium (23Tm)	----	0.02	% Mg		----	0.17	0.23	0.29	0.18
Acid Reacted Magnesium (23U)	----	0.02	% Mg		----	0.06	0.18	0.23	0.07
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		----	53	146	187	57
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		----	0.08	0.23	0.30	0.09
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		----	0.96	9.88	10.1	4.97
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		----	193	1980	2020	992
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		----	0.31	3.16	3.24	1.59

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB35 0.75 C	EB35 1.0 C	ASS DUPLICATE 27	ASS DUPLICATE 28	ASS DUPLICATE 29
				Client sampling date / time	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]	[22-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513340-051	EB1513340-052	EB1513340-053	EB1513340-054	EB1513340-055
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**----**	**1.5**	**1.5**	**1.5**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		**----**	<0.02	<0.02	<0.02	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		**----**	<10	<10	<10	<10
Liming Rate	----	1	kg CaCO3/t		**----**	<1	<1	<1	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**8.8**	**----**	**----**	**----**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**6.0**	**----**	**----**	**----**	**----**
ø **Reaction Rate**	----	1	-		**3**	**----**	**----**	**----**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	ASS DUPLICATE 30	----	----	----	----
			Client sampling date / time	[22-Feb-2015]	----	----	----	----
Compound	CAS Number	LOR	Unit	EB1513340-056	--------	--------	--------	--------
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	**9.6**	----	----	----	----
pH OX (23B)	----	0.1	pH Unit	**10.0**	----	----	----	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	----	----	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	----	----	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	**0.03**	----	----	----	----
Peroxide Sulfur (23De)	----	0.02	% S	**0.09**	----	----	----	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	**0.06**	----	----	----	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	**38**	----	----	----	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	**0.16**	----	----	----	----
Peroxide Calcium (23Wh)	----	0.02	% Ca	**7.63**	----	----	----	----
Acid Reacted Calcium (23X)	----	0.02	% Ca	**7.47**	----	----	----	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	**3720**	----	----	----	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	**5.97**	----	----	----	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	**0.04**	----	----	----	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg	**0.40**	----	----	----	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg	**0.36**	----	----	----	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	**296**	----	----	----	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	**0.48**	----	----	----	----
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	**20.5**	----	----	----	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	**4100**	----	----	----	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	**6.56**	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	ASS DUPLICATE 30	----	----	----	----
				Client sampling date / time	[22-Feb-2015]	----	----	----	----
Compound	CAS Number	LOR	Unit		EB1513340-056	--------	--------	--------	--------
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	----	----	----	----
Net Acidity (sulfur units)	----	0.02	% S		<0.02	----	----	----	----
Net Acidity (acidity units)	----	10	mole H+ / t		<10	----	----	----	----
Liming Rate	----	1	kg CaCO3/t		<1	----	----	----	----
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		----	----	----	----	----
ø **pH (Fox)**	----	0.1	pH Unit		----	----	----	----	----
ø **Reaction Rate**	----	1	-		----	----	----	----	----

QUALITY CONTROL REPORT

Work Order	: **EB1513340**	Page	: 1 of 10
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: sally.leyland@aurecongroup.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61-7-3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553	Date Samples Received	: 24-Feb-2015
C-O-C number	: ----	Date Analysis Commenced	: 26-Feb-2015
Sampler	: GEORGINA KERR	Issue Date	: 03-Mar-2015
Site	: ----	No. of samples received	: 56
Quote number	: ----	No. of samples analysed	: 56

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out ir compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key :
Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-A: pH Measurements (QC Lot: 68319)									
EB1513340-001	EB8 0.0 C	EA029: pH KCl (23A)	----	0.1	pH Unit	9.4	9.4	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	9.0	8.9	1.12	0% - 20%
EB1513340-018	EB19 0.0 C	EA029: pH KCl (23A)	----	0.1	pH Unit	9.3	9.3	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	8.7	8.7	0.00	0% - 20%
EA029-A: pH Measurements (QC Lot: 68320)									
EB1513340-035	EB24 0.5 C	EA029: pH KCl (23A)	----	0.1	pH Unit	9.5	9.5	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	8.9	8.4	6.02	0% - 20%
EB1513340-052	EB35 1.0 C	EA029: pH KCl (23A)	----	0.1	pH Unit	8.9	8.9	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	7.9	7.8	1.27	0% - 20%
EA029-B: Acidity Trail (QC Lot: 68319)									
EB1513340-001	EB8 0.0 C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EB1513340-018	EB19 0.0 C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EA029-B: Acidity Trail (QC Lot: 68320)									
EB1513340-035	EB24 0.5 C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EB1513340-052	EB35 1.0 C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-B: Acidity Trail (QC Lot: 68320) - continued									
EB1513340-052	EB35 1.0 C	EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EA029-C: Sulfur Trail (QC Lot: 68319)									
EB1513340-001	EB8 0.0 C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.06	0.06	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.10	0.10	0.00	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.16	0.16	0.00	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	60	63	5.69	No Limit
EB1513340-018	EB19 0.0 C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.07	0.07	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.13	0.11	17.1	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.20	0.19	7.65	0% - 50%
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	83	70	17.1	No Limit
EA029-C: Sulfur Trail (QC Lot: 68320)									
EB1513340-035	EB24 0.5 C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.05	0.05	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.09	0.08	0.00	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.14	0.13	0.00	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	55	52	6.05	No Limit
EB1513340-052	EB35 1.0 C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.07	0.07	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.22	0.24	7.83	0% - 50%
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.29	0.31	5.17	0% - 50%
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	138	150	7.83	0% - 50%
EA029-D: Calcium Values (QC Lot: 68319)									
EB1513340-001	EB8 0.0 C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	4.13	4.23	2.45	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.19	0.18	0.00	No Limit
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	4.32	4.42	2.20	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	3.30	3.39	2.45	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	2060	2110	2.45	0% - 20%
EB1513340-018	EB19 0.0 C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	4.16	3.91	6.26	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.20	0.22	9.28	0% - 50%
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	4.36	4.13	5.49	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	3.33	3.13	6.26	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	2080	1950	6.26	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-D: Calcium Values (QC Lot: 68320)									
EB1513340-035	EB24 0.5 C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	3.22	3.03	6.06	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.18	0.17	0.00	No Limit
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	3.40	3.21	5.84	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	2.58	2.43	6.06	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	1610	1510	6.06	0% - 20%
EB1513340-052	EB35 1.0 C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	0.30	0.32	7.38	0% - 50%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.21	0.21	0.00	0% - 50%
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	0.51	0.53	3.65	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	0.24	0.26	7.38	0% - 50%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	150	162	7.38	0% - 50%
EA029-E: Magnesium Values (QC Lot: 68319)									
EB1513340-001	EB8 0.0 C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.18	0.19	0.00	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.06	0.06	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.24	0.25	0.00	0% - 50%
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.24	0.25	4.57	0% - 50%
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	148	155	4.57	0% - 50%
EB1513340-018	EB19 0.0 C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.21	0.20	5.16	0% - 50%
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.07	0.07	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.27	0.27	0.00	0% - 50%
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.28	0.26	5.16	0% - 50%
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	172	163	5.16	0% - 50%
EA029-E: Magnesium Values (QC Lot: 68320)									
EB1513340-035	EB24 0.5 C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.18	0.19	6.28	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.05	0.05	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.23	0.24	4.64	0% - 50%
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.24	0.26	6.28	0% - 50%
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	150	160	6.28	0% - 50%
EB1513340-052	EB35 1.0 C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.06	0.07	0.00	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.10	0.10	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.17	0.17	0.00	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.08	0.09	0.00	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	53	56	6.91	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-F: Excess Acid Neutralising Capacity (QC Lot: 68319)									
EB1513340-001	EB8 0.0 C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	10.6	10.7	0.586	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	3.40	3.42	0.586	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	2120	2140	0.586	0% - 20%
EB1513340-018	EB19 0.0 C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	10.6	10.6	0.00	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	3.40	3.40	0.00	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	2120	2120	0.00	0% - 20%
EA029-F: Excess Acid Neutralising Capacity (QC Lot: 68320)									
EB1513340-035	EB24 0.5 C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	8.51	8.44	0.738	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	2.72	2.70	0.738	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	1700	1690	0.738	0% - 20%
EB1513340-052	EB35 1.0 C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	0.96	1.01	4.21	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	0.31	0.32	4.21	0% - 50%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	193	201	4.21	0% - 20%
EA029-H: Acid Base Accounting (QC Lot: 68319)									
EB1513340-001	EB8 0.0 C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EB1513340-018	EB19 0.0 C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA029-H: Acid Base Accounting (QC Lot: 68320)									
EB1513340-035	EB24 0.5 C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EB1513340-052	EB35 1.0 C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA037: Ass Field Screening Analysis (QC Lot: 68315)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA037: Ass Field Screening Analysis (QC Lot: 68315) - continued									
EB1513340-002	EB8 0.25 C	EA037: pH (F)	----	0.1	pH Unit	9.4	9.4	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	6.8	6.7	1.48	0% - 20%
EB1513340-026	EB21 0.25 C	EA037: pH (F)	----	0.1	pH Unit	8.8	8.9	1.13	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	6.4	6.4	0.00	0% - 20%
EA037: Ass Field Screening Analysis (QC Lot: 68316)									
EB1513340-051	EB35 0.75 C	EA037: pH (F)	----	0.1	pH Unit	8.8	8.9	1.13	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	6.0	6.0	0.00	0% - 20%

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EA029-A: pH Measurements (QCLot: 68319)								
EA029: pH KCl (23A)	----	0.1	pH Unit	<0.1	4.9 pH Unit	100	70	130
EA029: pH OX (23B)	----	0.1	pH Unit	<0.1	4.4 pH Unit	93.2	70	130
EA029-A: pH Measurements (QCLot: 68320)								
EA029: pH KCl (23A)	----	0.1	pH Unit	<0.1	4.9 pH Unit	102	70	130
EA029: pH OX (23B)	----	0.1	pH Unit	<0.1	4.4 pH Unit	90.9	70	130
EA029-B: Acidity Trail (QCLot: 68319)								
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	14.32 mole H+ / t	102	70	130
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	68 mole H+ / t	104	70	130
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
EA029-B: Acidity Trail (QCLot: 68320)								
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	14.32 mole H+ / t	99.6	70	130
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	68 mole H+ / t	98.5	70	130
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
EA029-C: Sulfur Trail (QCLot: 68319)								
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.069 % S	94.5	70	130
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	----	----	----
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	0.204 % S	103	70	130
EA029-C: Sulfur Trail (QCLot: 68320)								
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.069 % S	97.8	70	130
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	----	----	----
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	0.204 % S	97.7	70	130
EA029-D: Calcium Values (QCLot: 68319)								
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.02	0.125 % Ca	96.7	70	130
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.02	0.289 % Ca	108	70	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EA029-D: Calcium Values (QCLot: 68319) - continued								
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.02	----	----	----	----
EA029-D: Calcium Values (QCLot: 68320)								
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.02	0.125 % Ca	93.0	70	130
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.02	0.289 % Ca	105	70	130
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.02	----	----	----	----
EA029-E: Magnesium Values (QCLot: 68319)								
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	0.285 % Mg	101	70	130
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	0.285 % Mg	97.4	70	130
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	----	----	----
EA029-E: Magnesium Values (QCLot: 68320)								
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	0.285 % Mg	108	70	130
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	0.285 % Mg	93.0	70	130
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	----	----	----
EA029-F: Excess Acid Neutralising Capacity (QCLot: 68319)								
EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	<0.02	----	----	----	----
EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	<0.02	----	----	----	----
EA029-F: Excess Acid Neutralising Capacity (QCLot: 68320)								
EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	<0.02	----	----	----	----
EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	<0.02	----	----	----	----
EA029-H: Acid Base Accounting (QCLot: 68319)								
EA029: ANC Fineness Factor	----	0.5	-	<0.5	----	----	----	----
EA029: Liming Rate	----	1	kg CaCO3/t	<1	----	----	----	----
EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	----	----	----	----
EA029-H: Acid Base Accounting (QCLot: 68320)								
EA029: ANC Fineness Factor	----	0.5	-	<0.5	----	----	----	----
EA029: Liming Rate	----	1	kg CaCO3/t	<1	----	----	----	----
EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	----	----	----	----

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EA029-H: Acid Base Accounting (QCLot: 68320) - continued								
EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

QA/QC Compliance Assessment for DQO Reporting

Work Order	: **EB1513340**	Page	: 1 of 5
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Telephone	: +61-7-3243 7222
Project	: GPC Geochemical Investigation	Date Samples Received	: 24-Feb-2015
Site	: ----	Issue Date	: 03-Mar-2015
Sampler	: GEORGINA KERR	No. of samples received	: 56
Order number	: 245553	No. of samples analysed	: 56

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA029-F: Excess Acid Neutralising Capacity								
Snap Lock Bag - frozen on receipt at ALS (EA029)								
EB8 0.0 C,	EB8 0.5 C,	**22-Feb-2015**	**26-Feb-2015**	22-Feb-2016	✓	**26-Feb-2015**	27-May-2015	✓
EB8 1.0 C,	EB10 1.0 C,							
EB25 0.5 C,	EB29 0.0 C,							
EB29 0.5 C,	EB30 0.0 C,							
EB30 0.5 C,	EB35 0.0 C,							
EB35 0.5 C								
EA029-A: pH Measurements								
Snap Lock Bag - frozen on receipt at ALS (EA029)								
EB10 0.0 C,	EB10 0.5 C,	**22-Feb-2015**	**26-Feb-2015**	22-Feb-2016	✓	**26-Feb-2015**	27-May-2015	✓
EB13 0.0C,	EB13 0.5C,							
EB18 0.0 C,	EB18 0.5C,							
EB19 0.0 C,	EB19 0.5C,							
EB20 0.0 C,	EB20 0.5 C,							
EB21 0.0 C,	EB21 0.5 C,							
EB21 1.0C,	EB23 0.0 C,							
EB23 0.5 C,	EB24 0.0 C,							
EB24 0.5 C,	EB24 1.0 C,							
EB25 0.0 C,	EB35 1.0 C,							
ASS DUPLICATE 27,	ASS DUPLICATE 28,							
ASS DUPLICATE 29,	ASS DUPLICATE 30							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA037: Ass Field Screening Analysis							
Snap Lock Bag - frozen on receipt at ALS (EA037)							
EB8 0.25 C, EB8 0.75 C, EB10 0.25 C, EB10 0.75 C, EB13 0.25C, EB18 0.25C, EB18 0.75C, EB19 0.25C, EB19 0.75C, EB20 0.25 C, EB21 0.25 C, EB21 0.75 C, EB23 0.25 C, EB24 0.25 C, EB24 0.75 C, EB25 0.25 C, EB29 0.25 C, EB30 0.25 C, EB30 0.75 C, EB35 0.25 C, EB35 0.75 C	**22-Feb-2015**	**26-Feb-2015**	21-Aug-2015	✓	**26-Feb-2015**	21-Aug-2015	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
ASS Field Screening Analysis	EA037	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	SOIL	In house: Referenced to Ahern et al 2004 - a suspension peroxide oxidation method following the 'sulfur trail' by determining the level of 1M KCL extractable sulfur and the sulfur level after oxidation of soil sulphides. The 'acidity trail' is followed by measurement of TAA, TPA and TSA. Liming Rate is based on results for samples as submitted and incorporates a minimum safety factor of 1.5.
ASS Field Screening Analysis	* EA037	SOIL	In house: Referenced to Acid Sulfate Soils Laboratory Methods Guidelines, version 2.1 June 2004. As received samples are tested for pH field and pH fox and assessed for a reaction rating.

Preparation Methods	Method	Matrix	Method Descriptions
Drying only	EN020D	SOIL	In House
Drying at 85 degrees, bagging and labelling (ASS)	EN020PR	SOIL	In house

ADELAIDE 21 Burma Road Pooraka SA 5095
Ph: 08 8359 0890 E: adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053
Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 46 Callemondah Drive Clinton QLD 4680
Ph: 07 7471 5800 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 24 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 6735 E: mudgee mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4958 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 1-13 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: perthambla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free liquid, Teflon or Ice present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: (1) 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (13)	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 23-Feb-15	DATE/TIME: 23-Feb-15 1810
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: KSchafer	RECEIVED BY:
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:		DATE/TIME: 24-2-15 1600	DATE/TIME:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	EB1 0.0 C	23/02/2015	S	Bag (Green label)	1					1				
2	EB1 0.25 C	23/02/2015	S	Bag (Green label)	1						1			
3	EB1 0.5 C	23/02/2015	S	Bag (Green label)	1					1				
4	EB1 0.75 C	23/02/2015	S	Bag (Green label)	1						1			
5	EB1 1.0 C	23/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Environmental Division
Brisbane
Work Order Reference
EB1513443

Telephone : +61-7-3243 7222

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Ph: 07 4944 0177 E: mackay@alsglobal.com
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Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle):**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		**Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)** COC: 1 (2) 3 4 5 6 7	Free Ice / frozen ice bricks present upon receipt: Yes / No / N/A
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 (13)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006		Other comments:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	KS	
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
23-Feb-15	23-Feb-15 1810	24-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
6	EB2 0.0 C	23/02/2015	S	Bag (Green label)	1					1				
7	EB2 0.25 C	23/02/2015	S	Bag (Green label)	1						1			
8	EB2 0.5 C	23/02/2015	S	Bag (Green label)	1					1				
9	EB2 0.75 C	23/02/2015	S	Bag (Green label)	1						1			
				TOTAL	4					2	2	#REF!	#REF!	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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❑BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
❑GLADSTONE 36 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
❑MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
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❑NOWRA 4-13 Geary Place North Nowra NSW 2541 Ph: 024428 2063 E: nowra@alsglobal.com
❑PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
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❑WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) **Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround		Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free Ice / Ice Bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 2 (3) 4 5 6 7	Random Sample Temperature on Receipt:
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (13)	Other comments:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
Georgina Kerr	*Kelly Schafer*	KS	
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
23-Feb-15	23-Feb-15 1810	24-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
10	EB3 0.0C	23/02/2015	S	Bag (Green label)	1					1				
11	EB3 0.25C	23/02/2015	S	Bag (Green label)	1						1			
12	EB3 0.5C	23/02/2015	S	Bag (Green label)	1					1				
				TOTAL	3					2	1			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 024423 2063 E: nowra@alsglobal.com
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Ph: 08 9209 7655 E: samples.perth@alsglobal.com
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Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (13)
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt	Yes	No	N/A
Random Sample Temperature on Receipt		°C	
Other Comment:			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	KS	
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
23-Feb-15	23-Feb-15 1810	24-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
13	EB4 0.0 C	23/02/2015	S	Bag (Green label)	1					1				
				TOTAL	1					1				

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT **(List due date):**	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		**Yes - Non Standard or urgent TAT (List due date):** **5 day turnaround**	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice/ frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 (5) 6 7	Random Sample Temperature on Receipt °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (13)	Other comment:

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810

RELINQUISHED BY:	**RECEIVED BY:**
DATE/TIME: 24-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
14	EB5 0.0 C	23/02/2015	S	Bag (Green label)	1					1				
15	EB5 0.25C	23/02/2015	S	Bag (Green label)	1						1			
16	EB5 0.5C	23/02/2015	S	Bag (Green label)	1					1				
				TOTAL	3					2	1			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g.. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 245553	**COC SEQUENCE NUMBER (Circle)** COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6	Random Sample Temperature on Receipt	°C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	Other comment:	
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
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RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	KS	
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
23-Feb-15	23-Feb-15 1810	24-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
17	EB6 0.0 C	23/02/2015	S	Bag (Green label)	1					1				
18	EB6 0.25 C	23/02/2015	S	Bag (Green label)	1						1			
19	EB6 0.5 C	23/02/2015	S	Bag (Green label)	1					1				
20	EB6 0.75 C	23/02/2015	S	Bag (Green label)	1						1			
21	EB6 1.0C	23/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	**Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice packs present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 13	Other comments:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810

RELINQUISHED BY:	**RECEIVED BY:**
DATE/TIME: 24-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
22	EB7 0.0 C	23/02/2015	S	Bag (Green label)	1					1				
23	EB7 0.25 C	23/02/2015	S	Bag (Green label)	1						1			
24	EB7 0.5 C	23/02/2015	S	Bag (Green label)	1					1				
25	EB7 0.75 C	23/02/2015	S	Bag (Green label)	1						1			
26	EB7 1.0C	23/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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☐GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
☐MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
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☐NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
☐NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
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☐TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (8)	Random Sample Temperature on Receipt:
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (13)	Other comment:

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*	KS	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810	24-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
27	EB9 0.0 C	23/02/2015	S	Bag (Green label)	1					1				
28	EB9 0.25 C	23/02/2015	S	Bag (Green label)	1						1			
29	EB9 0.5 C	23/02/2015	S	Bag (Green label)	1					1				
				TOTAL	3					2	1			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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GLADSTONE 46 Callemondah Drive Clinton QLD 4680
Ph: 07 7471 5800 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 6735 E: mudgee mail@alsglobal.com
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Ph: 02 4423 2063 E: nowra@alsglobal.com
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Ph: 08 9209 7655 E: samples.perth@alsglobal.com
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Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody seal intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice blocks present upon arrival? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (9)	Receipt Cooler temperature on Receipt: 6
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (13)	Other comments:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
Georgina Kerr	*Kelly Schafer*		
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
23-Feb-15	23-Feb-15 1810	20-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
30	EB11 0.0 C	23/02/2015	S	Bag (Green label)	1					1				
31	EB11 0.25 C	23/02/2015	S	Bag (Green label)	1						1			
32	EB11 0.5 C	23/02/2015	S	Bag (Green label)	1					1				
33	EB11 0.75 C	23/02/2015	S	Bag (Green label)	1						1			
				TOTAL	4					2	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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GLADSTONE 16 Callemondah Drive Clinton QLD 4680
Ph: 07 7471 5600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
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SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 47796600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: envikemba@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice blocks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (10)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (13)	Other comments:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
Georgina Kerr	*Kelly Schafer*		
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
23-Feb-15	23-Feb-15 1810	24-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
34	EB14 0.0 C	23/02/2015	S	Bag (Green label)	1					1				
35	EB14 0.25 C	23/02/2015	S	Bag (Green label)	1						1			
36	EB14 0.5 C	23/02/2015	S	Bag (Green label)	1					1				
37	EB14 0.75 C	23/02/2015	S	Bag (Green label)	1						1			
38	EB14 1.0 C	23/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT **(List due date):**	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		**Yes - Non Standard or urgent TAT (List due date):** **5 day turnaround**	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (14)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (13)	Other comment:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		23-Feb-15	23-Feb-15 1810

RELINQUISHED BY:	**RECEIVED BY:**
DATE/TIME: 24-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS - MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	**SAMPLE ID**	**DATE / TIME**	**MATRIX**	**TYPE & PRESERVATIVE** *(refer to codes below)*	**TOTAL CONTAINERS**	**Aurecon Suite 1**	**Aurecon Suite 2**	**Volatiles**	**Dioxins**	**Acid Sulfate Soils: SPOCAS**	**Acid Sulfate Soils: pH**			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
39	EB15 0.0 C	23/02/2015	S	Bag (Green label)	1					1				
40	EB15 0.25 C	23/02/2015	S	Bag (Green label)	1						1			
41	EB15 0.5 C	23/02/2015	S	Bag (Green label)	1					1				
				TOTAL	3					2	1			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
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Ph: 02 4225 3125 E: perkinmha@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	**FOR LABORATORY USE ONLY (Circle)** Custody Seal Intact? Yes / No / N/A; Preservation Compliant / Non Compliant; Cooling Method:
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)** COC: 1 2 3 4 5 6 (12); OF: 1 2 3 4 5 6 (13)	Receipt Temperature on Receipt: °C
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006		
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*		
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
23-Feb-15	23-Feb-15 1810	24-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
42	EB26 0.0 C	23/02/2015	S	Bag (Green label)	1					1				
43	EB26 0.25 C	23/02/2015	S	Bag (Green label)	1						1			
44	EB26 0.5 C	23/02/2015	S	Bag (Green label)	1					1				
45	EB26 0.75 C	23/02/2015	S	Bag (Green label)	1						1			
46	EB26 1.0 C	23/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

☐ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
☐BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
☐GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
☐MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
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☐TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free Ice / Frozen Ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (13)	Random Sample Temperature on Receipt: 0
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (13)	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):		RELINQUISHED BY: KSchafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 23-Feb-15	DATE/TIME: 23-Feb-15 1810
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			DATE/TIME: 24-2-15 1600

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
47	ASS DUPLICATE 31	23/02/2015	S	Bag (Green label)	1					1				
48	ASS DUPLICATE 32	23/02/2015	S	Bag (Green label)	1					1				
49	ASS DUPLICATE 33	23/02/2015	S	Bag (Green label)	1					1				
				TOTAL	3					3				

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CERTIFICATE OF ANALYSIS

Work Order	: **EB1513443**	Page	: 1 of 22
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: sally.leyland@aurecongroup.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61-7-3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553	Date Samples Received	: 25-Feb-2015 09:20
C-O-C number	: ----	Date Analysis Commenced	: 27-Feb-2015
Sampler	: GEORGINA KERR	Issue Date	: 04-Mar-2015 17:21
Site	: ----		
		No. of samples received	: 49
Quote number	: ----	No. of samples analysed	: 49

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.

- ASS: EA029 (SPOCAS): Retained Acidity not required because pH KCl greater than or equal to 4.5
- ASS: EA037 (Rapid Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme
- EA037 ASS Field Screening: NATA accreditation does not cover performance of this service.
- ASS: EA029 (SPOCAS): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime ($CaCO_3$) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from kg/t dry weight to kg/m3 in-situ soil, multiply reported results x wet bulk density of soil in t/m3.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB1 0.0 C	EB1 0.25 C	EB1 0.5 C	EB1 0.75 C	EB1 1.0 C
			Client sampling date / time	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513443-001	EB1513443-002	EB1513443-003	EB1513443-004	EB1513443-005
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	9.6	----	9.4	----	9.1
pH OX (23B)	----	0.1	pH Unit	10.0	----	9.1	----	8.2
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.05	----	0.11	----	0.04
Peroxide Sulfur (23De)	----	0.02	% S	0.12	----	0.16	----	0.07
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.07	----	0.05	----	0.03
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	44	----	33	----	18
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.16	----	0.19	----	0.17
Peroxide Calcium (23Wh)	----	0.02	% Ca	13.4	----	12.6	----	1.25
Acid Reacted Calcium (23X)	----	0.02	% Ca	13.3	----	12.4	----	1.08
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	6620	----	6200	----	539
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	10.6	----	9.95	----	0.86
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.04	----	0.05	----	0.06
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.48	----	0.44	----	0.16
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.44	----	0.38	----	0.10
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	362	----	317	----	79
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.58	----	0.51	----	0.13
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	33.8	----	43.5	----	4.02
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	6760	----	8700	----	802
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	10.8	----	13.9	----	1.28

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB1 0.0 C	EB1 0.25 C	EB1 0.5 C	EB1 0.75 C	EB1 1.0 C
				Client sampling date / time	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513443-001	EB1513443-002	EB1513443-003	EB1513443-004	EB1513443-005
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.5**	**----**	**8.9**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**7.0**	**----**	**7.9**	**----**
ø **Reaction Rate**	----	1	-		**----**	**2**	**----**	**3**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB2 0.0 C	EB2 0.25 C	EB2 0.5 C	EB2 0.75 C	EB3 0.0C
			Client sampling date / time	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513443-006	EB1513443-007	EB1513443-008	EB1513443-009	EB1513443-010
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	9.3	----	8.8	----	9.4
pH OX (23B)	----	0.1	pH Unit	8.5	----	8.0	----	8.6
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.06	----	0.04	----	0.05
Peroxide Sulfur (23De)	----	0.02	% S	0.22	----	0.05	----	0.15
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.15	----	<0.02	----	0.10
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	96	----	<10	----	61
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.21	----	0.23	----	0.20
Peroxide Calcium (23Wh)	----	0.02	% Ca	11.0	----	1.17	----	10.0
Acid Reacted Calcium (23X)	----	0.02	% Ca	10.8	----	0.94	----	9.85
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	5400	----	467	----	4920
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	8.65	----	0.75	----	7.88
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.06	----	0.14	----	0.05
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.48	----	0.26	----	0.37
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.42	----	0.12	----	0.32
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	349	----	103	----	262
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.56	----	0.16	----	0.42
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	28.9	----	3.88	----	25.0
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	5780	----	776	----	5000
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	9.25	----	1.24	----	8.00

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB2 0.0 C	EB2 0.25 C	EB2 0.5 C	EB2 0.75 C	EB3 0.0C
				Client sampling date / time	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513443-006	EB1513443-007	EB1513443-008	EB1513443-009	EB1513443-010
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.8**	**----**	**8.6**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**6.8**	**----**	**9.2**	**----**
ø **Reaction Rate**	----	1	-		**----**	**2**	**----**	**4**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB3 0.25C	EB3 0.5C	EB4 0.0 C	EB5 0.0 C	EB5 0.25C
			Client sampling date / time	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513443-011	EB1513443-012	EB1513443-013	EB1513443-014	EB1513443-015
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	----	8.7	9.1	9.3	----
pH OX (23B)	----	0.1	pH Unit	----	7.3	8.4	8.5	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	----	<2	<2	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	----	<2	<2	<2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	----	<2	<2	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	----	<0.02	<0.02	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	----	<0.02	<0.02	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	----	<0.02	<0.02	<0.02	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	----	0.03	0.05	0.05	----
Peroxide Sulfur (23De)	----	0.02	% S	----	0.03	0.11	0.13	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	----	<0.02	0.06	0.08	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	----	<10	39	49	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	----	0.13	0.21	0.19	----
Peroxide Calcium (23Wh)	----	0.02	% Ca	----	0.38	4.28	5.60	----
Acid Reacted Calcium (23X)	----	0.02	% Ca	----	0.24	4.07	5.41	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	----	122	2030	2700	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	----	0.20	3.25	4.33	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	----	0.08	0.08	0.05	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg	----	0.12	0.28	0.24	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg	----	0.04	0.20	0.18	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	----	33	162	152	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	----	0.05	0.26	0.24	----
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	----	1.23	11.8	15.7	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	----	246	2360	3140	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	----	0.39	3.78	5.03	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB3 0.25C	EB3 0.5C	EB4 0.0 C	EB5 0.0 C	EB5 0.25C
				Client sampling date / time	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513443-011	EB1513443-012	EB1513443-013	EB1513443-014	EB1513443-015
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**----**	**1.5**	**1.5**	**1.5**	**----**
Net Acidity (sulfur units)	----	0.02	% S		**----**	<0.02	<0.02	<0.02	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		**----**	<10	<10	<10	**----**
Liming Rate	----	1	kg CaCO3/t		**----**	<1	<1	<1	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**9.2**	**----**	**----**	**----**	**8.6**
ø **pH (Fox)**	----	0.1	pH Unit		**7.2**	**----**	**----**	**----**	**8.1**
ø **Reaction Rate**	----	1	-		**3**	**----**	**----**	**----**	**4**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB5 0.5C	EB6 0.0 C	EB6 0.25 C	EB6 0.5 C	EB6 0.75 C
			Client sampling date / time	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513443-016	EB1513443-017	EB1513443-018	EB1513443-019	EB1513443-020
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	8.7	9.1	----	8.1	----
pH OX (23B)	----	0.1	pH Unit	8.9	8.2	----	7.6	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	----	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	----	<2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	----	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	----	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	----	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	----	<0.02	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.04	0.05	----	0.03	----
Peroxide Sulfur (23De)	----	0.02	% S	0.04	0.10	----	0.04	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	0.05	----	<0.02	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	30	----	<10	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.23	0.21	----	0.15	----
Peroxide Calcium (23Wh)	----	0.02	% Ca	0.64	5.11	----	0.21	----
Acid Reacted Calcium (23X)	----	0.02	% Ca	0.41	4.90	----	0.06	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	205	2440	----	28	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	0.33	3.92	----	0.04	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.12	0.08	----	0.15	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.15	0.25	----	0.19	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.03	0.17	----	0.04	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	28	140	----	38	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.04	0.22	----	0.06	----
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	2.03	14.1	----	0.76	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	405	2820	----	153	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	0.65	4.52	----	0.24	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB5 0.5C	EB6 0.0 C	EB6 0.25 C	EB6 0.5 C	EB6 0.75 C
				Client sampling date / time	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513443-016	EB1513443-017	EB1513443-018	EB1513443-019	EB1513443-020
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**1.5**	**----**	**1.5**	**----**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	<0.02	**----**	<0.02	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	<10	**----**	<10	**----**
Liming Rate	----	1	kg CaCO3/t		<1	<1	**----**	<1	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**----**	**8.7**	**----**	**8.3**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**----**	**6.5**	**----**	**6.6**
ø **Reaction Rate**	----	1	-		**----**	**----**	**2**	**----**	**2**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB6 1.0C	EB7 0.0 C	EB7 0.25 C	EB7 0.5 C	EB7 0.75 C
			Client sampling date / time	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513443-021	EB1513443-022	EB1513443-023	EB1513443-024	EB1513443-025
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	8.6	9.0	----	8.8	----
pH OX (23B)	----	0.1	pH Unit	8.6	8.2	----	7.0	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	----	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	----	<2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	----	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	----	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	----	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	----	<0.02	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.04	0.04	----	0.03	----
Peroxide Sulfur (23De)	----	0.02	% S	0.04	0.05	----	0.03	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	<0.02	----	<0.02	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	<10	----	<10	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.26	0.19	----	0.12	----
Peroxide Calcium (23Wh)	----	0.02	% Ca	0.84	0.92	----	0.19	----
Acid Reacted Calcium (23X)	----	0.02	% Ca	0.57	0.72	----	0.06	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	287	361	----	32	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	0.46	0.58	----	0.05	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.12	0.09	----	0.08	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.15	0.12	----	0.11	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.02	0.03	----	0.04	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	21	23	----	29	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.03	0.04	----	0.05	----
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	2.15	1.93	----	0.47	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	430	385	----	95	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	0.69	0.62	----	0.15	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB6 1.0C	EB7 0.0 C	EB7 0.25 C	EB7 0.5 C	EB7 0.75 C
				Client sampling date / time	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513443-021	EB1513443-022	EB1513443-023	EB1513443-024	EB1513443-025
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**1.5**	**----**	**1.5**	**----**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	<0.02	**----**	<0.02	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	<10	**----**	<10	**----**
Liming Rate	----	1	kg CaCO3/t		<1	<1	**----**	<1	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**----**	**9.2**	**----**	**8.1**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**----**	**7.0**	**----**	**6.2**
ø **Reaction Rate**	----	1	-		**----**	**----**	**3**	**----**	**2**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB7 1.0C	EB9 0.0 C	EB9 0.25 C	EB9 0.5 C	EB11 0.0 C
			Client sampling date / time	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513443-026	EB1513443-027	EB1513443-028	EB1513443-029	EB1513443-030
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	8.0	9.4	----	8.5	9.1
pH OX (23B)	----	0.1	pH Unit	7.1	8.3	----	9.0	8.6
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	----	<2	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	----	<2	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	----	<2	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	----	<0.02	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	----	<0.02	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	----	<0.02	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.03	0.05	----	0.03	0.04
Peroxide Sulfur (23De)	----	0.02	% S	0.02	0.16	----	0.03	0.12
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	0.10	----	<0.02	0.08
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	65	----	<10	49
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.09	0.20	----	0.25	0.19
Peroxide Calcium (23Wh)	----	0.02	% Ca	0.12	9.09	----	0.64	2.28
Acid Reacted Calcium (23X)	----	0.02	% Ca	0.02	8.89	----	0.38	2.09
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	12	4440	----	191	1040
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.02	7.12	----	0.30	1.67
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.10	0.06	----	0.17	0.07
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.10	0.35	----	0.23	0.20
Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	0.30	----	0.06	0.12
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	243	----	49	103
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	0.39	----	0.08	0.16
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	0.36	21.6	----	1.73	5.88
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	72	4310	----	345	1180
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	0.12	6.90	----	0.55	1.88

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB7 1.0C	EB9 0.0 C	EB9 0.25 C	EB9 0.5 C	EB11 0.0 C
				Client sampling date / time	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513443-026	EB1513443-027	EB1513443-028	EB1513443-029	EB1513443-030
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**1.5**	**----**	**1.5**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	<0.02	**----**	<0.02	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	<10	**----**	<10	<10
Liming Rate	----	1	kg CaCO3/t		<1	<1	**----**	<1	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**----**	**8.6**	**----**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**----**	**6.8**	**----**	**----**
ø **Reaction Rate**	----	1	-		**----**	**----**	**2**	**----**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB11 0.25 C	EB11 0.5 C	EB11 0.75 C	EB14 0.0 C	EB14 0.25 C
				Client sampling date / time	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513443-031	EB1513443-032	EB1513443-033	EB1513443-034	EB1513443-035
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		----	8.7	----	9.3	----
pH OX (23B)	----	0.1	pH Unit		----	8.8	----	8.4	----
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		----	<2	----	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		----	<2	----	<2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		----	<2	----	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		----	<0.02	----	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		----	<0.02	----	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		----	<0.02	----	<0.02	----
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		----	0.03	----	0.05	----
Peroxide Sulfur (23De)	----	0.02	% S		----	0.03	----	0.13	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		----	<0.02	----	0.08	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		----	<10	----	50	----
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		----	0.13	----	0.18	----
Peroxide Calcium (23Wh)	----	0.02	% Ca		----	0.21	----	3.54	----
Acid Reacted Calcium (23X)	----	0.02	% Ca		----	0.08	----	3.36	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		----	38	----	1680	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		----	0.06	----	2.69	----
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		----	0.08	----	0.05	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg		----	0.13	----	0.15	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg		----	0.05	----	0.10	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		----	40	----	81	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		----	0.06	----	0.13	----
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		----	0.81	----	8.51	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		----	162	----	1700	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		----	0.26	----	2.72	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB11 0.25 C	EB11 0.5 C	EB11 0.75 C	EB14 0.0 C	EB14 0.25 C
				Client sampling date / time	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513443-031	EB1513443-032	EB1513443-033	EB1513443-034	EB1513443-035
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**----**	**1.5**	**----**	**1.5**	**----**
Net Acidity (sulfur units)	----	0.02	% S		**----**	<0.02	**----**	<0.02	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		**----**	<10	**----**	<10	**----**
Liming Rate	----	1	kg CaCO3/t		**----**	<1	**----**	<1	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**9.3**	**----**	**8.5**	**----**	**9.0**
ø **pH (Fox)**	----	0.1	pH Unit		**7.1**	**----**	**6.7**	**----**	**8.2**
ø **Reaction Rate**	----	1	-		**3**	**----**	**2**	**----**	**4**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB14 0.5 C	EB14 0.75 C	EB14 1.0 C	EB15 0.0 C	EB15 0.25 C
			Client sampling date / time	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513443-036	EB1513443-037	EB1513443-038	EB1513443-039	EB1513443-040
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	8.6	----	8.6	9.3	----
pH OX (23B)	----	0.1	pH Unit	8.7	----	8.8	8.5	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	<2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	<0.02	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.03	----	0.04	0.05	----
Peroxide Sulfur (23De)	----	0.02	% S	0.03	----	0.06	0.14	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	<0.02	0.08	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	<10	53	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.21	----	0.28	0.19	----
Peroxide Calcium (23Wh)	----	0.02	% Ca	0.37	----	0.85	5.92	----
Acid Reacted Calcium (23X)	----	0.02	% Ca	0.16	----	0.57	5.73	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	78	----	285	2860	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	0.12	----	0.46	4.58	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.12	----	0.15	0.06	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.15	----	0.19	0.26	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.02	----	0.04	0.20	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	21	----	33	164	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.03	----	0.05	0.26	----
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	1.00	----	2.05	14.8	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	199	----	410	2950	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	0.32	----	0.66	4.72	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB14 0.5 C	EB14 0.75 C	EB14 1.0 C	EB15 0.0 C	EB15 0.25 C
				Client sampling date / time	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513443-036	EB1513443-037	EB1513443-038	EB1513443-039	EB1513443-040
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**1.5**	**----**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	<0.02	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	<10	**----**
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	<1	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.3**	**----**	**----**	**8.7**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**6.5**	**----**	**----**	**6.6**
ø **Reaction Rate**	----	1	-		**----**	**2**	**----**	**----**	**3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB15 0.5 C	EB26 0.0 C	EB26 0.25 C	EB26 0.5 C	EB26 0.75 C
			Client sampling date / time	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513443-041	EB1513443-042	EB1513443-043	EB1513443-044	EB1513443-045
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	**8.8**	**9.5**	----	**9.0**	----
pH OX (23B)	----	0.1	pH Unit	**8.9**	**8.7**	----	**7.8**	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	----	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	----	<2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	----	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	----	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	----	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	----	<0.02	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	**0.03**	**0.03**	----	**0.02**	----
Peroxide Sulfur (23De)	----	0.02	% S	**0.04**	**0.04**	----	**0.02**	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	<0.02	----	<0.02	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	**10**	----	<10	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	**0.20**	**0.15**	----	**0.12**	----
Peroxide Calcium (23Wh)	----	0.02	% Ca	**0.46**	**2.70**	----	**0.20**	----
Acid Reacted Calcium (23X)	----	0.02	% Ca	**0.26**	**2.55**	----	**0.08**	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	**128**	**1270**	----	**39**	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	**0.21**	**2.04**	----	**0.06**	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	**0.11**	**0.04**	----	**0.06**	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg	**0.16**	**0.04**	----	**0.08**	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg	**0.05**	<0.02	----	**0.02**	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	**44**	<10	----	**17**	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	**0.07**	<0.02	----	**0.03**	----
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	**1.06**	**6.56**	----	**0.40**	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	**212**	**1310**	----	**80**	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	**0.34**	**2.10**	----	**0.13**	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB15 0.5 C	EB26 0.0 C	EB26 0.25 C	EB26 0.5 C	EB26 0.75 C
				Client sampling date / time	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513443-041	EB1513443-042	EB1513443-043	EB1513443-044	EB1513443-045
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**1.5**	**----**	**1.5**	**----**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	<0.02	**----**	<0.02	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	<10	**----**	<10	**----**
Liming Rate	----	1	kg CaCO3/t		<1	<1	**----**	<1	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**----**	**8.9**	**----**	**6.2**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**----**	**6.9**	**----**	**2.0**
ø **Reaction Rate**	----	1	-		**----**	**----**	**2**	**----**	**2**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB26 1.0 C	ASS DUPLICATE 31	ASS DUPLICATE 32	ASS DUPLICATE 33	----
			Client sampling date / time	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	----
Compound	CAS Number	LOR	Unit	EB1513443-046	EB1513443-047	EB1513443-048	EB1513443-049	--------
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	8.8	9.6	8.6	9.3	----
pH OX (23B)	----	0.1	pH Unit	8.1	8.8	8.6	8.2	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	<2	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	<2	<2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	<2	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	<0.02	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	<0.02	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	<0.02	<0.02	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.03	0.04	0.04	0.06	----
Peroxide Sulfur (23De)	----	0.02	% S	0.03	0.09	0.04	0.13	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	0.05	<0.02	0.08	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	34	<10	49	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.17	0.17	0.24	0.19	----
Peroxide Calcium (23Wh)	----	0.02	% Ca	0.27	9.85	0.60	4.21	----
Acid Reacted Calcium (23X)	----	0.02	% Ca	0.10	9.69	0.35	4.02	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	51	4830	177	2010	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	0.08	7.75	0.28	3.22	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.09	0.04	0.12	0.06	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.19	0.29	0.17	0.16	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.09	0.25	0.05	0.10	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	77	206	38	86	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.12	0.33	0.06	0.14	----
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	0.86	24.1	1.40	9.72	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	171	4810	281	1940	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	0.27	7.71	0.45	3.11	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB26 1.0 C	ASS DUPLICATE 31	ASS DUPLICATE 32	ASS DUPLICATE 33	----
				Client sampling date / time	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	[23-Feb-2015]	----
Compound	CAS Number	LOR	Unit		EB1513443-046	EB1513443-047	EB1513443-048	EB1513443-049	--------
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**1.5**	**1.5**	**1.5**	**----**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	<0.02	<0.02	<0.02	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	<10	<10	<10	**----**
Liming Rate	----	1	kg CaCO3/t		<1	<1	<1	<1	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**----**	**----**	**----**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**----**	**----**	**----**	**----**
ø **Reaction Rate**	----	1	-		**----**	**----**	**----**	**----**	**----**

QUALITY CONTROL REPORT

Work Order	: **EB1513443**	Page	: 1 of 10
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: sally.leyland@aurecongroup.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61-7-3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553	Date Samples Received	: 25-Feb-2015
C-O-C number	: ----	Date Analysis Commenced	: 27-Feb-2015
Sampler	: GEORGINA KERR	Issue Date	: 04-Mar-2015
Site	: ----	No. of samples received	: 49
Quote number	: ----	No. of samples analysed	: 49

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out ir compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-A: pH Measurements (QC Lot: 68831)									
EB1513443-001	EB1 0.0 C	EA029: pH KCl (23A)	----	0.1	pH Unit	9.6	9.6	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	10.0	9.9	1.00	0% - 20%
EB1513443-017	EB6 0.0 C	EA029: pH KCl (23A)	----	0.1	pH Unit	9.1	9.1	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	8.2	8.3	1.21	0% - 20%
EA029-A: pH Measurements (QC Lot: 68832)									
EB1513443-034	EB14 0.0 C	EA029: pH KCl (23A)	----	0.1	pH Unit	9.3	9.3	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	8.4	8.5	1.18	0% - 20%
EB1513443-049	ASS DUPLICATE 33	EA029: pH KCl (23A)	----	0.1	pH Unit	9.3	9.3	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	8.2	8.3	1.21	0% - 20%
EA029-B: Acidity Trail (QC Lot: 68831)									
EB1513443-001	EB1 0.0 C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EB1513443-017	EB6 0.0 C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EA029-B: Acidity Trail (QC Lot: 68832)									
EB1513443-034	EB14 0.0 C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EB1513443-049	ASS DUPLICATE 33	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-B: Acidity Trail (QC Lot: 68832) - continued									
EB1513443-049	ASS DUPLICATE 33	EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EA029-C: Sulfur Trail (QC Lot: 68831)									
EB1513443-001	EB1 0.0 C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.05	0.05	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.07	0.05	28.3	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.12	0.10	13.8	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	44	33	28.3	No Limit
EB1513443-017	EB6 0.0 C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.05	0.05	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.05	0.07	34.5	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.10	0.11	16.5	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	30	42	34.5	No Limit
EA029-C: Sulfur Trail (QC Lot: 68832)									
EB1513443-034	EB14 0.0 C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.05	0.05	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.08	0.07	0.00	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.13	0.13	0.00	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	50	45	10.7	No Limit
EB1513443-049	ASS DUPLICATE 33	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.06	0.05	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.08	0.09	13.2	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.13	0.14	0.00	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	49	56	13.2	No Limit
EA029-D: Calcium Values (QC Lot: 68831)									
EB1513443-001	EB1 0.0 C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	13.3	12.4	6.80	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.16	0.16	0.00	No Limit
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	13.4	12.6	6.70	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	10.6	9.91	6.80	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	6620	6180	6.80	0% - 20%
EB1513443-017	EB6 0.0 C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	4.90	5.04	2.94	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.21	0.20	6.01	0% - 50%
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	5.11	5.24	2.58	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	3.92	4.03	2.94	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	2440	2520	2.94	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-D: Calcium Values (QC Lot: 68832)									
EB1513443-034	EB14 0.0 C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	3.36	3.13	7.16	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.18	0.19	6.32	No Limit
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	3.54	3.32	6.44	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	2.69	2.50	7.16	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	1680	1560	7.16	0% - 20%
EB1513443-049	ASS DUPLICATE 33	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	4.02	4.19	4.01	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.19	0.17	8.80	No Limit
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	4.21	4.36	3.48	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	3.22	3.35	4.01	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	2010	2090	4.01	0% - 20%
EA029-E: Magnesium Values (QC Lot: 68831)									
EB1513443-001	EB1 0.0 C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.44	0.45	2.56	0% - 20%
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.04	0.04	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.48	0.49	2.50	0% - 20%
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.58	0.60	2.56	0% - 20%
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	362	372	2.56	0% - 20%
EB1513443-017	EB6 0.0 C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.17	0.20	17.8	0% - 50%
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.08	0.08	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.25	0.28	10.6	0% - 50%
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.22	0.27	17.8	0% - 50%
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	140	167	17.8	0% - 50%
EA029-E: Magnesium Values (QC Lot: 68832)									
EB1513443-034	EB14 0.0 C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.10	0.09	0.00	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.05	0.05	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.15	0.14	0.00	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.13	0.12	0.00	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	81	76	6.29	No Limit
EB1513443-049	ASS DUPLICATE 33	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.10	0.12	11.5	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.06	0.05	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.16	0.17	0.00	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.14	0.15	11.5	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	86	96	11.5	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-F: Excess Acid Neutralising Capacity (QC Lot: 68831)									
EB1513443-001	EB1 0.0 C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	33.8	33.9	0.185	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	10.8	10.8	0.185	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	6760	6780	0.185	0% - 20%
EB1513443-017	EB6 0.0 C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	14.1	14.2	0.530	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	4.52	4.54	0.530	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	2820	2840	0.530	0% - 20%
EA029-F: Excess Acid Neutralising Capacity (QC Lot: 68832)									
EB1513443-034	EB14 0.0 C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	8.51	8.33	2.08	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	2.72	2.67	2.08	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	1700	1660	2.08	0% - 20%
EB1513443-049	ASS DUPLICATE 33	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	9.72	9.80	0.769	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	3.11	3.14	0.769	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	1940	1960	0.769	0% - 20%
EA029-H: Acid Base Accounting (QC Lot: 68831)									
EB1513443-001	EB1 0.0 C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EB1513443-017	EB6 0.0 C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA029-H: Acid Base Accounting (QC Lot: 68832)									
EB1513443-034	EB14 0.0 C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EB1513443-049	ASS DUPLICATE 33	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA037: Ass Field Screening Analysis (QC Lot: 69258)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA037: Ass Field Screening Analysis (QC Lot: 69258) - continued									
EB1513443-002	EB1 0.25 C	EA037: pH (F)	----	0.1	pH Unit	8.5	8.5	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	7.0	7.0	0.00	0% - 20%
EB1513443-028	EB9 0.25 C	EA037: pH (F)	----	0.1	pH Unit	8.6	8.7	1.16	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	6.8	6.7	1.48	0% - 20%

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EA029-A: pH Measurements (QCLot: 68831)								
EA029: pH KCl (23A)	----	0.1	pH Unit	<0.1	4.9 pH Unit	100	70	130
EA029: pH OX (23B)	----	0.1	pH Unit	<0.1	4.4 pH Unit	90.9	70	130
EA029-A: pH Measurements (QCLot: 68832)								
EA029: pH KCl (23A)	----	0.1	pH Unit	<0.1	4.9 pH Unit	100	70	130
EA029: pH OX (23B)	----	0.1	pH Unit	<0.1	4.4 pH Unit	95.4	70	130
EA029-B: Acidity Trail (QCLot: 68831)								
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	14.32 mole H+ / t	101	70	130
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	68 mole H+ / t	102	70	130
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
EA029-B: Acidity Trail (QCLot: 68832)								
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	14.32 mole H+ / t	100	70	130
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	68 mole H+ / t	104	70	130
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
EA029-C: Sulfur Trail (QCLot: 68831)								
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.069 % S	95.3	70	130
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	----	----	----
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	0.204 % S	97.7	70	130
EA029-C: Sulfur Trail (QCLot: 68832)								
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.069 % S	95.3	70	130
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	----	----	----
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	0.204 % S	106	70	130
EA029-D: Calcium Values (QCLot: 68831)								
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.02	0.125 % Ca	93.0	70	130
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.02	0.289 % Ca	104	70	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EA029-D: Calcium Values (QCLot: 68831) - continued								
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.02	----	----	----	----
EA029-D: Calcium Values (QCLot: 68832)								
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.02	0.125 % Ca	91.5	70	130
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.02	0.289 % Ca	118	70	130
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.02	----	----	----	----
EA029-E: Magnesium Values (QCLot: 68831)								
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	0.285 % Mg	107	70	130
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	0.285 % Mg	103	70	130
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	----	----	----
EA029-E: Magnesium Values (QCLot: 68832)								
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	0.285 % Mg	107	70	130
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	0.285 % Mg	104	70	130
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	----	----	----
EA029-F: Excess Acid Neutralising Capacity (QCLot: 68831)								
EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	<0.02	----	----	----	----
EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	<0.02	----	----	----	----
EA029-F: Excess Acid Neutralising Capacity (QCLot: 68832)								
EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	<0.02	----	----	----	----
EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	<0.02	----	----	----	----
EA029-H: Acid Base Accounting (QCLot: 68831)								
EA029: ANC Fineness Factor	----	0.5	-	<0.5	----	----	----	----
EA029: Liming Rate	----	1	kg CaCO3/t	<1	----	----	----	----
EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	----	----	----	----
EA029-H: Acid Base Accounting (QCLot: 68832)								
EA029: ANC Fineness Factor	----	0.5	-	<0.5	----	----	----	----
EA029: Liming Rate	----	1	kg CaCO3/t	<1	----	----	----	----
EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	----	----	----	----

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EA029-H: Acid Base Accounting (QCLot: 68832) - continued								
EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

QA/QC Compliance Assessment for DQO Reporting

Work Order	: **EB1513443**	Page	: 1 of 4
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Telephone	: +61-7-3243 7222
Project	: GPC Geochemical Investigation	Date Samples Received	: 25-Feb-2015
Site	: ----	Issue Date	: 04-Mar-2015
Sampler	: GEORGINA KERR	No. of samples received	: 49
Order number	: 245553	No. of samples analysed	: 49

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA029-F: Excess Acid Neutralising Capacity								
Snap Lock Bag - frozen on receipt at ALS (EA029)								
EB1 0.0 C,	EB1 0.5 C,	**23-Feb-2015**	**27-Feb-2015**	23-Feb-2016	✓	**04-Mar-2015**	28-May-2015	✓
EB1 1.0 C,	EB3 0.0C,							
EB3 0.5C,	EB4 0.0 C,							
EB5 0.5C,	EB6 0.0 C							
EA029-A: pH Measurements								
Snap Lock Bag - frozen on receipt at ALS (EA029)								
EB2 0.0 C,	EB2 0.5 C,	**23-Feb-2015**	**27-Feb-2015**	23-Feb-2016	✓	**04-Mar-2015**	28-May-2015	✓
EB5 0.0 C,	EB6 0.5 C,							
EB6 1.0C,	EB7 0.0 C,							
EB7 0.5 C,	EB7 1.0C,							
EB9 0.0 C,	EB9 0.5 C,							
EB11 0.0 C,	EB11 0.5 C,							
EB14 0.0 C,	EB14 0.5 C,							
EB14 1.0 C,	EB15 0.0 C,							
EB15 0.5 C,	EB26 0.0 C,							
EB26 0.5 C,	EB26 1.0 C,							
ASS DUPLICATE 31,	ASS DUPLICATE 32,							
ASS DUPLICATE 33								
EA037: Ass Field Screening Analysis								
Snap Lock Bag - frozen on receipt at ALS (EA037)								
EB1 0.25 C,	EB1 0.75 C,	**23-Feb-2015**	**02-Mar-2015**	22-Aug-2015	✓	**04-Mar-2015**	22-Aug-2015	✓
EB2 0.25 C,	EB2 0.75 C,							
EB3 0.25C,	EB5 0.25C,							
EB6 0.25 C,	EB6 0.75 C,							
EB7 0.25 C,	EB7 0.75 C,							
EB9 0.25 C,	EB11 0.25 C,							
EB11 0.75 C,	EB14 0.25 C,							
EB14 0.75 C,	EB15 0.25 C,							
EB26 0.25 C,	EB26 0.75 C							

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
ASS Field Screening Analysis	EA037	2	18	**11.11**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	SOIL	In house: Referenced to Ahern et al 2004 - a suspension peroxide oxidation method following the 'sulfur trail' by determining the level of 1M KCL extractable sulfur and the sulfur level after oxidation of soil sulphides. The 'acidity trail' is followed by measurement of TAA, TPA and TSA. Liming Rate is based on results for samples as submitted and incorporates a minimum safety factor of 1.5.
ASS Field Screening Analysis	* EA037	SOIL	In house: Referenced to Acid Sulfate Soils Laboratory Methods Guidelines, version 2.1 June 2004. As received samples are tested for pH field and pH fox and assessed for a reaction rating.

Preparation Methods	Method	Matrix	Method Descriptions
Drying only	EN020D	SOIL	In House
Drying at 85 degrees, bagging and labelling (ASS)	EN020PR	SOIL	In house

ALS Environmental

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PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
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TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 (7)	
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr DATE/TIME: 24-Feb-15	RECEIVED BY: Kelly Schafer DATE/TIME: 24-Feb-15 1815
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	RELINQUISHED BY: dSchafer DATE/TIME: 25-2-15 1600	RECEIVED BY: DATE/TIME:
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

						ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
1	BH5 0.0 C	24/02/2015	S	Bag (Green label)	1					1				Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
2	BH5 0.25 C	24/02/2015	S	Bag (Green label)	1						1			
				TOTAL	2					1	1			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Environmental Division
Brisbane
Work Order Reference
EB1513554

Telephone : +61-7-3243 7222

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		**Yes - Non Standard or urgent TAT (List due date):**	**5 day turnaround**
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	
ORDER NUMBER: 245553		COC: 1 (2) 3 4 5 6	
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6	
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		24-Feb-15	24-Feb-15 1815

RELINQUISHED BY:	**RECEIVED BY:**
KS	
DATE/TIME: 25-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

						ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								**Additional Information**
LAB ID	**SAMPLE ID**	**DATE / TIME**	**MATRIX**	**TYPE & PRESERVATIVE** *(refer to codes below)*	**TOTAL CONTAINERS**	**Aurecon Suite 1**	**Aurecon Suite 2**	**Volatiles**	**Dioxins**	**Acid Sulfate Soils: SPOCAS**	**Acid Sulfate Soils: pH**			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
3	BH8 0.0 C	24/02/2015	S	Bag (Green label)	1					1				
4	BH8 0.25 C	24/02/2015	S	Bag (Green label)	1						1			
5	BH8 0.5 C	24/02/2015	S	Bag (Green label)	1					1				
6	BH8 0.75 C	24/02/2015	S	Bag (Green label)	1						1			
7	BH8 1.0 C	24/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2	#REF!	#REF!	

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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ALS Environmental

ALS Laboratory: please tick →

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT **(List due date):**		
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) **Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround		
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)** COC: 1 2 (3) 4 5 6 7	
ORDER NUMBER: 245553		OF: 1 2 3 4 5 6 (14)	
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006		
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		24-Feb-15	24-Feb-15 1815

RELINQUISHED BY:	**RECEIVED BY:**
KS	
DATE/TIME: 25-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
8	BH60 0.0C	24/02/2015	S	Bag (Green label)	1					1				Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
				TOTAL	1					1				

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date):	5 day turnaround
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	
ORDER NUMBER: 245553		COC: 1 2 3 (4) 5 6	
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (16)	
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	SKS	
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
24-Feb-15	24-Feb-15 1815	25.2.15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price)
Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Additional Information
9	EB12 0.0 C	24/02/2015	S	Bag (Green label)	1					1				
				TOTAL	1					1				

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd

OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000

PROJECT: GPC Geochemical Investigation

ORDER NUMBER: 245553

PROJECT MANAGER: Sally Leyland — **CONTACT PH:** 07 3173 8006

SAMPLER: Georgina Kerr — **SAMPLER MOBILE:** 04 7773 6809

COC emailed to ALS? (YES / ~~NO~~) — **EDD FORMAT (or default):**

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TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)

☐ Standard TAT (List due date):

Yes - Non Standard or urgent TAT (List due date): 5 day turnaround

ALS QUOTE NO.: SY - 1021-14 V2

COC SEQUENCE NUMBER (Circle)

COC: 1 2 3 4 (5) 6 7

OF: 1 2 3 4 5 6 (7)

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	KS	
DATE/TIME: 24-Feb-15	DATE/TIME: 24-Feb-15 1815	DATE/TIME: 25.2.15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
10	EB16 0.25 C	24/02/2015	S	Bag (Green label)	1					1				
				TOTAL	1					1				

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date):	5 day turnaround
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2		
ORDER NUMBER: 245553			
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SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**		
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COC SEQUENCE NUMBER (Circle)

COC:	1	2	3	4	5	(6)	7
OF:	1	2	3	4	5	6	(14)

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	*KS*	
DATE/TIME: 24-Feb-15	DATE/TIME: 24-Feb-15 1815	DATE/TIME: 25.2.15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
11	EB17 0.0 C	24/02/2015	S	Bag (Green label)	1					1				
12	EB17 0.25 C	24/02/2015	S	Bag (Green label)	1						1			
13	EB17 0.5 C	24/02/2015	S	Bag (Green label)	1					1				
				TOTAL	3					2	1			

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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date):	5 day turnaround
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 7	
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*		
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
24-Feb-15	24-Feb-15 1815	25.2.15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price)
Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Additional Information
14	EB22 0.0 C	24/02/2015	S	Bag (Green label)	1					1				
15	EB22 0.25 C	24/02/2015	S	Bag (Green label)	1						1			
16	EB22 0.5 C	24/02/2015	S	Bag (Green label)	1					1				
				TOTAL	3					2	1			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		**Yes - Non Standard or urgent TAT (List due date):**	**5 day turnaround**
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:**	**SY - 1021-14 V2**	**COC SEQUENCE NUMBER (Circle)** COC: 1 2 3 4 5 6 (18) OF: 1 2 3 4 5 6 (19)
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006		
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:** *Georgina Kerr*	**RECEIVED BY:** *Kelly Schafer*
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		24-Feb-15	24-Feb-15 1815

RELINQUISHED BY:	**RECEIVED BY:**
XS	
DATE/TIME: 25-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Additional Information
				ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).										
17	EB27 0.0 C	24/02/2015	S	Bag (Green label)	1					1				
18	EB27 0.25 C	24/02/2015	S	Bag (Green label)	1						1			
19	EB27 0.5 C	24/02/2015	S	Bag (Green label)	1					1				
				TOTAL	3					2	1			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		**Yes - Non Standard or urgent TAT (List due date):**	**5 day turnaround**
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:**	**SY - 1021-14 V2**	**COC SEQUENCE NUMBER (Circle)** COC: 1 2 3 4 5 6 ~~7~~ 9 OF: 1 2 3 4 5 6 7
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006		
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:** *Georgina Kerr* DATE/TIME: 24-Feb-15	**RECEIVED BY:** *Kelly Schafer* DATE/TIME: 24-Feb-15 1815
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**		**RELINQUISHED BY:** XS DATE/TIME: 25-2-15 1600
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			**RECEIVED BY:** DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: S (SOLID) W (WATER)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
20	EB31 0.0 C	24/02/2015	S	Bag (Green label)	1					1				
21	EB31 0.25 C	24/02/2015	S	Bag (Green label)	1						1			
22	EB31 0.5 C	24/02/2015	S	Bag (Green label)	1					1				
				TOTAL	3					2	1			

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics) **Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	Cooling Method:	Ice / Blue Ice / N/A
ORDER NUMBER: 245553		Cooling Agent Temperature on Receipt (°C)	
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006		
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

COC SEQUENCE NUMBER (Circle)

COC: 1 2 3 4 5 6 (6)

OF: 1 2 3 4 5 6 (4)

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	~~KS~~	
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
24-Feb-15	24-Feb-15 1815	25-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS – MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
23	EB32 0.0 C	24/02/2015	S	Bag (Green label)	1					1				
24	EB32 0.25 C	24/02/2015	S	Bag (Green label)	1						1			
25	EB32 0.5 C	24/02/2015	S	Bag (Green label)	1					1				
26	EB32 0.75 C	24/02/2015	S	Bag (Green label)	1						1			
27	EB32 1.0 C	24/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT **(List due date):**	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		**Yes - Non Standard or urgent TAT (List due date):** **5 day turnaround**	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Cooling Method: Ice / Ice Bricks / Blue Ice / Dry Ice / None
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6	Custody Seal Intact? Yes / No / N/A
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6	Cooler Sample Temperature on Receipt °C

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME: 25.2.15 1600
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		24-Feb-15	24-Feb-15 1815	**RECEIVED BY:** DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
28	EB33 0.0 C	24/02/2015	S	Bag (Green label)	1					1				
29	EB33 0.25 C	24/02/2015	S	Bag (Green label)	1						1			
30	EB33 0.5 C	24/02/2015	S	Bag (Green label)	1					1				
31	EB33 0.75 C	24/02/2015	S	Bag (Green label)	1						1			
32	EB33 1.0 C	24/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Preservation Required? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (12)	Cooling Required? Yes No N/A
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Free of Headspace? Yes No N/A
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		24-Feb-15	24-Feb-15 1815

RELINQUISHED BY:	**RECEIVED BY:**
DATE/TIME: 25-2-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
33	EB34 0.0 C	24/02/2015	S	Bag (Green label)	1					1				
34	EB34 0.25 C	24/02/2015	S	Bag (Green label)	1						1			
35	EB34 0.5 C	24/02/2015	S	Bag (Green label)	1					1				
36	EB34 0.75 C	24/02/2015	S	Bag (Green label)	1						1			
37	EB34 1.0 C	24/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
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NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Security Seal Intact: Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Temperature on Receipt (°C):
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (13)	Cooling Method: Ice / Ice Pack / None
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (14)	Custody Seal Intact: Yes / No / N/A
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:** *Georgina Kerr* DATE/TIME: 24-Feb-15	**RECEIVED BY:** *Kelly Schafer* DATE/TIME: 24-Feb-15 1815
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		**RELINQUISHED BY:** DATE/TIME: 25-2-15 1600	**RECEIVED BY:** DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS (MATRIX: SOIL (S) WATER (W))			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
38	EB36 0.0 C	24/02/2015	S	Bag (Green label)	1					1				
39	EB36 0.25 C	24/02/2015	S	Bag (Green label)	1						1			
40	EB36 0.5 C	24/02/2015	S	Bag (Green label)	1					1				
41	EB36 0.75 C	24/02/2015	S	Bag (Green label)	1						1			
42	EB36 1.0 C	24/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes; P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ENVIRONMENTAL

❑ADELAIDE 21 Burma Road Pooraka SA 5095
Ph: 08 8359 0890 E: adelaide@alsglobal.com
❑BRISBANE 32 Shand Street Stafford QLD 4053
Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
❑GLADSTONE 46 Callemondah Drive Clinton QLD 4680
Ph: 07 7471 5600 E: gladstone@alsglobal.com
❑MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
❑MELBOURNE 24 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
❑MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
❑NEWCASTLE 5 Race Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
❑NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 024423 2063 E: nowra@alsglobal.com
❑PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
❑SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
❑TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
❑WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		**Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	
ORDER NUMBER: 245553		
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		

COC SEQUENCE NUMBER (Circle)

COC: 1 2 3 4 5 6 (1a)
OF: 1 2 3 4 5 6 (1a)

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact?	Yes	No	N/A
Free ice / frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt:		°C	
Other comments:			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*		
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
24-Feb-15	24-Feb-15 1815	25-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
43	ASS DUPLICATE 34	24/02/2015	S	Bag (Green label)	1					1				
44	ASS DUPLICATE 35	24/02/2015	S	Bag (Green label)	1					1				
45	ASS DUPLICATE 36	24/02/2015	S	ag (Green label)	1					1				
				TOTAL	3					3				

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CERTIFICATE OF ANALYSIS

Work Order	: **EB1513554**	Page	: 1 of 20
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: sally.leyland@aurecongroup.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61-7-3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553	Date Samples Received	: 26-Feb-2015 08:40
C-O-C number	: ----	Date Analysis Commenced	: 02-Mar-2015
Sampler	: GEORGINA KERR	Issue Date	: 05-Mar-2015 17:24
Site	: ----		
		No. of samples received	: 45
Quote number	: ----	No. of samples analysed	: 45

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.

- ASS: EA029 (SPOCAS): Retained Acidity not required because pH KCl greater than or equal to 4.5
- ASS: EA037 (Rapid Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme
- EA037 ASS Field Screening: NATA accreditation does not cover performance of this service.
- ASS: EA029 (SPOCAS): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime ($CaCO_3$) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from kg/t dry weight to kg/m3 in-situ soil, multiply reported results x wet bulk density of soil in t/m3.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH5 0.0 C	BH5 0.25 C	BH8 0.0 C	BH8 0.25 C	BH8 0.5 C
				Client sampling date / time	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513554-001	EB1513554-002	EB1513554-003	EB1513554-004	EB1513554-005
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		9.2	----	9.4	----	9.4
pH OX (23B)	----	0.1	pH Unit		9.9	----	9.4	----	8.0
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		0.04	----	0.07	----	<0.02
Peroxide Sulfur (23De)	----	0.02	% S		0.07	----	0.12	----	<0.02
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		0.03	----	0.05	----	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		20	----	29	----	<10
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		0.21	----	0.17	----	0.13
Peroxide Calcium (23Wh)	----	0.02	% Ca		6.27	----	5.18	----	0.34
Acid Reacted Calcium (23X)	----	0.02	% Ca		6.06	----	5.01	----	0.21
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		3020	----	2500	----	106
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		4.85	----	4.01	----	0.17
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		0.05	----	0.04	----	0.02
Peroxide Magnesium (23Tm)	----	0.02	% Mg		0.20	----	0.13	----	0.05
Acid Reacted Magnesium (23U)	----	0.02	% Mg		0.15	----	0.09	----	0.03
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		120	----	77	----	22
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		0.19	----	0.12	----	0.04
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		17.8	----	13.9	----	0.87
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		3560	----	2780	----	174
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		5.69	----	4.44	----	0.28

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH5 0.0 C	BH5 0.25 C	BH8 0.0 C	BH8 0.25 C	BH8 0.5 C
				Client sampling date / time	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513554-001	EB1513554-002	EB1513554-003	EB1513554-004	EB1513554-005
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.4**	**----**	**9.2**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**6.4**	**----**	**6.4**	**----**
ø **Reaction Rate**	----	1	-		**----**	**2**	**----**	**2**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH8 0.75 C	BH8 1.0 C	BH60 0.0C	EB12 0.0 C	EB16 0.25 C
				Client sampling date / time	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513554-006	EB1513554-007	EB1513554-008	EB1513554-009	EB1513554-010
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		----	9.4	6.8	9.0	8.4
pH OX (23B)	----	0.1	pH Unit		----	7.6	8.0	9.0	8.0
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		----	<2	<2	<2	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		----	<2	<2	<2	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		----	<2	<2	<2	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		----	<0.02	<0.02	<0.02	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		----	<0.02	<0.02	<0.02	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		----	<0.02	<0.02	<0.02	<0.02
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		----	<0.02	0.03	0.04	0.03
Peroxide Sulfur (23De)	----	0.02	% S		----	<0.02	0.03	0.07	0.03
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		----	<0.02	<0.02	0.03	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		----	<10	<10	16	<10
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		----	0.12	0.09	0.20	0.11
Peroxide Calcium (23Wh)	----	0.02	% Ca		----	0.25	0.16	2.28	0.18
Acid Reacted Calcium (23X)	----	0.02	% Ca		----	0.13	0.08	2.08	0.07
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		----	63	39	1040	34
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		----	0.10	0.06	1.67	0.05
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		----	0.02	0.15	0.08	0.09
Peroxide Magnesium (23Tm)	----	0.02	% Mg		----	0.04	0.19	0.28	0.23
Acid Reacted Magnesium (23U)	----	0.02	% Mg		----	0.02	0.04	0.20	0.14
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		----	18	33	166	119
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		----	0.03	0.05	0.27	0.19
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		----	0.67	0.38	6.25	1.94
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		----	134	77	1250	388
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		----	0.21	0.12	2.00	0.62

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH8 0.75 C	BH8 1.0 C	BH60 0.0C	EB12 0.0 C	EB16 0.25 C
				Client sampling date / time	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513554-006	EB1513554-007	EB1513554-008	EB1513554-009	EB1513554-010
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**----**	**1.5**	**1.5**	**1.5**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		**----**	<0.02	<0.02	<0.02	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		**----**	<10	<10	<10	<10
Liming Rate	----	1	kg CaCO3/t		**----**	<1	<1	<1	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**8.7**	**----**	**----**	**----**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**5.8**	**----**	**----**	**----**	**----**
ø **Reaction Rate**	----	1	-		**2**	**----**	**----**	**----**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB17 0.0 C	EB17 0.25 C	EB17 0.5 C	EB22 0.0 C	EB22 0.25 C
			Client sampling date / time	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513554-011	EB1513554-012	EB1513554-013	EB1513554-014	EB1513554-015
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	9.0	----	8.6	9.1	----
pH OX (23B)	----	0.1	pH Unit	9.0	----	9.0	8.7	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	<2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	<0.02	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.05	----	0.03	0.08	----
Peroxide Sulfur (23De)	----	0.02	% S	0.10	----	0.03	0.20	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.04	----	<0.02	0.12	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	28	----	<10	78	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.22	----	0.27	0.23	----
Peroxide Calcium (23Wh)	----	0.02	% Ca	3.95	----	0.44	6.18	----
Acid Reacted Calcium (23X)	----	0.02	% Ca	3.74	----	0.17	5.96	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	1860	----	84	2970	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	2.99	----	0.13	4.77	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.09	----	0.16	0.08	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.31	----	0.18	0.39	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.22	----	0.02	0.31	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	181	----	18	257	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.29	----	0.03	0.41	----
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	11.0	----	1.85	15.4	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	2200	----	370	3080	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	3.52	----	0.59	4.92	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB17 0.0 C	EB17 0.25 C	EB17 0.5 C	EB22 0.0 C	EB22 0.25 C
				Client sampling date / time	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513554-011	EB1513554-012	EB1513554-013	EB1513554-014	EB1513554-015
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**1.5**	**----**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	<0.02	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	<10	**----**
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	<1	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.7**	**----**	**----**	**9.0**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**6.6**	**----**	**----**	**6.5**
ø **Reaction Rate**	----	1	-		**----**	**2**	**----**	**----**	**2**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB22 0.5 C	EB27 0.0 C	EB27 0.25 C	EB27 0.5 C	EB31 0.0 C
			Client sampling date / time	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513554-016	EB1513554-017	EB1513554-018	EB1513554-019	EB1513554-020
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	7.4	9.3	----	8.8	9.3
pH OX (23B)	----	0.1	pH Unit	7.5	9.6	----	9.0	8.7
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	----	<2	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	----	<2	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	----	<2	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	----	<0.02	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	----	<0.02	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	----	<0.02	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.03	0.04	----	0.07	0.08
Peroxide Sulfur (23De)	----	0.02	% S	0.02	0.04	----	0.13	0.08
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	<0.02	----	0.06	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	<10	----	38	<10
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.12	0.18	----	0.23	0.20
Peroxide Calcium (23Wh)	----	0.02	% Ca	0.16	2.53	----	2.32	3.64
Acid Reacted Calcium (23X)	----	0.02	% Ca	0.04	2.35	----	2.09	3.44
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	18	1170	----	1040	1720
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	0.03	1.88	----	1.67	2.76
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.13	0.04	----	0.10	0.05
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.17	0.11	----	0.29	0.17
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.04	0.07	----	0.19	0.11
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	34	58	----	155	94
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.06	0.09	----	0.25	0.15
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	0.40	9.78	----	6.81	15.1
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	79	1950	----	1360	3020
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	0.13	3.13	----	2.18	4.84

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB22 0.5 C	EB27 0.0 C	EB27 0.25 C	EB27 0.5 C	EB31 0.0 C
				Client sampling date / time	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513554-016	EB1513554-017	EB1513554-018	EB1513554-019	EB1513554-020
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**1.5**	**----**	**1.5**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	<0.02	**----**	<0.02	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	<10	**----**	<10	<10
Liming Rate	----	1	kg CaCO3/t		<1	<1	**----**	<1	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**----**	**9.1**	**----**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**----**	**7.7**	**----**	**----**
ø **Reaction Rate**	----	1	-		**----**	**----**	**3**	**----**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB31 0.25 C	EB31 0.5 C	EB32 0.0 C	EB32 0.25 C	EB32 0.5 C
			Client sampling date / time	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513554-021	EB1513554-022	EB1513554-023	EB1513554-024	EB1513554-025
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	----	8.7	9.3	----	9.3
pH OX (23B)	----	0.1	pH Unit	----	8.9	8.9	----	9.2
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	----	<2	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	----	<2	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	----	<2	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	----	0.03	0.10	----	0.11
Peroxide Sulfur (23De)	----	0.02	% S	----	0.02	0.10	----	0.11
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	----	<0.02	<0.02	----	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	----	<10	<10	----	<10
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	----	0.24	0.21	----	0.19
Peroxide Calcium (23Wh)	----	0.02	% Ca	----	0.52	5.32	----	5.30
Acid Reacted Calcium (23X)	----	0.02	% Ca	----	0.27	5.12	----	5.11
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	----	135	2550	----	2550
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	----	0.22	4.09	----	4.09
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	----	0.13	0.05	----	0.05
Peroxide Magnesium (23Tm)	----	0.02	% Mg	----	0.15	0.23	----	0.20
Acid Reacted Magnesium (23U)	----	0.02	% Mg	----	<0.02	0.18	----	0.16
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	----	16	152	----	128
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	----	0.02	0.24	----	0.20
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	----	1.75	20.4	----	24.8
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	----	350	4070	----	4950
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	----	0.56	6.52	----	7.93

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB31 0.25 C	EB31 0.5 C	EB32 0.0 C	EB32 0.25 C	EB32 0.5 C
				Client sampling date / time	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513554-021	EB1513554-022	EB1513554-023	EB1513554-024	EB1513554-025
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**----**	**1.5**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		**----**	<0.02	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		**----**	<10	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		**----**	<1	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**9.5**	**----**	**----**	**9.0**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**8.0**	**----**	**----**	**7.0**	**----**
ø **Reaction Rate**	----	1	-		**3**	**----**	**----**	**3**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB32 0.75 C	EB32 1.0 C	EB33 0.0 C	EB33 0.25 C	EB33 0.5 C
			Client sampling date / time	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513554-026	EB1513554-027	EB1513554-028	EB1513554-029	EB1513554-030
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	----	9.3	9.2	----	9.1
pH OX (23B)	----	0.1	pH Unit	----	8.0	9.2	----	9.1
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	----	<2	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	----	<2	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	----	<2	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	----	0.04	0.12	----	0.10
Peroxide Sulfur (23De)	----	0.02	% S	----	0.03	0.11	----	0.12
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	----	<0.02	<0.02	----	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	----	<10	<10	----	<10
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	----	0.15	0.20	----	0.18
Peroxide Calcium (23Wh)	----	0.02	% Ca	----	0.34	2.19	----	0.73
Acid Reacted Calcium (23X)	----	0.02	% Ca	----	0.19	1.99	----	0.54
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	----	96	991	----	272
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	----	0.15	1.59	----	0.44
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	----	0.04	0.05	----	0.06
Peroxide Magnesium (23Tm)	----	0.02	% Mg	----	0.07	0.14	----	0.11
Acid Reacted Magnesium (23U)	----	0.02	% Mg	----	0.02	0.09	----	0.05
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	----	21	78	----	44
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	----	0.03	0.12	----	0.07
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	----	1.56	12.1	----	3.18
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	----	311	2420	----	636
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	----	0.50	3.87	----	1.02

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB32 0.75 C	EB32 1.0 C	EB33 0.0 C	EB33 0.25 C	EB33 0.5 C
				Client sampling date / time	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513554-026	EB1513554-027	EB1513554-028	EB1513554-029	EB1513554-030
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**----**	**1.5**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		**----**	<0.02	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		**----**	<10	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		**----**	<1	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**9.0**	**----**	**----**	**9.1**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**6.6**	**----**	**----**	**7.1**	**----**
ø **Reaction Rate**	----	1	-		**2**	**----**	**----**	**3**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB33 0.75 C	EB33 1.0 C	EB34 0.0 C	EB34 0.25 C	EB34 0.5 C
			Client sampling date / time	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513554-031	EB1513554-032	EB1513554-033	EB1513554-034	EB1513554-035
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	----	9.2	9.3	----	9.5
pH OX (23B)	----	0.1	pH Unit	----	8.4	8.5	----	8.3
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	----	<2	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	----	<2	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	----	<2	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	----	0.05	0.11	----	0.08
Peroxide Sulfur (23De)	----	0.02	% S	----	0.06	0.20	----	0.15
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	----	<0.02	0.09	----	0.06
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	----	<10	57	----	41
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	----	0.16	0.21	----	0.18
Peroxide Calcium (23Wh)	----	0.02	% Ca	----	0.52	9.76	----	10.4
Acid Reacted Calcium (23X)	----	0.02	% Ca	----	0.36	9.55	----	10.3
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	----	177	4770	----	5130
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	----	0.28	7.64	----	8.22
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	----	0.05	0.06	----	0.05
Peroxide Magnesium (23Tm)	----	0.02	% Mg	----	0.11	0.11	----	0.31
Acid Reacted Magnesium (23U)	----	0.02	% Mg	----	0.06	0.05	----	0.27
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	----	50	43	----	221
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	----	0.08	0.07	----	0.35
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	----	1.54	23.6	----	27.4
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	----	309	4720	----	5470
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	----	0.49	7.56	----	8.76

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB33 0.75 C	EB33 1.0 C	EB34 0.0 C	EB34 0.25 C	EB34 0.5 C
				Client sampling date / time	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513554-031	EB1513554-032	EB1513554-033	EB1513554-034	EB1513554-035
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**----**	**1.5**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		**----**	<0.02	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		**----**	<10	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		**----**	<1	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**8.9**	**----**	**----**	**8.8**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**7.5**	**----**	**----**	**7.0**	**----**
ø **Reaction Rate**	----	1	-		**3**	**----**	**----**	**3**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB34 0.75 C	EB34 1.0 C	EB36 0.0 C	EB36 0.25 C	EB36 0.5 C
			Client sampling date / time	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513554-036	EB1513554-037	EB1513554-038	EB1513554-039	EB1513554-040
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	----	9.4	9.3	----	9.3
pH OX (23B)	----	0.1	pH Unit	----	8.4	7.7	----	8.2
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	----	<2	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	----	<2	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	----	<2	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	----	0.13	0.13	----	0.15
Peroxide Sulfur (23De)	----	0.02	% S	----	0.18	0.18	----	0.25
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	----	0.06	0.04	----	0.10
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	----	35	28	----	62
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	----	0.20	0.22	----	0.22
Peroxide Calcium (23Wh)	----	0.02	% Ca	----	7.16	5.22	----	6.97
Acid Reacted Calcium (23X)	----	0.02	% Ca	----	6.96	5.00	----	6.75
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	----	3470	2490	----	3370
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	----	5.57	4.00	----	5.40
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	----	0.05	0.08	----	0.05
Peroxide Magnesium (23Tm)	----	0.02	% Mg	----	0.27	0.11	----	0.13
Acid Reacted Magnesium (23U)	----	0.02	% Mg	----	0.22	0.03	----	0.08
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	----	183	26	----	65
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	----	0.29	0.04	----	0.10
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	----	17.3	12.6	----	16.0
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	----	3450	2520	----	3200
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	----	5.52	4.04	----	5.13

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB34 0.75 C	EB34 1.0 C	EB36 0.0 C	EB36 0.25 C	EB36 0.5 C
				Client sampling date / time	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513554-036	EB1513554-037	EB1513554-038	EB1513554-039	EB1513554-040
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**----**	**1.5**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		**----**	<0.02	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		**----**	<10	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		**----**	<1	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**8.9**	**----**	**----**	**9.0**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**7.0**	**----**	**----**	**7.0**	**----**
ø **Reaction Rate**	----	1	-		**3**	**----**	**----**	**3**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB36 0.75 C	EB36 1.0 C	ASS DUPLICATE 34	ASS DUPLICATE 35	ASS DUPLICATE 36
			Client sampling date / time	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513554-041	EB1513554-042	EB1513554-043	EB1513554-044	EB1513554-045
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	----	8.9	9.2	8.9	9.4
pH OX (23B)	----	0.1	pH Unit	----	8.1	8.6	8.3	7.7
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	----	<2	<2	<2	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	----	<2	<2	<2	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	----	<2	<2	<2	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	----	<0.02	<0.02	<0.02	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	----	<0.02	<0.02	<0.02	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	----	<0.02	<0.02	<0.02	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	----	0.05	0.12	0.06	0.04
Peroxide Sulfur (23De)	----	0.02	% S	----	0.10	0.27	0.10	0.05
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	----	0.05	0.15	0.04	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	----	30	92	25	<10
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	----	0.20	0.19	0.22	0.14
Peroxide Calcium (23Wh)	----	0.02	% Ca	----	0.66	2.10	2.06	0.46
Acid Reacted Calcium (23X)	----	0.02	% Ca	----	0.46	1.91	1.84	0.32
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	----	230	953	916	161
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	----	0.37	1.53	1.47	0.26
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	----	0.08	0.06	0.10	0.04
Peroxide Magnesium (23Tm)	----	0.02	% Mg	----	0.14	0.14	0.20	0.07
Acid Reacted Magnesium (23U)	----	0.02	% Mg	----	0.06	0.08	0.10	0.03
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	----	52	70	79	25
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	----	0.08	0.11	0.13	0.04
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	----	1.69	4.74	5.22	1.33
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	----	338	947	1040	265
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	----	0.54	1.52	1.67	0.42

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB36 0.75 C	EB36 1.0 C	ASS DUPLICATE 34	ASS DUPLICATE 35	ASS DUPLICATE 36
				Client sampling date / time	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]	[24-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513554-041	EB1513554-042	EB1513554-043	EB1513554-044	EB1513554-045
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**----**	**1.5**	**1.5**	**1.5**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		**----**	<0.02	<0.02	<0.02	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		**----**	<10	<10	<10	<10
Liming Rate	----	1	kg CaCO3/t		**----**	<1	<1	<1	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**9.5**	**----**	**----**	**----**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**7.2**	**----**	**----**	**----**	**----**
ø **Reaction Rate**	----	1	-		**3**	**----**	**----**	**----**	**----**

QUALITY CONTROL REPORT

Work Order	: **EB1513554**	Page	: 1 of 9
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: sally.leyland@aurecongroup.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61-7-3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553	Date Samples Received	: 26-Feb-2015
C-O-C number	: ----	Date Analysis Commenced	: 02-Mar-2015
Sampler	: GEORGINA KERR	Issue Date	: 05-Mar-2015
Site	: ----	No. of samples received	: 45
Quote number	: ----	No. of samples analysed	: 45

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out ir compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-A: pH Measurements (QC Lot: 69426)									
EB1513554-001	BH5 0.0 C	EA029: pH KCl (23A)	----	0.1	pH Unit	9.2	9.2	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	9.9	10.0	1.00	0% - 20%
EB1513554-016	EB22 0.5 C	EA029: pH KCl (23A)	----	0.1	pH Unit	7.4	7.5	1.34	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	7.5	7.6	1.32	0% - 20%
EA029-A: pH Measurements (QC Lot: 69427)									
EB1513554-032	EB33 1.0 C	EA029: pH KCl (23A)	----	0.1	pH Unit	9.2	9.3	1.08	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	8.4	8.3	1.20	0% - 20%
EA029-B: Acidity Trail (QC Lot: 69426)									
EB1513554-001	BH5 0.0 C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EB1513554-016	EB22 0.5 C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EA029-B: Acidity Trail (QC Lot: 69427)									
EB1513554-032	EB33 1.0 C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EA029-C: Sulfur Trail (QC Lot: 69426)									
EB1513554-001	BH5 0.0 C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.04	0.04	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.03	0.03	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-C: Sulfur Trail (QC Lot: 69426) - continued									
EB1513554-001	BH5 0.0 C	EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.07	0.07	0.00	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	20	21	5.77	No Limit
EB1513554-016	EB22 0.5 C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.03	0.03	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.02	0.02	0.00	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA029-C: Sulfur Trail (QC Lot: 69427)									
EB1513554-032	EB33 1.0 C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.05	0.06	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.06	0.06	0.00	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA029-D: Calcium Values (QC Lot: 69426)									
EB1513554-001	BH5 0.0 C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	6.06	6.14	1.30	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.21	0.21	0.00	0% - 50%
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	6.27	6.35	1.28	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	4.85	4.91	1.30	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	3020	3060	1.30	0% - 20%
EB1513554-016	EB22 0.5 C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	0.04	0.03	0.00	No Limit
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.12	0.13	0.00	No Limit
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	0.16	0.15	0.00	No Limit
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	0.03	0.02	0.00	No Limit
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	18	14	24.5	No Limit
EA029-D: Calcium Values (QC Lot: 69427)									
EB1513554-032	EB33 1.0 C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	0.36	0.39	9.87	0% - 50%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.16	0.16	0.00	No Limit
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	0.52	0.56	7.22	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	0.28	0.31	9.87	0% - 50%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	177	196	9.87	0% - 50%
EA029-E: Magnesium Values (QC Lot: 69426)									
EB1513554-001	BH5 0.0 C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.15	0.16	0.00	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.05	0.05	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.20	0.20	0.00	0% - 50%
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.19	0.20	5.97	0% - 50%
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	120	128	5.97	0% - 50%
EB1513554-016	EB22 0.5 C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.04	0.04	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-E: Magnesium Values (QC Lot: 69426) - continued									
EB1513554-016	EB22 0.5 C	EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.13	0.13	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.17	0.17	0.00	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.06	0.05	0.00	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	34	29	17.6	No Limit
EA029-E: Magnesium Values (QC Lot: 69427)									
EB1513554-032	EB33 1.0 C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.06	0.07	0.00	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.05	0.05	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.11	0.12	0.00	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.08	0.09	0.00	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	50	55	9.74	No Limit
EA029-F: Excess Acid Neutralising Capacity (QC Lot: 69426)									
EB1513554-001	BH5 0.0 C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	17.8	17.8	0.306	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	5.69	5.71	0.306	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	3560	3570	0.306	0% - 20%
EB1513554-016	EB22 0.5 C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	0.40	0.41	4.20	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	0.13	0.13	0.00	No Limit
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	79	83	4.20	No Limit
EA029-F: Excess Acid Neutralising Capacity (QC Lot: 69427)									
EB1513554-032	EB33 1.0 C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	1.54	1.56	1.18	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	0.49	0.50	0.00	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	309	312	1.18	0% - 20%
EA029-H: Acid Base Accounting (QC Lot: 69426)									
EB1513554-001	BH5 0.0 C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EB1513554-016	EB22 0.5 C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-H: Acid Base Accounting (QC Lot: 69427)									
EB1513554-032	EB33 1.0 C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA037: Ass Field Screening Analysis (QC Lot: 70258)									
EB1513554-002	BH5 0.25 C	EA037: pH (F)	----	0.1	pH Unit	8.4	8.4	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	6.4	6.4	0.00	0% - 20%
EB1513554-031	EB33 0.75 C	EA037: pH (F)	----	0.1	pH Unit	8.9	8.9	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	7.5	7.4	1.34	0% - 20%

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EA029-A: pH Measurements (QCLot: 69426)								
EA029: pH KCl (23A)	----	0.1	pH Unit	<0.1	4.9 pH Unit	98.0	70	130
EA029: pH OX (23B)	----	0.1	pH Unit	<0.1	4.4 pH Unit	90.9	70	130
EA029-A: pH Measurements (QCLot: 69427)								
EA029: pH KCl (23A)	----	0.1	pH Unit	<0.1	4.9 pH Unit	98.0	70	130
EA029: pH OX (23B)	----	0.1	pH Unit	<0.1	4.4 pH Unit	90.9	70	130
EA029-B: Acidity Trail (QCLot: 69426)								
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	14.32 mole H+ / t	100	70	130
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	68 mole H+ / t	112	70	130
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
EA029-B: Acidity Trail (QCLot: 69427)								
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	14.32 mole H+ / t	102	70	130
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	68 mole H+ / t	119	70	130
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
EA029-C: Sulfur Trail (QCLot: 69426)								
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.069 % S	95.8	70	130
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	----	----	----
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	0.204 % S	100	70	130
EA029-C: Sulfur Trail (QCLot: 69427)								
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.069 % S	95.2	70	130
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	----	----	----
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	0.204 % S	101	70	130
EA029-D: Calcium Values (QCLot: 69426)								
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.02	0.125 % Ca	99.0	70	130
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.02	0.289 % Ca	104	70	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EA029-D: Calcium Values (QCLot: 69426) - continued								
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.02	----	----	----	----
EA029-D: Calcium Values (QCLot: 69427)								
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.02	0.125 % Ca	97.1	70	130
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.02	0.289 % Ca	102	70	130
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.02	----	----	----	----
EA029-E: Magnesium Values (QCLot: 69426)								
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	0.285 % Mg	106	70	130
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	0.285 % Mg	104	70	130
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	----	----	----
EA029-E: Magnesium Values (QCLot: 69427)								
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	0.285 % Mg	109	70	130
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	0.285 % Mg	101	70	130
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	----	----	----
EA029-F: Excess Acid Neutralising Capacity (QCLot: 69426)								
EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	<0.02	----	----	----	----
EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	<0.02	----	----	----	----
EA029-F: Excess Acid Neutralising Capacity (QCLot: 69427)								
EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	<0.02	----	----	----	----
EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	<0.02	----	----	----	----
EA029-H: Acid Base Accounting (QCLot: 69426)								
EA029: ANC Fineness Factor	----	0.5	-	<0.5	----	----	----	----
EA029: Liming Rate	----	1	kg CaCO3/t	<1	----	----	----	----
EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	----	----	----	----
EA029-H: Acid Base Accounting (QCLot: 69427)								
EA029: ANC Fineness Factor	----	0.5	-	<0.5	----	----	----	----
EA029: Liming Rate	----	1	kg CaCO3/t	<1	----	----	----	----
EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	----	----	----	----

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EA029-H: Acid Base Accounting (QCLot: 69427) - continued								
EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

QA/QC Compliance Assessment for DQO Reporting

Work Order	: **EB1513554**	Page	: 1 of 4
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Telephone	: +61-7-3243 7222
Project	: GPC Geochemical Investigation	Date Samples Received	: 26-Feb-2015
Site	: ----	Issue Date	: 05-Mar-2015
Sampler	: GEORGINA KERR	No. of samples received	: 45
Order number	: 245553	No. of samples analysed	: 45

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA029-F: Excess Acid Neutralising Capacity								
Snap Lock Bag - frozen on receipt at ALS (EA029)								
BH5 0.0 C,	BH8 0.0 C,	**24-Feb-2015**	**02-Mar-2015**	24-Feb-2016	✓	**04-Mar-2015**	31-May-2015	✓
BH8 0.5 C,	BH8 1.0 C,							
BH60 0.0C,	EB12 0.0 C,							
EB16 0.25 C,	EB17 0.0 C,							
EB17 0.5 C,	EB22 0.0 C,							
EB22 0.5 C,	EB27 0.0 C,							
EB27 0.5 C,	EB31 0.0 C,							
EB31 0.5 C,	EB32 0.0 C,							
EB32 0.5 C,	EB32 1.0 C,							
EB33 0.0 C,	EB33 0.5 C,							
EB33 1.0 C,	EB34 0.0 C,							
EB34 0.5 C,	EB34 1.0 C,							
EB36 0.0 C,	EB36 0.5 C,							
EB36 1.0 C,	ASS DUPLICATE 34,							
ASS DUPLICATE 35,	ASS DUPLICATE 36							
EA037: Ass Field Screening Analysis								
Snap Lock Bag - frozen on receipt at ALS (EA037)								
BH5 0.25 C,	BH8 0.25 C,	**24-Feb-2015**	**04-Mar-2015**	23-Aug-2015	✓	**05-Mar-2015**	23-Aug-2015	✓
BH8 0.75 C,	EB17 0.25 C,							
EB22 0.25 C,	EB27 0.25 C,							
EB31 0.25 C,	EB32 0.25 C,							
EB32 0.75 C,	EB33 0.25 C,							
EB33 0.75 C,	EB34 0.25 C,							
EB34 0.75 C,	EB36 0.25 C,							
EB36 0.75 C								

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
ASS Field Screening Analysis	EA037	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	SOIL	In house: Referenced to Ahern et al 2004 - a suspension peroxide oxidation method following the 'sulfur trail' by determining the level of 1M KCL extractable sulfur and the sulfur level after oxidation of soil sulphides. The 'acidity trail' is followed by measurement of TAA, TPA and TSA. Liming Rate is based on results for samples as submitted and incorporates a minimum safety factor of 1.5.
ASS Field Screening Analysis	* EA037	SOIL	In house: Referenced to Acid Sulfate Soils Laboratory Methods Guidelines, version 2.1 June 2004. As received samples are tested for pH field and pH fox and assessed for a reaction rating.

Preparation Methods	Method	Matrix	Method Descriptions
Drying only	EN020D	SOIL	In House
Drying at 85 degrees, bagging and labelling (ASS)	EN020PR	SOIL	In house

ALS Environmental

ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5800 E: gladstone@alsglobal.com
MACKAY 79 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 3-4 Walsall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NORTH ROCKS 2 Sydney Road North Rocks NSW 2304 Ph: 02 4425 2063 E: rocks@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 07 4796 0600 E: [illegible]
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: [illegible]@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact: Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / Ice bricks present upon receipt: Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 10	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: Georgina Kerr	RECEIVED BY: Kelly Schafer
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	DATE/TIME: 16-Feb-15	DATE/TIME: 16-Feb-15 1730
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: KSchafer	RECEIVED BY:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 26.2.15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	BH2 0.0 C	25/02/2015	S	Bag (Green label)	1					1				
2	BH2 0.25 C	25/02/2015	S	Bag (Green label)	1						1			
3	BH2 0.5 C	25/02/2015	S	Bag (Green label)	1					1				
				TOTAL	3					2	1			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Environmental Division
Brisbane
Work Order Reference
EB1513635

Telephone : +61-7-3243 7222

ALS Environmental

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GLADSTONE 46 Cellerandah Drive Clinton QLD 4680
Ph: 07 7471 5600 E: gladstone@alsglobal.com

MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com

NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: [illegible]
NORTH SYDNEY 2 Kenny Street North Newcastle NSW 2300
Ph: 02 4122 2063 E: [illegible]@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com

SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 07 4796 0600 E: [illegible]@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date):	5 day turnaround
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	
ORDER NUMBER: 245553		COC: 1 (2) 3 4 5 6 7	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (10)	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

FOR LABORATORY USE ONLY (Circle)
Custody Seal Intact: Yes / No / N/A
Free ice / frozen ice bricks present upon receipt: Yes / No / N/A
Random Sample Temperature on Receipt: [illegible]
Other Comments:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	Kelly Schafer	[signature]	
DATE/TIME: 16-Feb-15	DATE/TIME: 16-Feb-15 1730	DATE/TIME: 26.2.15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
4	BH7 0.0 C	25/02/2015	S	Bag (Green label)	1					1				
				TOTAL	1					1		#REF!	#REF!	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

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WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) **Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround		Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Cooling Method: Ice / Ice Pack / None (circle)
ORDER NUMBER: 245553		COC: 1 2 (3) 4 5 6 7	Random Sample Temperature on Receipt:
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comments:

SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		16-Feb-15	16-Feb-15 1730	26.2.15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
5	BH13 0.0C	25/02/2015	S	Bag (Green label)	1					1				
6	BH13 0.25C	25/02/2015	S	Bag (Green label)	1						1			
7	BH13 0.5C	25/02/2015	S	Bag (Green label)	1					1				
8	BH13 0.75C	25/02/2015	S	Bag (Green label)	1						1			
9	BH13 1.0C	25/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 07 7471 5600 E: gladstone@alsglobal.com

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Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com

NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4985 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 5209 7655 E: samples.perth@alsglobal.com

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Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUQTE NQ.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: Yes No
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comment:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer	KS	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		16-Feb-15	16-Feb-15 1730	26-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
10	BH32 0.0 C	25/02/2015	S	Bag (Green label)	1					1				
11	BH32 0.25C	25/02/2015	S	Bag (Green label)	1						1			
				TOTAL	2					1	1			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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☐PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9200 7655 E: samples.perth@alsglobal.com
☐SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
☐TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date):	5 day turnaround
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

FOR LABORATORY USE ONLY (Circle):
Custody Seal Intact? Yes No N/A
Free ice / frozen ice bricks present upon receipt? Yes No N/A
Random Sample Temperature on Receipt:
Other comment:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	Kelly Schafer	KS	
DATE/TIME: 16-Feb-15	DATE/TIME: 16-Feb-15 1730	DATE/TIME: 26·2·15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
12	BH57 0.0 C	25/02/2015	S	Bag (Green label)	1					1				
13	BH57 0.25C	25/02/2015	S	Bag (Green label)	1						1			
				TOTAL	2					1	1			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) **Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround		Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Cooler ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 (6) 7	Random Sample Temperature on Receipt
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (7)	Other comments:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
Georgina Kerr	*Kelly Schafer*		
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
16-Feb-15	16-Feb-15 1730	26-2-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
14	BH58 0.0C	25/02/2015	S	Bag (Green label)	1					1				
15	BH58 0.25C	25/02/2015	S	Bag (Green label)	1						1			
16	BH58 0.5C	25/02/2015	S	Bag (Green label)	1					1				
17	BH58 0.75C	25/02/2015	S	Bag (Green label)	1						1			
18	BH58 1.0C	25/02/2015	S	Bag (Green label)	1					1				
19	BH58 1.25C	25/02/2015	S	Bag (Green label)	1						1			
				TOTAL	6					3	3			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free of headspace (<1mm) in VOA vials present (if applicable)? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Received Chilled (Temperature on Receipt): °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
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Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*		
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
16-Feb-15	16-Feb-15 1730	26.2.15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
20	BH59 0.0 C	25/02/2015	S	Bag (Green label)	1					1				
21	BH59 0.25 C	25/02/2015	S	Bag (Green label)	1						1			
22	BH59 0.5 C	25/02/2015	S	Bag (Green label)	1					1				
				TOTAL	3					2	1	#REF!	#REF!	

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (8)	Random Sample Temperature on Receipt: C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (10)	Other comment:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer	KS	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		16-Feb-15	16-Feb-15 1730	26.2.15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
23	BH61 0.0 C	25/02/2015	S	Bag (Green label)	1					1				
24	BH61 0.25 C	25/02/2015	S	Bag (Green label)	1						1			
				TOTAL	2					1	1	#REF!	#REF!	

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 08 9209 7655 E: samples.perth@alsglobal.com
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Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: samples.wollongong@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		18-Feb-15	18-Feb-15 1730

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME:	DATE/TIME:
26·2·15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS: MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION	ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
25	BH62 0.0 C	25/02/2015	S	Bag (Green label)	1					1				Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
				TOTAL	1					1				

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice (frozen ice bricks present upon receipt) Yes No N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (9)	Random Sample Temperature on Receipt: C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (10)	Other comment:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	KS	
DATE/TIME: 16-Feb-15	DATE/TIME: 16-Feb-15 1730	DATE/TIME: 26.2.15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
26	BH63 0.0 C	25/02/2015	S	Bag (Green label)	1					1				
27	BH63 0.25 C	25/02/2015	S	Bag (Green label)	1						1			
				TOTAL	2					1	1			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ADELAIDE 21 Burma Road Pooraka SA 5095
Ph: 08 8359 0890 E: adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053
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GLADSTONE 46 Callemondah Drive Clinton QLD 4680
Ph: 07 7471 5600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 24 Hotham Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT (List due date):	**FOR LABORATORY USE ONLY (Circle)**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free Ice / Frozen Ice Bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (1)	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (1)	Other comments:
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809		
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*		
DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
16-Feb-15	16-Feb-15 1730	26.2.15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS — MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
28	ASS DUPLICATE 37	25/02/2015	S	Bag (Green label)	1					1				
				TOTAL	1					1				

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CERTIFICATE OF ANALYSIS

Work Order	: **EB1513635**	Page	: 1 of 14
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: sally.leyland@aurecongroup.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61-7-3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553	Date Samples Received	: 27-Feb-2015 08:30
C-O-C number	: ----	Date Analysis Commenced	: 04-Mar-2015
Sampler	: GEORGINA KERR	Issue Date	: 06-Mar-2015 16:39
Site	: ----		
		No. of samples received	: 28
Quote number	: ----	No. of samples analysed	: 28

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.

- ASS: EA029 (SPOCAS): Retained Acidity not required because pH KCl greater than or equal to 4.5
- ASS: EA037 (Rapid Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme
- EA037 ASS Field Screening: NATA accreditation does not cover performance of this service.
- ASS: EA029 (SPOCAS): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO3) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from kg/t dry weight to kg/m3 in-situ soil, multiply reported results x wet bulk density of soil in t/m3.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH2 0.0 C	BH2 0.25 C	BH2 0.5 C	BH7 0.0 C	BH13 0.0C
			Client sampling date / time	[25-Feb-2015]	[25-Feb-2015]	[25-Feb-2015]	[25-Feb-2015]	[25-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513635-001	EB1513635-002	EB1513635-003	EB1513635-004	EB1513635-005
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	9.4	----	9.2	9.4	9.4
pH OX (23B)	----	0.1	pH Unit	8.9	----	9.2	9.2	9.3
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	<2	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	<2	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	<2	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	<0.02	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	<0.02	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	<0.02	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.11	----	0.03	0.07	0.07
Peroxide Sulfur (23De)	----	0.02	% S	0.21	----	0.04	0.08	0.13
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.10	----	<0.02	<0.02	0.06
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	63	----	<10	<10	36
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.22	----	0.19	0.17	0.18
Peroxide Calcium (23Wh)	----	0.02	% Ca	17.9	----	2.03	4.38	5.63
Acid Reacted Calcium (23X)	----	0.02	% Ca	17.7	----	1.83	4.21	5.44
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	8840	----	915	2100	2720
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	14.2	----	1.47	3.37	4.35
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.04	----	0.06	0.03	0.03
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.27	----	0.10	0.10	0.10
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.23	----	0.04	0.07	0.06
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	192	----	35	60	52
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.31	----	0.06	0.10	0.08
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	38.9	----	5.00	10.9	12.0
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	7780	----	1000	2180	2400
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	12.4	----	1.60	3.48	3.84

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH2 0.0 C	BH2 0.25 C	BH2 0.5 C	BH7 0.0 C	BH13 0.0C
				Client sampling date / time	[25-Feb-2015]	[25-Feb-2015]	[25-Feb-2015]	[25-Feb-2015]	[25-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513635-001	EB1513635-002	EB1513635-003	EB1513635-004	EB1513635-005
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**1.5**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	<0.02	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	<10	<10
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	<1	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**9.1**	**----**	**----**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**7.6**	**----**	**----**	**----**
ø **Reaction Rate**	----	1	-		**----**	**3**	**----**	**----**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH13 0.25C	BH13 0.5C	BH13 0.75C	BH13 1.0C	BH32 0.0 C
			Client sampling date / time	[25-Feb-2015]	[25-Feb-2015]	[25-Feb-2015]	[25-Feb-2015]	[25-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513635-006	EB1513635-007	EB1513635-008	EB1513635-009	EB1513635-010
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	----	8.9	----	9.1	9.3
pH OX (23B)	----	0.1	pH Unit	----	8.3	----	8.6	9.2
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	----	<2	----	<2	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	----	<2	----	<2	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	----	<2	----	<2	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	----	<0.02	----	<0.02	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	----	<0.02	----	<0.02	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	----	<0.02	----	<0.02	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	----	0.18	----	0.05	0.08
Peroxide Sulfur (23De)	----	0.02	% S	----	0.47	----	0.05	0.10
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	----	0.29	----	<0.02	0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	----	179	----	<10	13
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	----	0.24	----	0.15	0.19
Peroxide Calcium (23Wh)	----	0.02	% Ca	----	4.21	----	0.35	4.65
Acid Reacted Calcium (23X)	----	0.02	% Ca	----	3.97	----	0.20	4.46
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	----	1980	----	99	2230
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	----	3.17	----	0.16	3.57
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	----	0.06	----	0.03	0.04
Peroxide Magnesium (23Tm)	----	0.02	% Mg	----	0.17	----	0.06	0.10
Acid Reacted Magnesium (23U)	----	0.02	% Mg	----	0.11	----	0.04	0.06
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	----	87	----	32	54
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	----	0.14	----	0.05	0.09
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	----	8.44	----	0.91	10.1
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	----	1690	----	182	2020
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	----	2.70	----	0.29	3.24

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH13 0.25C	BH13 0.5C	BH13 0.75C	BH13 1.0C	BH32 0.0 C
				Client sampling date / time	[25-Feb-2015]	[25-Feb-2015]	[25-Feb-2015]	[25-Feb-2015]	[25-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513635-006	EB1513635-007	EB1513635-008	EB1513635-009	EB1513635-010
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**----**	**1.5**	**----**	**1.5**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		**----**	<0.02	**----**	<0.02	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		**----**	<10	**----**	<10	<10
Liming Rate	----	1	kg CaCO3/t		**----**	<1	**----**	<1	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**8.9**	**----**	**8.7**	**----**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**6.8**	**----**	**6.9**	**----**	**----**
ø **Reaction Rate**	----	1	-		**3**	**----**	**3**	**----**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH32 0.25C	BH57 0.0 C	BH57 0.25C	BH58 0.0C	BH58 0.25C
				Client sampling date / time	[25-Feb-2015]	[25-Feb-2015]	[25-Feb-2015]	[25-Feb-2015]	[25-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513635-011	EB1513635-012	EB1513635-013	EB1513635-014	EB1513635-015
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		----	9.4	----	9.3	----
pH OX (23B)	----	0.1	pH Unit		----	9.2	----	9.3	----
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		----	<2	----	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		----	<2	----	<2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		----	<2	----	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		----	<0.02	----	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		----	<0.02	----	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		----	<0.02	----	<0.02	----
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		----	0.18	----	0.22	----
Peroxide Sulfur (23De)	----	0.02	% S		----	0.18	----	0.22	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		----	<0.02	----	<0.02	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		----	<10	----	<10	----
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		----	0.18	----	0.17	----
Peroxide Calcium (23Wh)	----	0.02	% Ca		----	6.03	----	2.16	----
Acid Reacted Calcium (23X)	----	0.02	% Ca		----	5.85	----	1.98	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		----	2920	----	991	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		----	4.68	----	1.59	----
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		----	0.04	----	0.04	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg		----	0.17	----	0.12	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg		----	0.13	----	0.08	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		----	105	----	62	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		----	0.17	----	0.10	----
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		----	13.6	----	4.38	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		----	2710	----	875	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		----	4.34	----	1.40	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH32 0.25C	BH57 0.0 C	BH57 0.25C	BH58 0.0C	BH58 0.25C
				Client sampling date / time	[25-Feb-2015]	[25-Feb-2015]	[25-Feb-2015]	[25-Feb-2015]	[25-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513635-011	EB1513635-012	EB1513635-013	EB1513635-014	EB1513635-015
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**----**	**1.5**	**----**	**1.5**	**----**
Net Acidity (sulfur units)	----	0.02	% S		**----**	<0.02	**----**	<0.02	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		**----**	<10	**----**	<10	**----**
Liming Rate	----	1	kg CaCO3/t		**----**	<1	**----**	<1	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**9.0**	**----**	**9.0**	**----**	**8.9**
ø **pH (Fox)**	----	0.1	pH Unit		**6.9**	**----**	**7.4**	**----**	**6.9**
ø **Reaction Rate**	----	1	-		**3**	**----**	**3**	**----**	**3**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH58 0.5C	BH58 0.75C	BH58 1.0C	BH58 1.25C	BH59 0.0 C
			Client sampling date / time	[25-Feb-2015]	[25-Feb-2015]	[25-Feb-2015]	[25-Feb-2015]	[25-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513635-016	EB1513635-017	EB1513635-018	EB1513635-019	EB1513635-020
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	9.2	----	9.2	----	9.1
pH OX (23B)	----	0.1	pH Unit	9.0	----	8.8	----	8.3
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.29	----	0.28	----	0.37
Peroxide Sulfur (23De)	----	0.02	% S	0.28	----	0.28	----	0.39
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	<0.02	----	0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	<10	----	15
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.17	----	0.19	----	0.22
Peroxide Calcium (23Wh)	----	0.02	% Ca	2.10	----	2.41	----	2.58
Acid Reacted Calcium (23X)	----	0.02	% Ca	1.92	----	2.22	----	2.36
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	960	----	1110	----	1180
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	1.54	----	1.77	----	1.88
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.04	----	0.05	----	0.08
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.16	----	0.19	----	0.24
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.12	----	0.14	----	0.17
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	99	----	113	----	139
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.16	----	0.18	----	0.22
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	4.69	----	5.76	----	5.96
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	938	----	1150	----	1190
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	1.50	----	1.84	----	1.91

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH58 0.5C	BH58 0.75C	BH58 1.0C	BH58 1.25C	BH59 0.0 C
				Client sampling date / time	[25-Feb-2015]	[25-Feb-2015]	[25-Feb-2015]	[25-Feb-2015]	[25-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513635-016	EB1513635-017	EB1513635-018	EB1513635-019	EB1513635-020
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.7**	**----**	**8.7**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**7.2**	**----**	**6.9**	**----**
ø **Reaction Rate**	----	1	-		**----**	**3**	**----**	**3**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH59 0.25 C	BH59 0.5 C	BH61 0.0 C	BH61 0.25 C	BH62 0.0 C
				Client sampling date / time	[25-Feb-2015]	[25-Feb-2015]	[25-Feb-2015]	[25-Feb-2015]	[25-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513635-021	EB1513635-022	EB1513635-023	EB1513635-024	EB1513635-025
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		----	8.7	9.1	----	9.1
pH OX (23B)	----	0.1	pH Unit		----	9.0	9.0	----	8.8
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		----	<2	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		----	<2	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		----	<2	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		----	<0.02	<0.02	----	<0.02
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		----	0.03	0.07	----	0.03
Peroxide Sulfur (23De)	----	0.02	% S		----	0.06	0.08	----	0.06
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		----	0.02	<0.02	----	0.03
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		----	13	<10	----	16
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		----	0.24	0.18	----	0.21
Peroxide Calcium (23Wh)	----	0.02	% Ca		----	0.40	1.76	----	6.08
Acid Reacted Calcium (23X)	----	0.02	% Ca		----	0.16	1.58	----	5.87
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		----	78	787	----	2930
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		----	0.12	1.26	----	4.70
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		----	0.11	0.06	----	0.07
Peroxide Magnesium (23Tm)	----	0.02	% Mg		----	0.16	0.13	----	0.28
Acid Reacted Magnesium (23U)	----	0.02	% Mg		----	0.05	0.07	----	0.21
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		----	39	60	----	172
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		----	0.06	0.10	----	0.28
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		----	1.12	3.94	----	20.4
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		----	223	788	----	4080
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		----	0.36	1.26	----	6.54

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH59 0.25 C	BH59 0.5 C	BH61 0.0 C	BH61 0.25 C	BH62 0.0 C
				Client sampling date / time	[25-Feb-2015]	[25-Feb-2015]	[25-Feb-2015]	[25-Feb-2015]	[25-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513635-021	EB1513635-022	EB1513635-023	EB1513635-024	EB1513635-025
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**----**	**1.5**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		**----**	<0.02	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		**----**	<10	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		**----**	<1	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**8.9**	**----**	**----**	**9.2**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**7.2**	**----**	**----**	**6.6**	**----**
ø **Reaction Rate**	----	1	-		**3**	**----**	**----**	**3**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH63 0.0 C	BH63 0.25 C	ASS DUPLICATE 37	----	----
			Client sampling date / time	[25-Feb-2015]	[25-Feb-2015]	[25-Feb-2015]	----	----
Compound	CAS Number	LOR	Unit	EB1513635-026	EB1513635-027	EB1513635-028	--------	--------
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	**9.0**	----	**8.8**	----	----
pH OX (23B)	----	0.1	pH Unit	**8.6**	----	**9.2**	----	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	----	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	----	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	----	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	----	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	**0.03**	----	<0.02	----	----
Peroxide Sulfur (23De)	----	0.02	% S	**0.08**	----	**0.04**	----	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	**0.04**	----	**0.04**	----	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	**26**	----	**24**	----	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	**0.20**	----	**0.21**	----	----
Peroxide Calcium (23Wh)	----	0.02	% Ca	**1.07**	----	**0.50**	----	----
Acid Reacted Calcium (23X)	----	0.02	% Ca	**0.88**	----	**0.29**	----	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	**438**	----	**143**	----	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	**0.70**	----	**0.23**	----	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	**0.08**	----	**0.10**	----	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg	**0.19**	----	**0.17**	----	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg	**0.10**	----	**0.07**	----	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	**86**	----	**55**	----	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	**0.14**	----	**0.09**	----	----
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	**2.50**	----	**1.96**	----	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	**500**	----	**391**	----	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	**0.80**	----	**0.63**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH63 0.0 C	BH63 0.25 C	ASS DUPLICATE 37	----	----
				Client sampling date / time	[25-Feb-2015]	[25-Feb-2015]	[25-Feb-2015]	----	----
Compound	CAS Number	LOR	Unit		EB1513635-026	EB1513635-027	EB1513635-028	--------	--------
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**----**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	**----**
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.9**	**----**	**----**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**6.5**	**----**	**----**	**----**
ø **Reaction Rate**	----	1	-		**----**	**3**	**----**	**----**	**----**

QUALITY CONTROL REPORT

Work Order	: **EB1513635**	Page	: 1 of 7
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
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Telephone	: +61 07 3173 8006	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61-7-3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553	Date Samples Received	: 27-Feb-2015
C-O-C number	: ----	Date Analysis Commenced	: 04-Mar-2015
Sampler	: GEORGINA KERR	Issue Date	: 06-Mar-2015
Site	: ----	No. of samples received	: 28
Quote number	: ----	No. of samples analysed	: 28

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out ir compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-A: pH Measurements (QC Lot: 70262)									
EB1513635-001	BH2 0.0 C	EA029: pH KCl (23A)	----	0.1	pH Unit	9.4	9.4	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	8.9	9.1	2.22	0% - 20%
EB1513635-018	BH58 1.0C	EA029: pH KCl (23A)	----	0.1	pH Unit	9.2	9.2	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	8.8	8.8	0.00	0% - 20%
EA029-B: Acidity Trail (QC Lot: 70262)									
EB1513635-001	BH2 0.0 C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EB1513635-018	BH58 1.0C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EA029-C: Sulfur Trail (QC Lot: 70262)									
EB1513635-001	BH2 0.0 C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.11	0.11	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.10	0.08	20.2	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.21	0.19	8.03	0% - 50%
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	63	52	20.2	No Limit
EB1513635-018	BH58 1.0C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.28	0.28	0.00	0% - 50%
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.28	0.27	4.48	0% - 50%
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA029-D: Calcium Values (QC Lot: 70262)									
EB1513635-001	BH2 0.0 C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	17.7	16.5	7.36	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.22	0.21	0.00	0% - 50%
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	17.9	16.7	7.28	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-D: Calcium Values (QC Lot: 70262) - continued									
EB1513635-001	BH2 0.0 C	EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	14.2	13.2	7.36	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	8840	8220	7.36	0% - 20%
EB1513635-018	BH58 1.0C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	2.22	2.06	7.16	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.19	0.19	0.00	No Limit
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	2.41	2.26	6.47	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	1.77	1.65	7.16	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	1110	1030	7.16	0% - 20%
EA029-E: Magnesium Values (QC Lot: 70262)									
EB1513635-001	BH2 0.0 C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.23	0.23	0.00	0% - 50%
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.04	0.04	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.27	0.27	0.00	0% - 50%
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.31	0.31	0.00	0% - 50%
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	192	191	0.685	0% - 50%
EB1513635-018	BH58 1.0C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.14	0.12	16.3	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.05	0.05	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.19	0.17	11.1	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.18	0.15	16.3	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	113	96	16.3	0% - 50%
EA029-F: Excess Acid Neutralising Capacity (QC Lot: 70262)									
EB1513635-001	BH2 0.0 C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	38.9	39.0	0.121	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	12.4	12.5	0.121	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	7780	7780	0.121	0% - 20%
EB1513635-018	BH58 1.0C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	5.76	5.76	0.00	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	1.84	1.84	0.00	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	1150	1150	0.00	0% - 20%
EA029-H: Acid Base Accounting (QC Lot: 70262)									
EB1513635-001	BH2 0.0 C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EB1513635-018	BH58 1.0C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-H: Acid Base Accounting (QC Lot: 70262) - continued									
EB1513635-018	BH58 1.0C	EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA037: Ass Field Screening Analysis (QC Lot: 70260)									
EB1513635-002	BH2 0.25 C	EA037: pH (F)	----	0.1	pH Unit	9.1	9.1	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	7.6	7.4	2.67	0% - 20%
EB1513635-027	BH63 0.25 C	EA037: pH (F)	----	0.1	pH Unit	8.9	8.9	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	6.5	6.5	0.00	0% - 20%

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EA029-A: pH Measurements (QCLot: 70262)								
EA029: pH KCl (23A)	----	0.1	pH Unit	<0.1	4.9 pH Unit	100	70	130
EA029: pH OX (23B)	----	0.1	pH Unit	<0.1	4.4 pH Unit	93.2	70	130
EA029-B: Acidity Trail (QCLot: 70262)								
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	14.32 mole H+ / t	104	70	130
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	68 mole H+ / t	105	70	130
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
EA029-C: Sulfur Trail (QCLot: 70262)								
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.069 % S	101	70	130
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	----	----	----
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	0.204 % S	99.0	70	130
EA029-D: Calcium Values (QCLot: 70262)								
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.02	0.125 % Ca	96.4	70	130
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.02	0.289 % Ca	105	70	130
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.02	----	----	----	----
EA029-E: Magnesium Values (QCLot: 70262)								
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	0.285 % Mg	104	70	130
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	0.285 % Mg	104	70	130
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	----	----	----
EA029-F: Excess Acid Neutralising Capacity (QCLot: 70262)								
EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	<0.02	----	----	----	----
EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	<0.02	----	----	----	----
EA029-H: Acid Base Accounting (QCLot: 70262)								
EA029: ANC Fineness Factor	----	0.5	-	<0.5	----	----	----	----
EA029: Liming Rate	----	1	kg CaCO3/t	<1	----	----	----	----

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EA029-H: Acid Base Accounting (QCLot: 70262) - continued								
EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

QA/QC Compliance Assessment for DQO Reporting

Work Order	: **EB1513635**	Page	: 1 of 4
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Telephone	: +61-7-3243 7222
Project	: GPC Geochemical Investigation	Date Samples Received	: 27-Feb-2015
Site	: ----	Issue Date	: 06-Mar-2015
Sampler	: GEORGINA KERR	No. of samples received	: 28
Order number	: 245553	No. of samples analysed	: 28

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA029-B: Acidity Trail								
Snap Lock Bag - frozen on receipt at ALS (EA029)								
BH2 0.0 C,	BH2 0.5 C	**25-Feb-2015**	**04-Mar-2015**	25-Feb-2016	✓	**06-Mar-2015**	02-Jun-2015	✓
EA029-F: Excess Acid Neutralising Capacity								
Snap Lock Bag - frozen on receipt at ALS (EA029)								
BH7 0.0 C,	BH13 1.0C,	**25-Feb-2015**	**04-Mar-2015**	25-Feb-2016	✓	**06-Mar-2015**	02-Jun-2015	✓
BH58 0.5C,	BH58 1.0C,							
BH59 0.5 C,	BH61 0.0 C,							
BH62 0.0 C,	BH63 0.0 C							
EA029-A: pH Measurements								
Snap Lock Bag - frozen on receipt at ALS (EA029)								
BH13 0.0C,	BH13 0.5C,	**25-Feb-2015**	**04-Mar-2015**	25-Feb-2016	✓	**06-Mar-2015**	02-Jun-2015	✓
BH32 0.0 C,	BH57 0.0 C,							
BH58 0.0C,	ASS DUPLICATE 37							
EA029-G: Retained Acidity								
Snap Lock Bag - frozen on receipt at ALS (EA029)								
BH59 0.0 C		**25-Feb-2015**	**04-Mar-2015**	25-Feb-2016	✓	**06-Mar-2015**	02-Jun-2015	✓
EA037: Ass Field Screening Analysis								
Snap Lock Bag - frozen on receipt at ALS (EA037)								
BH2 0.25 C,	BH13 0.25C,	**25-Feb-2015**	**04-Mar-2015**	24-Aug-2015	✓	**06-Mar-2015**	24-Aug-2015	✓
BH13 0.75C,	BH32 0.25C,							
BH57 0.25C,	BH58 0.25C,							
BH58 0.75C,	BH58 1.25C,							
BH59 0.25 C,	BH61 0.25 C,							
BH63 0.25 C								

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
ASS Field Screening Analysis	EA037	2	11	**18.18**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	2	17	**11.76**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	17	**5.88**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	17	**5.88**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	SOIL	In house: Referenced to Ahern et al 2004 - a suspension peroxide oxidation method following the 'sulfur trail' by determining the level of 1M KCL extractable sulfur and the sulfur level after oxidation of soil sulphides. The 'acidity trail' is followed by measurement of TAA, TPA and TSA. Liming Rate is based on results for samples as submitted and incorporates a minimum safety factor of 1.5.
ASS Field Screening Analysis	* EA037	SOIL	In house: Referenced to Acid Sulfate Soils Laboratory Methods Guidelines, version 2.1 June 2004. As received samples are tested for pH field and pH fox and assessed for a reaction rating.

Preparation Methods	Method	Matrix	Method Descriptions
Drying only	EN020D	SOIL	In House
Drying at 85 degrees, bagging and labelling (ASS)	EN020PR	SOIL	In house

ADELAIDE 21 Burma Road Pooraka SA 5095
Ph: 08 8359 0890 E: adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053
Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 46 Callemondah Drive Clinton QLD 4680
Ph: 07 4971 9600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 24 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 6735 E: mudgee mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/15 Geary Place North Nowra NSW 2541
Ph: 02 4423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4796 0600 E: townsville@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 (14)	
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: *Georgina Kerr* DATE/TIME: 26-Feb-15	RECEIVED BY: *Kelly Schafer* DATE/TIME: 26-Feb-15 1815
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: DATE/TIME: 2-3-15 1600	RECEIVED BY: DATE/TIME: 3-3-15 09:45
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: SOLIDS/WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	BH42 0.0 C	26/02/2015	S	Bag (Green label)	1					1				
2	BH42 0.25 C	26/02/2015	S	Bag (Green label)	1						1			
3	BH42 0.5 C	26/02/2015	S	Bag (Green label)	1					1				
4	BH42 0.75 C	26/02/2015	S	Bag (Green label)	1						1			
5	BH42 1.0 C	26/02/2015	S	Bag (Green label)	1					1				
6	BH42 1.25 C	26/02/2015	S	Bag (Green label)	1						1			
7	BH42 1.5 C	26/02/2015	S	Bag (Green label)	1					1				
				TOTAL	7					4	3			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Pl
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

Environmental Division
Brisbane
Work Order Reference
EB1513761

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GLADSTONE 46 Callemondah Drive Clinton QLD 4680
Ph: 07 7471 5600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 24 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
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PERTH 10 Hod Way Malaga WA 6090
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SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: purikamba@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	
ORDER NUMBER: 245553		COC: 1 (2) 3 4 5 6 7	
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 (6)	
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 26-Feb-15	DATE/TIME: 26-Feb-15 1815
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		**RELINQUISHED BY:**	**RECEIVED BY:**
		DATE/TIME: 2-3-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS (MATRIX: SOIL (S) OR WATER (W))			CONTAINER INFORMATION	ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
8	BH44 0.0 C	26/02/2015	S	Bag (Green label)	1					1				
9	BH44 0.25 C	26/02/2015	S	Bag (Green label)	1						1			
10	BH44 0.5 C	26/02/2015	S	Bag (Green label)	1					1				
				TOTAL	3					2	1	#REF!	#REF!	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CHAIN OF CUSTODY

ALS Laboratory: please tick →

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☐MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
☐MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee mail@alsglobal.com
☐NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 8433 E: samples.newcastle@alsglobal.com
☐NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
☐PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
☐SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) **Yes - Non Standard or urgent TAT (List due date):** 5 day turnaround		
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	
ORDER NUMBER: 245553		COC: 1 2 (3) 4 5 6 7	
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (14)	
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / ~~NO~~)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		26-Feb-15	26-Feb-15 1815

RELINQUISHED BY:	**RECEIVED BY:**
KS	
DATE/TIME: 2-3-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
11	BH47 0.0C	26/02/2015	S	Bag (Green label)	1					1				
12	BH47 0.25C	26/02/2015	S	Bag (Green label)	1						1			
13	BH47 0.5C	26/02/2015	S	Bag (Green label)	1					1				
				TOTAL	3					2	1			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		**Yes - Non Standard or urgent TAT (List due date):**	**5 day turnaround**
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:**	**SY - 1021-14 V2**	**COC SEQUENCE NUMBER (Circle)** COC: 1 2 3 (4) 5 6 7
ORDER NUMBER: 245553			OF: 1 2 3 4 5 6 (7)
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006		
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 26-Feb-15	DATE/TIME: 26-Feb-15 1815
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		**RELINQUISHED BY:**	**RECEIVED BY:**
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:		DATE/TIME: 2-3-15 1600	DATE/TIME:

ALS USE						**ANALYSIS REQUIRED including SUITES** (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								**Additional Information**
LAB ID	**SAMPLE ID**	**DATE / TIME**	**MATRIX**	**TYPE & PRESERVATIVE** *(refer to codes below)*	**TOTAL CONTAINERS**	**Aurecon Suite 1**	**Aurecon Suite 2**		**Dioxins**	**Acid Sulfate Soils: SPOCAS**	**Acid Sulfate Soils: pH**			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
14	BH48 0.0 C	26/02/2015	S	Bag (Green label)	1					1				
15	BH48 0.25C	26/02/2015	S	Bag (Green label)	1						1			
16	BH48 0.5C	26/02/2015	S	Bag (Green label)	1					1				
SNR 17	BH48 0.75C	26/02/2015	S	Bag (Green label)	1						1			
~~18~~														
				TOTAL	4					2	2			

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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ORANGE 2/13 Kenny Place North Nowra NSW 2541
Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobe.com

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		**Yes - Non Standard or urgent TAT (List due date):**	**5 day turnaround**
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:**	**SY - 1021-14 V2**	**COC SEQUENCE NUMBER (Circle)** COC: 1 2 3 4 (5) 6 7 OF: 1 2 3 4 5 6 (7)
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006		
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:** *Georgina Kerr* DATE/TIME: 26-Feb-15	**RECEIVED BY:** *Kelly Schafer* DATE/TIME: 26-Feb-15 1815
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**		**RELINQUISHED BY:** DATE/TIME: 2.3.15 1600
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			**RECEIVED BY:** DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS (MATRIX: S Soil, W Water)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2		Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
18 19	BH49 0.0 C	26/02/2015	S	Bag (Green label)	1					1				
19 20	BH49 0.25C	26/02/2015	S	Bag (Green label)	1						1			
20 21	BH49 0.5C	26/02/2015	S	Bag (Green label)	1					1				
				TOTAL	3					2	1			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circled)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	
ORDER NUMBER: 245553		COC: 1 2 3 4 5 (6) 7	
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OF: 1 2 3 4 5 6 (7)	
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 26-Feb-15	DATE/TIME: 26-Feb-15 1815
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		**RELINQUISHED BY:**	**RECEIVED BY:**
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:		DATE/TIME: 2-3-15 1600	DATE/TIME:

ALS USE	SAMPLE DETAILS – MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).									Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
21 ~~22~~	BH50 0.0 C	26/02/2015	S	Bag (Green label)	1					1				
22 ~~23~~	BH50 0.25 C	26/02/2015	S	Bag (Green label)	1						1			
23 ~~24~~	BH50 0.5 C	26/02/2015	S	Bag (Green label)	1					1				
24 ~~25~~	BH50 0.75 C	26/02/2015	S	Bag (Green label)	1						1			
				TOTAL	4					2	2	#REF!	#REF!	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (19)	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		26-Feb-15	26-Feb-15 1815

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 2-3-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS — MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
25 ~~26~~	BH51 0.0 C	26/02/2015	S	Bag (Green label)	1					1				
26 ~~27~~	BH51 0.25 C	26/02/2015	S	Bag (Green label)	1						1			
27 ~~28~~	BH51 0.5 C	26/02/2015	S	Bag (Green label)	1					1				
28 ~~29~~	BH51 0.75 C	26/02/2015	S	Bag (Green label)	1						1			
				TOTAL	4					2	2	#REF!	#REF!	

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V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
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PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (8)	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (14)	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	KS	
DATE/TIME: 26-Feb-15	DATE/TIME: 26-Feb-15 1815	DATE/TIME: 2-3-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOILS (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
29 ~~30~~	BH52 0.0 C	26/02/2015	S	Bag (Green label)	1					1				
30 ~~31~~	BH52 0.25 C	26/02/2015	S	Bag (Green label)	1						1			
31 ~~32~~	BH52 0.5 C	26/02/2015	S	Bag (Green label)	1					1				
				TOTAL	3					2	1			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 0244233 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date):	5 day turnaround
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (9) OF: 1 2 3 4 5 6 (14)	
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		26-Feb-15	26-Feb-15 1815

RELINQUISHED BY:	RECEIVED BY:
DATE/TIME:	DATE/TIME:
2-3-15 1600	

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS — MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
32 ~~33~~	BH53 0.0 C	26/02/2015	S	Bag (Green label)	1					1				
33 ~~34~~	BH53 0.25 C	26/02/2015	S	Bag (Green label)	1						1			
34 ~~35~~	BH53 0.5 C	26/02/2015	S	Bag (Green label)	1					1				
35 ~~36~~	BH53 0.75 C	26/02/2015	S	Bag (Green label)	1						1			
36 ~~37~~	BH53 1.0 C	26/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 02 4968 6433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hasler Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
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Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (16)	
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (14)	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr	Kelly Schafer
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 26-Feb-15	DATE/TIME: 26-Feb-15 1815
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY: DS	RECEIVED BY:
		DATE/TIME: 2-3-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
37 ~~38~~	BH54 0.0 C	26/02/2015	S	Bag (Green label)	1					1				
38 ~~39~~	BH54 0.25 C	26/02/2015	S	Bag (Green label)	1						1			
39 ~~40~~	BH54 0.5 C	26/02/2015	S	Bag (Green label)	1					1				
40 ~~41~~	BH54 0.75 C	26/02/2015	S	Bag (Green label)	1						1			
41 ~~42~~	BH54 1.0 C	26/02/2015	S	Bag (Green label)	1					1				
				TOTAL	5					3	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		**Yes - Non Standard or urgent TAT (List due date):**	**5 day turnaround**
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:**	**SY - 1021-14 V2**	**COC SEQUENCE NUMBER (Circle)** COC: 1 2 3 4 5 6 (1) OF: 1 2 3 4 5 6 (1A)
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006		
SAMPLER: Georgina Kerr	**SAMPLER MOBILE:** 04 7773 6809	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Georgina Kerr*	*Kelly Schafer*
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		26-Feb-15	26-Feb-15 1815

RELINQUISHED BY:	**RECEIVED BY:**
DATE/TIME: 23/15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

						ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where **Metals** are required, specify **Total** (unfiltered bottle required) or **Dissolved** (field filtered bottle required).								**Additional Information**
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
42 ~~43~~	BH55 0.0 C	26/02/2015	S	Bag (Green label)	1					1				
43 ~~44~~	BH55 0.25 C	26/02/2015	S	Bag (Green label)	1						1			
44 ~~45~~	BH55 0.5 C	26/02/2015	S	Bag (Green label)	1					1				
45 ~~46~~	BH55 0.75 C	26/02/2015	S	Bag (Green label)	1						1			
				TOTAL	4					2	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date):	5 day turnaround
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.:	SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 (12) OF: 1 2 3 4 5 6 (14)
ORDER NUMBER: 245553			
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	KS	
DATE/TIME: 26-Feb-15	DATE/TIME: 26-Feb-15 1815	DATE/TIME: 2-3-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

						ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
46 ~~47~~	BH56 0.0 C	26/02/2015	S	Bag (Green label)	1					1				
47 ~~48~~	BH56 0.25 C	26/02/2015	S	Bag (Green label)	1						1			
48 ~~49~~	BH56 0.5 C	26/02/2015	S	Bag (Green label)	1					1				
49 ~~50~~	BH56 0.75 C	26/02/2015	S	Bag (Green label)	1						1			
50 ~~51~~	BH56 1.0 C	26/02/2015	S	Bag (Green label)	1					1				
51 ~~52~~	BH56 1..25 C	26/02/2015	S	Bag (Green label)	1					1				
				TOTAL	6					4	2			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
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OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date):	5 day turnaround
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (13)	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (14)	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
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RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	Kelly Schafer	KS	
DATE/TIME: 26-Feb-15	DATE/TIME: 26-Feb-15 1815	DATE/TIME: 2.3.15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE ONLY	Sample Detail MATRIX: SOLID (S) WATER (W)			Container Information		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			
52 ~~53~~	EB28 0.0 C	26/02/2015	S	Bag (Green label)	1					1				
53 ~~54~~	EB28 0.25 C	26/02/2015	S	Bag (Green label)	1						1			
				TOTAL	2					1	1			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
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CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date):	5 day turnaround
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 (14)	
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 (14)	
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809		
COC emailed to ALS? (YES / ~~NO~~)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Georgina Kerr	*Kelly Schafer*	KS	
DATE/TIME: 26-Feb-15	DATE/TIME: 26-Feb-15 1815	DATE/TIME: 2-3-15 1600	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	Aurecon Suite 1	Aurecon Suite 2	Volatiles	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
54 ~~55~~	ASS DUPLICATE 38	26/02/2015	S	Bag (Green label)	1					1				
55 ~~56~~	ASS DUPLICATE 39	26/02/2015	S	Bag (Green label)	1					1				
				TOTAL	2					2				

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CERTIFICATE OF ANALYSIS

Work Order	: **EB1513761**	Page	: 1 of 24
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: sally.leyland@aurecongroup.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61-7-3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553	Date Samples Received	: 03-Feb-2015 09:00
C-O-C number	: ----	Date Analysis Commenced	: 06-Mar-2015
Sampler	: GEORGINA KERR	Issue Date	: 10-Mar-2015 13:21
Site	: ----		
		No. of samples received	: 54
Quote number	: ----	No. of samples analysed	: 54

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.

- ASS: EA029 (SPOCAS): Retained Acidity not required because pH KCl greater than or equal to 4.5
- ASS: EA037 (Rapid Field and F(ox) screening): pH F(ox) Reaction Rate: 1 - Slight; 2 - Moderate; 3 - Strong; 4 - Extreme
- EA037 ASS Field Screening: NATA accreditation does not cover performance of this service.
- ASS: EA029 (SPOCAS): Liming rate is calculated and reported on a dry weight basis assuming use of fine agricultural lime (CaCO3) and using a safety factor of 1.5 to allow for non-homogeneous mixing and poor reactivity of lime. For conversion of Liming Rate from kg/t dry weight to kg/m3 in-situ soil, multiply reported results x wet bulk density of soil in t/m3.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH42 0.0 C	BH42 0.25 C	BH42 0.5 C	BH42 0.75 C	BH42 1.0 C
			Client sampling date / time	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513761-001	EB1513761-002	EB1513761-003	EB1513761-004	EB1513761-005
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	9.6	----	8.9	----	8.5
pH OX (23B)	----	0.1	pH Unit	8.4	----	7.2	----	3.5
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	----	130
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	----	130
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	----	0.21
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	----	0.21
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.04	----	0.09	----	0.08
Peroxide Sulfur (23De)	----	0.02	% S	0.06	----	0.37	----	0.48
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.02	----	0.28	----	0.40
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	14	----	175	----	246
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.17	----	0.18	----	0.15
Peroxide Calcium (23Wh)	----	0.02	% Ca	3.72	----	0.50	----	0.18
Acid Reacted Calcium (23X)	----	0.02	% Ca	3.55	----	0.31	----	0.03
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	1770	----	156	----	16
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	2.84	----	0.25	----	0.03
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.03	----	0.11	----	0.11
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.05	----	0.19	----	0.16
Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	0.09	----	0.04
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	16	----	72	----	35
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.02	----	0.12	----	0.06
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	10.2	----	0.54	----	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	2030	----	109	----	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	3.26	----	0.17	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH42 0.0 C	BH42 0.25 C	BH42 0.5 C	BH42 0.75 C	BH42 1.0 C
				Client sampling date / time	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513761-001	EB1513761-002	EB1513761-003	EB1513761-004	EB1513761-005
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	**0.27**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	**169**
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	**13**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.3**	**----**	**8.5**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**7.0**	**----**	**5.8**	**----**
ø **Reaction Rate**	----	1	-		**----**	**3**	**----**	**2**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH42 1.25 C	BH42 1.5 C	BH44 0.0 C	BH44 0.25 C	BH44 0.5 C
			Client sampling date / time	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513761-006	EB1513761-007	EB1513761-008	EB1513761-009	EB1513761-010
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	----	7.3	9.3	----	8.8
pH OX (23B)	----	0.1	pH Unit	----	3.0	8.6	----	8.3
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	----	<2	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	----	190	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	----	190	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	----	0.30	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	----	0.30	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	----	0.05	0.05	----	0.04
Peroxide Sulfur (23De)	----	0.02	% S	----	0.38	0.10	----	0.06
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	----	0.33	0.04	----	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	----	207	28	----	10
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	----	0.05	0.21	----	0.23
Peroxide Calcium (23Wh)	----	0.02	% Ca	----	0.08	2.69	----	0.53
Acid Reacted Calcium (23X)	----	0.02	% Ca	----	0.02	2.48	----	0.30
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	----	11	1240	----	148
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	----	<0.02	1.98	----	0.24
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	----	0.07	0.05	----	0.12
Peroxide Magnesium (23Tm)	----	0.02	% Mg	----	0.08	0.07	----	0.13
Acid Reacted Magnesium (23U)	----	0.02	% Mg	----	<0.02	<0.02	----	<0.02
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	----	11	13	----	14
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	----	<0.02	0.02	----	0.02
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	----	----	7.01	----	1.24
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	----	----	1400	----	248
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	----	----	2.24	----	0.40

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH42 1.25 C	BH42 1.5 C	BH44 0.0 C	BH44 0.25 C	BH44 0.5 C
				Client sampling date / time	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513761-006	EB1513761-007	EB1513761-008	EB1513761-009	EB1513761-010
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**----**	**1.5**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		**----**	**0.31**	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		**----**	**196**	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		**----**	**15**	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**8.5**	**----**	**----**	**8.4**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**2.1**	**----**	**----**	**6.0**	**----**
ø **Reaction Rate**	----	1	-		**3**	**----**	**----**	**2**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH47 0.0C	BH47 0.25C	BH47 0.5C	BH48 0.0 C	BH48 0.25C
				Client sampling date / time	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513761-011	EB1513761-012	EB1513761-013	EB1513761-014	EB1513761-015
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		9.4	----	8.8	8.8	----
pH OX (23B)	----	0.1	pH Unit		8.3	----	8.7	8.6	----
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		<2	----	<2	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		<2	----	<2	<2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		<2	----	<2	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		<0.02	----	<0.02	<0.02	----
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		0.06	----	0.03	0.03	----
Peroxide Sulfur (23De)	----	0.02	% S		0.10	----	0.03	0.04	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		0.04	----	<0.02	<0.02	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		25	----	<10	<10	----
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		0.21	----	0.22	0.24	----
Peroxide Calcium (23Wh)	----	0.02	% Ca		3.17	----	0.50	0.51	----
Acid Reacted Calcium (23X)	----	0.02	% Ca		2.97	----	0.28	0.26	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		1480	----	141	132	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		2.37	----	0.23	0.21	----
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		0.06	----	0.10	0.14	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg		0.05	----	0.12	0.13	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg		<0.02	----	<0.02	<0.02	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		<10	----	12	<10	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		<0.02	----	<0.02	<0.02	----
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		7.96	----	1.24	0.90	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		1590	----	248	180	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		2.55	----	0.40	0.29	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH47 0.0C	BH47 0.25C	BH47 0.5C	BH48 0.0 C	BH48 0.25C
				Client sampling date / time	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513761-011	EB1513761-012	EB1513761-013	EB1513761-014	EB1513761-015
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**1.5**	**----**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	<0.02	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	<10	**----**
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	<1	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.8**	**----**	**----**	**8.4**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**7.2**	**----**	**----**	**6.0**
ø **Reaction Rate**	----	1	-		**----**	**3**	**----**	**----**	**2**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH48 0.5C	BH49 0.0 C	BH49 0.25C	BH49 0.5C	BH50 0.0 C
			Client sampling date / time	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513761-016	EB1513761-018	EB1513761-019	EB1513761-020	EB1513761-021
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	8.0	9.3	----	9.2	9.0
pH OX (23B)	----	0.1	pH Unit	8.5	8.6	----	7.8	7.9
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	----	<2	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	----	<2	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	----	<2	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	----	<0.02	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	----	<0.02	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	----	<0.02	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.02	0.04	----	0.03	0.02
Peroxide Sulfur (23De)	----	0.02	% S	0.02	0.07	----	0.03	0.03
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	0.02	----	<0.02	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	15	----	<10	<10
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.18	0.19	----	0.14	0.16
Peroxide Calcium (23Wh)	----	0.02	% Ca	0.26	1.65	----	0.23	0.29
Acid Reacted Calcium (23X)	----	0.02	% Ca	0.08	1.46	----	0.09	0.13
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	38	731	----	45	64
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	0.06	1.17	----	0.07	0.10
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.16	0.06	----	0.05	0.08
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.18	0.12	----	0.11	0.12
Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	0.06	----	0.06	0.04
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	13	52	----	46	32
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.02	0.08	----	0.07	0.05
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	0.56	4.12	----	0.90	1.06
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	112	822	----	180	211
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	0.18	1.32	----	0.29	0.34

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH48 0.5C	BH49 0.0 C	BH49 0.25C	BH49 0.5C	BH50 0.0 C
				Client sampling date / time	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513761-016	EB1513761-018	EB1513761-019	EB1513761-020	EB1513761-021
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**1.5**	**----**	**1.5**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	<0.02	**----**	<0.02	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	<10	**----**	<10	<10
Liming Rate	----	1	kg CaCO3/t		<1	<1	**----**	<1	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**----**	**9.2**	**----**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**----**	**6.7**	**----**	**----**
ø **Reaction Rate**	----	1	-		**----**	**----**	**3**	**----**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH50 0.25 C	BH50 0.5 C	BH50 0.75 C	BH51 0.0 C	BH51 0.25 C
				Client sampling date / time	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513761-022	EB1513761-023	EB1513761-024	EB1513761-025	EB1513761-026
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		----	9.3	----	9.1	----
pH OX (23B)	----	0.1	pH Unit		----	8.5	----	8.4	----
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		----	<2	----	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		----	<2	----	<2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		----	<2	----	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		----	<0.02	----	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		----	<0.02	----	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		----	<0.02	----	<0.02	----
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		----	0.04	----	0.05	----
Peroxide Sulfur (23De)	----	0.02	% S		----	0.06	----	0.10	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		----	<0.02	----	0.04	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		----	12	----	28	----
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		----	0.16	----	0.19	----
Peroxide Calcium (23Wh)	----	0.02	% Ca		----	0.64	----	0.65	----
Acid Reacted Calcium (23X)	----	0.02	% Ca		----	0.47	----	0.46	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		----	235	----	231	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		----	0.38	----	0.37	----
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		----	0.06	----	0.08	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg		----	0.10	----	0.11	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg		----	0.04	----	0.03	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		----	35	----	29	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		----	0.06	----	0.05	----
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		----	1.59	----	1.39	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		----	318	----	278	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		----	0.51	----	0.44	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH50 0.25 C	BH50 0.5 C	BH50 0.75 C	BH51 0.0 C	BH51 0.25 C
				Client sampling date / time	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513761-022	EB1513761-023	EB1513761-024	EB1513761-025	EB1513761-026
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**----**	**1.5**	**----**	**1.5**	**----**
Net Acidity (sulfur units)	----	0.02	% S		**----**	<0.02	**----**	<0.02	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		**----**	<10	**----**	<10	**----**
Liming Rate	----	1	kg CaCO3/t		**----**	<1	**----**	<1	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**8.9**	**----**	**7.9**	**----**	**8.7**
ø **pH (Fox)**	----	0.1	pH Unit		**6.9**	**----**	**6.0**	**----**	**8.1**
ø **Reaction Rate**	----	1	-		**3**	**----**	**3**	**----**	**4**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH51 0.5 C	BH51 0.75 C	BH52 0.0 C	BH52 0.25 C	BH52 0.5 C
			Client sampling date / time	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513761-027	EB1513761-028	EB1513761-029	EB1513761-030	EB1513761-031
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	9.0	----	9.5	----	9.1
pH OX (23B)	----	0.1	pH Unit	8.0	----	8.3	----	8.0
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.03	----	0.04	----	0.04
Peroxide Sulfur (23De)	----	0.02	% S	0.04	----	0.05	----	0.04
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	<0.02	----	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	<10	----	<10
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.15	----	0.16	----	0.12
Peroxide Calcium (23Wh)	----	0.02	% Ca	0.21	----	1.31	----	0.15
Acid Reacted Calcium (23X)	----	0.02	% Ca	0.06	----	1.14	----	0.03
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	31	----	570	----	14
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	0.05	----	0.91	----	0.02
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.08	----	0.04	----	0.06
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.12	----	0.04	----	0.15
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.04	----	<0.02	----	0.09
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	33	----	<10	----	72
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.05	----	<0.02	----	0.11
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	0.65	----	3.38	----	0.64
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	130	----	675	----	127
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	0.21	----	1.08	----	0.20

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH51 0.5 C	BH51 0.75 C	BH52 0.0 C	BH52 0.25 C	BH52 0.5 C
				Client sampling date / time	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513761-027	EB1513761-028	EB1513761-029	EB1513761-030	EB1513761-031
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.4**	**----**	**8.8**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**6.1**	**----**	**7.1**	**----**
ø **Reaction Rate**	----	1	-		**----**	**3**	**----**	**3**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH53 0.0 C	BH53 0.25 C	BH53 0.5 C	BH53 0.75 C	BH53 1.0 C
			Client sampling date / time	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513761-032	EB1513761-033	EB1513761-034	EB1513761-035	EB1513761-036
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	9.3	----	9.0	----	9.4
pH OX (23B)	----	0.1	pH Unit	8.2	----	8.2	----	8.6
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.09	----	0.04	----	0.04
Peroxide Sulfur (23De)	----	0.02	% S	0.21	----	0.04	----	0.07
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.12	----	<0.02	----	0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	75	----	<10	----	13
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.20	----	0.19	----	0.18
Peroxide Calcium (23Wh)	----	0.02	% Ca	1.78	----	0.39	----	0.98
Acid Reacted Calcium (23X)	----	0.02	% Ca	1.58	----	0.20	----	0.81
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	790	----	100	----	403
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	1.26	----	0.16	----	0.65
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.08	----	0.10	----	0.05
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.13	----	0.15	----	0.04
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.05	----	0.05	----	<0.02
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	45	----	43	----	<10
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.07	----	0.07	----	<0.02
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	4.35	----	1.30	----	1.95
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	870	----	260	----	390
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	1.39	----	0.42	----	0.62

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH53 0.0 C	BH53 0.25 C	BH53 0.5 C	BH53 0.75 C	BH53 1.0 C
				Client sampling date / time	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513761-032	EB1513761-033	EB1513761-034	EB1513761-035	EB1513761-036
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.6**	**----**	**8.9**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**7.1**	**----**	**6.8**	**----**
ø **Reaction Rate**	----	1	-		**----**	**3**	**----**	**3**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH54 0.0 C	BH54 0.25 C	BH54 0.5 C	BH54 0.75 C	BH54 1.0 C
			Client sampling date / time	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513761-037	EB1513761-038	EB1513761-039	EB1513761-040	EB1513761-041
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	9.5	----	8.8	----	8.6
pH OX (23B)	----	0.1	pH Unit	8.3	----	7.8	----	7.9
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.08	----	0.04	----	0.03
Peroxide Sulfur (23De)	----	0.02	% S	0.12	----	0.04	----	0.03
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.05	----	<0.02	----	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	30	----	<10	----	<10
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.19	----	0.15	----	0.12
Peroxide Calcium (23Wh)	----	0.02	% Ca	2.42	----	0.19	----	0.15
Acid Reacted Calcium (23X)	----	0.02	% Ca	2.23	----	0.04	----	0.03
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	1110	----	19	----	15
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	1.79	----	0.03	----	0.02
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.05	----	0.09	----	0.09
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.08	----	0.14	----	0.11
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.03	----	0.04	----	<0.02
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	27	----	35	----	16
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.04	----	0.06	----	0.03
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	6.04	----	0.60	----	0.26
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	1210	----	120	----	52
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	1.93	----	0.19	----	0.08

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH54 0.0 C	BH54 0.25 C	BH54 0.5 C	BH54 0.75 C	BH54 1.0 C
				Client sampling date / time	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513761-037	EB1513761-038	EB1513761-039	EB1513761-040	EB1513761-041
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**9.0**	**----**	**8.5**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**7.1**	**----**	**6.2**	**----**
ø **Reaction Rate**	----	1	-		**----**	**3**	**----**	**2**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	BH55 0.0 C	BH55 0.25 C	BH55 0.5 C	BH55 0.75 C	BH56 0.0 C
			Client sampling date / time	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]
Compound	CAS Number	LOR	Unit	EB1513761-042	EB1513761-043	EB1513761-044	EB1513761-045	EB1513761-046
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	**9.4**	----	**9.1**	----	**9.3**
pH OX (23B)	----	0.1	pH Unit	**8.3**	----	**7.1**	----	**8.2**
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	**0.09**	----	**0.03**	----	**0.08**
Peroxide Sulfur (23De)	----	0.02	% S	**0.12**	----	**0.03**	----	**0.18**
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	**0.04**	----	<0.02	----	**0.10**
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	**24**	----	<10	----	**63**
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	**0.19**	----	**0.18**	----	**0.22**
Peroxide Calcium (23Wh)	----	0.02	% Ca	**1.69**	----	**0.69**	----	**2.64**
Acid Reacted Calcium (23X)	----	0.02	% Ca	**1.49**	----	**0.50**	----	**2.42**
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	**746**	----	**250**	----	**1210**
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	**1.20**	----	**0.40**	----	**1.94**
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	**0.04**	----	**0.07**	----	**0.08**
Peroxide Magnesium (23Tm)	----	0.02	% Mg	**0.04**	----	**0.06**	----	**0.14**
Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	<0.02	----	**0.06**
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	<10	----	**46**
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	<0.02	----	**0.07**
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	**3.92**	----	**1.40**	----	**6.46**
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	**782**	----	**280**	----	**1290**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	**1.25**	----	**0.45**	----	**2.07**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH55 0.0 C	BH55 0.25 C	BH55 0.5 C	BH55 0.75 C	BH56 0.0 C
				Client sampling date / time	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513761-042	EB1513761-043	EB1513761-044	EB1513761-045	EB1513761-046
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**----**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	**----**	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	**----**	<10
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	**----**	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**8.5**	**----**	**8.8**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**7.3**	**----**	**6.6**	**----**
ø **Reaction Rate**	----	1	-		**----**	**3**	**----**	**3**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH56 0.25 C	BH56 0.5 C	BH56 0.75 C	BH56 1.0 C	BH56 1.25 C
				Client sampling date / time	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513761-047	EB1513761-048	EB1513761-049	EB1513761-050	EB1513761-051
					Result	Result	Result	Result	Result
EA029-A: pH Measurements									
pH KCl (23A)	----	0.1	pH Unit		----	9.5	----	8.9	8.5
pH OX (23B)	----	0.1	pH Unit		----	8.4	----	7.8	8.4
EA029-B: Acidity Trail									
Titratable Actual Acidity (23F)	----	2	mole H+ / t		----	<2	----	<2	<2
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t		----	<2	----	<2	<2
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t		----	<2	----	<2	<2
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S		----	<0.02	----	<0.02	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S		----	<0.02	----	<0.02	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S		----	<0.02	----	<0.02	<0.02
EA029-C: Sulfur Trail									
KCl Extractable Sulfur (23Ce)	----	0.02	% S		----	0.08	----	0.04	0.03
Peroxide Sulfur (23De)	----	0.02	% S		----	0.13	----	0.04	0.03
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S		----	0.05	----	<0.02	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t		----	30	----	<10	<10
EA029-D: Calcium Values									
KCl Extractable Calcium (23Vh)	----	0.02	% Ca		----	0.20	----	0.14	0.21
Peroxide Calcium (23Wh)	----	0.02	% Ca		----	4.35	----	0.19	0.24
Acid Reacted Calcium (23X)	----	0.02	% Ca		----	4.14	----	0.05	0.03
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t		----	2070	----	24	14
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S		----	3.32	----	0.04	0.02
EA029-E: Magnesium Values									
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg		----	0.05	----	0.08	0.14
Peroxide Magnesium (23Tm)	----	0.02	% Mg		----	0.08	----	0.12	0.17
Acid Reacted Magnesium (23U)	----	0.02	% Mg		----	0.04	----	0.04	0.03
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t		----	31	----	31	28
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S		----	0.05	----	0.05	0.04
EA029-F: Excess Acid Neutralising Capacity									
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3		----	12.8	----	0.54	0.65
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t		----	2560	----	109	130
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S		----	4.10	----	0.17	0.21

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BH56 0.25 C	BH56 0.5 C	BH56 0.75 C	BH56 1.0 C	BH56 1.25 C
				Client sampling date / time	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]
Compound	CAS Number	LOR	Unit		EB1513761-047	EB1513761-048	EB1513761-049	EB1513761-050	EB1513761-051
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**----**	**1.5**	**----**	**1.5**	**1.5**
Net Acidity (sulfur units)	----	0.02	% S		**----**	<0.02	**----**	<0.02	<0.02
Net Acidity (acidity units)	----	10	mole H+ / t		**----**	<10	**----**	<10	<10
Liming Rate	----	1	kg CaCO3/t		**----**	<1	**----**	<1	<1
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**3.0**	**----**	**9.3**	**----**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**7.0**	**----**	**7.0**	**----**	**----**
ø **Reaction Rate**	----	1	-		**3**	**----**	**3**	**----**	**----**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	EB28 0.0 C	EB28 0.25 C	ASS DUPLICATE 38	ASS DUPLICATE 39	----
			Client sampling date / time	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	----
Compound	CAS Number	LOR	Unit	EB1513761-052	EB1513761-053	EB1513761-054	EB1513761-055	--------
				Result	Result	Result	Result	Result
EA029-A: pH Measurements								
pH KCl (23A)	----	0.1	pH Unit	9.3	----	9.4	9.4	----
pH OX (23B)	----	0.1	pH Unit	8.5	----	8.3	8.1	----
EA029-B: Acidity Trail								
Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	----	<2	<2	----
Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	----	<2	<2	----
Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	<2	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	<0.02	<0.02	----
EA029-C: Sulfur Trail								
KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.06	----	0.08	0.09	----
Peroxide Sulfur (23De)	----	0.02	% S	0.11	----	0.15	0.17	----
Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.05	----	0.07	0.08	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	33	----	44	53	----
EA029-D: Calcium Values								
KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.20	----	0.19	0.20	----
Peroxide Calcium (23Wh)	----	0.02	% Ca	3.66	----	2.94	3.21	----
Acid Reacted Calcium (23X)	----	0.02	% Ca	3.46	----	2.75	3.02	----
acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	1730	----	1370	1500	----
sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	2.77	----	2.20	2.41	----
EA029-E: Magnesium Values								
KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.06	----	0.05	0.05	----
Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.18	----	0.18	0.09	----
Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.11	----	0.13	0.04	----
Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	94	----	108	30	----
sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.15	----	0.17	0.05	----
EA029-F: Excess Acid Neutralising Capacity								
Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	9.70	----	7.63	7.51	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	1940	----	1520	1500	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	3.10	----	2.44	2.40	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	EB28 0.0 C	EB28 0.25 C	ASS DUPLICATE 38	ASS DUPLICATE 39	----
				Client sampling date / time	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	[26-Feb-2015]	----
Compound	CAS Number	LOR	Unit		EB1513761-052	EB1513761-053	EB1513761-054	EB1513761-055	--------
					Result	Result	Result	Result	Result
EA029-H: Acid Base Accounting									
ANC Fineness Factor	----	0.5	-		**1.5**	**----**	**1.5**	**1.5**	**----**
Net Acidity (sulfur units)	----	0.02	% S		<0.02	**----**	<0.02	<0.02	**----**
Net Acidity (acidity units)	----	10	mole H+ / t		<10	**----**	<10	<10	**----**
Liming Rate	----	1	kg CaCO3/t		<1	**----**	<1	<1	**----**
EA037: Ass Field Screening Analysis									
ø **pH (F)**	----	0.1	pH Unit		**----**	**9.3**	**----**	**----**	**----**
ø **pH (Fox)**	----	0.1	pH Unit		**----**	**7.2**	**----**	**----**	**----**
ø **Reaction Rate**	----	1	-		**----**	**3**	**----**	**----**	**----**

QUALITY CONTROL REPORT

Work Order	: **EB1513761**	Page	: 1 of 10
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Contact	: Customer Services EB
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 2 Byth Street Stafford QLD Australia 4053
E-mail	: sally.leyland@aurecongroup.com	E-mail	: ALSEnviro.Brisbane@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-7-3243 7222
Facsimile	: +61 07 3173 8001	Facsimile	: +61-7-3243 7218
Project	: GPC Geochemical Investigation	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553	Date Samples Received	: 03-Feb-2015
C-O-C number	: ----	Date Analysis Commenced	: 06-Mar-2015
Sampler	: GEORGINA KERR	Issue Date	: 10-Mar-2015
Site	: ----	No. of samples received	: 54
Quote number	: ----	No. of samples analysed	: 54

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out ir compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Satishkumar Trivedi	2 IC Acid Sulfate Soils Supervisor	Brisbane Acid Sulphate Soils

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-A: pH Measurements (QC Lot: 71350)									
EB1513761-001	BH42 0.0 C	EA029: pH KCl (23A)	----	0.1	pH Unit	9.6	9.6	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	8.4	8.4	0.00	0% - 20%
EB1513761-018	BH49 0.0 C	EA029: pH KCl (23A)	----	0.1	pH Unit	9.3	9.3	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	8.6	8.6	0.00	0% - 20%
EA029-A: pH Measurements (QC Lot: 71351)									
EB1513761-036	BH53 1.0 C	EA029: pH KCl (23A)	----	0.1	pH Unit	9.4	9.4	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	8.6	8.5	1.17	0% - 20%
EB1513761-052	EB28 0.0 C	EA029: pH KCl (23A)	----	0.1	pH Unit	9.3	9.3	0.00	0% - 20%
		EA029: pH OX (23B)	----	0.1	pH Unit	8.5	8.4	1.18	0% - 20%
EA029-B: Acidity Trail (QC Lot: 71350)									
EB1513761-001	BH42 0.0 C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EB1513761-018	BH49 0.0 C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EA029-B: Acidity Trail (QC Lot: 71351)									
EB1513761-036	BH53 1.0 C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EB1513761-052	EB28 0.0 C	EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-B: Acidity Trail (QC Lot: 71351) - continued									
EB1513761-052	EB28 0.0 C	EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	<0.02	0.00	No Limit
		EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	<2	0.00	No Limit
		EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	<2	0.00	No Limit
EA029-C: Sulfur Trail (QC Lot: 71350)									
EB1513761-001	BH42 0.0 C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.04	0.04	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.02	0.02	0.00	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.06	0.06	0.00	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	14	14	0.00	No Limit
EB1513761-018	BH49 0.0 C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.04	0.04	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.02	0.03	0.00	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.07	0.07	0.00	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	15	19	21.0	No Limit
EA029-C: Sulfur Trail (QC Lot: 71351)									
EB1513761-036	BH53 1.0 C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.04	0.04	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.02	0.02	0.00	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.07	0.07	0.00	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	13	13	0.00	No Limit
EB1513761-052	EB28 0.0 C	EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	0.06	0.06	0.00	No Limit
		EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	0.05	0.05	0.00	No Limit
		EA029: Peroxide Sulfur (23De)	----	0.02	% S	0.11	0.11	0.00	No Limit
		EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	33	31	7.77	No Limit
EA029-D: Calcium Values (QC Lot: 71350)									
EB1513761-001	BH42 0.0 C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	3.55	3.84	7.80	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.17	0.17	0.00	No Limit
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	3.72	4.01	7.44	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	2.84	3.07	7.80	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	1770	1920	7.80	0% - 20%
EB1513761-018	BH49 0.0 C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	1.46	1.60	9.20	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.19	0.19	0.00	No Limit
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	1.65	1.79	8.30	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	1.17	1.28	9.20	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	731	801	9.20	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-D: Calcium Values (QC Lot: 71351)									
EB1513761-036	BH53 1.0 C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	0.81	0.82	0.00	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.18	0.17	0.00	No Limit
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	0.98	0.99	0.00	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	0.65	0.65	0.00	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	403	407	0.887	0% - 20%
EB1513761-052	EB28 0.0 C	EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	3.46	3.68	6.13	0% - 20%
		EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	0.20	0.20	0.00	No Limit
		EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	3.66	3.88	5.88	0% - 20%
		EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	2.77	2.95	6.13	0% - 20%
		EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	1730	1840	6.13	0% - 20%
EA029-E: Magnesium Values (QC Lot: 71350)									
EB1513761-001	BH42 0.0 C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	0.02	0.00	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.03	0.03	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.05	0.06	0.00	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.02	0.03	0.00	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	16	21	28.7	No Limit
EB1513761-018	BH49 0.0 C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.06	0.08	19.8	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.06	0.06	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.12	0.14	11.6	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.08	0.10	19.8	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	52	64	19.8	No Limit
EA029-E: Magnesium Values (QC Lot: 71351)									
EB1513761-036	BH53 1.0 C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	<0.02	0.00	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.05	0.04	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.04	0.04	0.00	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EB1513761-052	EB28 0.0 C	EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	0.11	0.11	0.00	No Limit
		EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	0.06	0.06	0.00	No Limit
		EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	0.18	0.18	0.00	No Limit
		EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	0.15	0.15	0.00	No Limit
		EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	94	94	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA029-F: Excess Acid Neutralising Capacity (QC Lot: 71350)									
EB1513761-001	BH42 0.0 C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	10.2	10.1	1.11	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	3.26	3.22	1.11	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	2030	2010	1.11	0% - 20%
EB1513761-018	BH49 0.0 C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	4.12	4.25	3.29	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	1.32	1.36	3.29	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	822	850	3.29	0% - 20%
EA029-F: Excess Acid Neutralising Capacity (QC Lot: 71351)									
EB1513761-036	BH53 1.0 C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	1.95	1.90	2.60	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	0.62	0.61	2.60	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	390	380	2.60	0% - 20%
EB1513761-052	EB28 0.0 C	EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	9.70	9.82	1.28	0% - 20%
		EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	3.10	3.14	1.28	0% - 20%
		EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	1940	1960	1.28	0% - 20%
EA029-H: Acid Base Accounting (QC Lot: 71350)									
EB1513761-001	BH42 0.0 C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EB1513761-018	BH49 0.0 C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA029-H: Acid Base Accounting (QC Lot: 71351)									
EB1513761-036	BH53 1.0 C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EB1513761-052	EB28 0.0 C	EA029: ANC Fineness Factor	----	0.5	-	1.5	1.5	0.00	No Limit
		EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	<0.02	0.00	No Limit
		EA029: Liming Rate	----	1	kg CaCO3/t	<1	<1	0.00	No Limit
		EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	<10	0.00	No Limit
EA037: Ass Field Screening Analysis (QC Lot: 71346)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA037: Ass Field Screening Analysis (QC Lot: 71346) - continued									
EB1513761-002	BH42 0.25 C	EA037: pH (F)	----	0.1	pH Unit	8.3	8.3	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	7.0	7.0	0.00	0% - 20%
EB1513761-028	BH51 0.75 C	EA037: pH (F)	----	0.1	pH Unit	8.4	8.4	0.00	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	6.1	6.1	0.00	0% - 20%
EA037: Ass Field Screening Analysis (QC Lot: 71347)									
EB1513761-053	EB28 0.25 C	EA037: pH (F)	----	0.1	pH Unit	9.3	9.4	1.07	0% - 20%
		EA037: pH (Fox)	----	0.1	pH Unit	7.2	7.1	1.40	0% - 20%

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EA029-A: pH Measurements (QCLot: 71350)								
EA029: pH KCl (23A)	----	0.1	pH Unit	<0.1	4.9 pH Unit	98.0	70	130
EA029: pH OX (23B)	----	0.1	pH Unit	<0.1	4.4 pH Unit	95.4	70	130
EA029-A: pH Measurements (QCLot: 71351)								
EA029: pH KCl (23A)	----	0.1	pH Unit	<0.1	4.9 pH Unit	100	70	130
EA029: pH OX (23B)	----	0.1	pH Unit	<0.1	4.4 pH Unit	95.4	70	130
EA029-B: Acidity Trail (QCLot: 71350)								
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	14.32 mole H+ / t	101	70	130
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	68 mole H+ / t	106	70	130
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
EA029-B: Acidity Trail (QCLot: 71351)								
EA029: sulfidic - Titratable Actual Acidity (s-23F)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Peroxide Acidity (s-23G)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: sulfidic - Titratable Sulfidic Acidity (s-23H)	----	0.02	% pyrite S	<0.02	----	----	----	----
EA029: Titratable Actual Acidity (23F)	----	2	mole H+ / t	<2	14.32 mole H+ / t	101	70	130
EA029: Titratable Peroxide Acidity (23G)	----	2	mole H+ / t	<2	68 mole H+ / t	108	70	130
EA029: Titratable Sulfidic Acidity (23H)	----	2	mole H+ / t	<2	----	----	----	----
EA029-C: Sulfur Trail (QCLot: 71350)								
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.069 % S	94.9	70	130
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	----	----	----
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	0.204 % S	101	70	130
EA029-C: Sulfur Trail (QCLot: 71351)								
EA029: acidity - Peroxide Oxidisable Sulfur (a-23E)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Sulfur (23Ce)	----	0.02	% S	<0.02	0.069 % S	92.1	70	130
EA029: Peroxide Oxidisable Sulfur (23E)	----	0.02	% S	<0.02	----	----	----	----
EA029: Peroxide Sulfur (23De)	----	0.02	% S	<0.02	0.204 % S	95.7	70	130
EA029-D: Calcium Values (QCLot: 71350)								
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.02	0.125 % Ca	94.2	70	130
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.02	0.289 % Ca	109	70	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EA029-D: Calcium Values (QCLot: 71350) - continued								
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.02	----	----	----	----
EA029-D: Calcium Values (QCLot: 71351)								
EA029: Acid Reacted Calcium (23X)	----	0.02	% Ca	<0.02	----	----	----	----
EA029: acidity - Acid Reacted Calcium (a-23X)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Calcium (23Vh)	----	0.02	% Ca	<0.02	0.125 % Ca	93.1	70	130
EA029: Peroxide Calcium (23Wh)	----	0.02	% Ca	<0.02	0.289 % Ca	101	70	130
EA029: sulfidic - Acid Reacted Calcium (s-23X)	----	0.02	% S	<0.02	----	----	----	----
EA029-E: Magnesium Values (QCLot: 71350)								
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	0.285 % Mg	109	70	130
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	0.285 % Mg	108	70	130
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	----	----	----
EA029-E: Magnesium Values (QCLot: 71351)								
EA029: Acid Reacted Magnesium (23U)	----	0.02	% Mg	<0.02	----	----	----	----
EA029: Acidity - Acid Reacted Magnesium (a-23U)	----	10	mole H+ / t	<10	----	----	----	----
EA029: KCl Extractable Magnesium (23Sm)	----	0.02	% Mg	<0.02	0.285 % Mg	110	70	130
EA029: Peroxide Magnesium (23Tm)	----	0.02	% Mg	<0.02	0.285 % Mg	98.6	70	130
EA029: sulfidic - Acid Reacted Magnesium (s-23U)	----	0.02	% S	<0.02	----	----	----	----
EA029-F: Excess Acid Neutralising Capacity (QCLot: 71350)								
EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	<0.02	----	----	----	----
EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	<0.02	----	----	----	----
EA029-F: Excess Acid Neutralising Capacity (QCLot: 71351)								
EA029: acidity - Excess Acid Neutralising Capacity (a-23Q)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Excess Acid Neutralising Capacity (23Q)	----	0.02	% CaCO3	<0.02	----	----	----	----
EA029: sulfidic - Excess Acid Neutralising Capacity (s-23Q)	----	0.02	% S	<0.02	----	----	----	----
EA029-H: Acid Base Accounting (QCLot: 71350)								
EA029: ANC Fineness Factor	----	0.5	-	<0.5	----	----	----	----
EA029: Liming Rate	----	1	kg CaCO3/t	<1	----	----	----	----
EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	----	----	----	----
EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	----	----	----	----
EA029-H: Acid Base Accounting (QCLot: 71351)								
EA029: ANC Fineness Factor	----	0.5	-	<0.5	----	----	----	----
EA029: Liming Rate	----	1	kg CaCO3/t	<1	----	----	----	----
EA029: Net Acidity (acidity units)	----	10	mole H+ / t	<10	----	----	----	----

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EA029-H: Acid Base Accounting (QCLot: 71351) - continued								
EA029: Net Acidity (sulfur units)	----	0.02	% S	<0.02	----	----	----	----

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

- **No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.**

QA/QC Compliance Assessment for DQO Reporting

Work Order	: **EB1513761**	Page	: 1 of 5
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Brisbane
Contact	: SALLY LEYLAND	Telephone	: +61-7-3243 7222
Project	: GPC Geochemical Investigation	Date Samples Received	: 03-Feb-2015
Site	: ----	Issue Date	: 10-Mar-2015
Sampler	: GEORGINA KERR	No. of samples received	: 54
Order number	: 245553	No. of samples analysed	: 54

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA029-A: pH Measurements								
Snap Lock Bag - frozen on receipt at ALS (EA029)								
BH42 1.5 C,	BH44 0.0 C,	**26-Feb-2015**	**06-Mar-2015**	26-Feb-2016	✓	**10-Mar-2015**	04-Jun-2015	✓
BH44 0.5 C,	BH47 0.0C,							
BH47 0.5C,	BH48 0.0 C,							
BH50 0.0 C,	BH50 0.5 C,							
BH52 0.0 C,	BH52 0.5 C,							
BH53 0.0 C,	BH53 0.5 C,							
BH53 1.0 C,	BH54 0.0 C,							
BH54 0.5 C,	BH54 1.0 C,							
BH55 0.0 C,	BH55 0.5 C,							
BH56 0.0 C,	ASS DUPLICATE 39							
EA029-G: Retained Acidity								
Snap Lock Bag - frozen on receipt at ALS (EA029)								
BH42 0.0 C,	BH42 0.5 C,	**26-Feb-2015**	**06-Mar-2015**	26-Feb-2016	✓	**10-Mar-2015**	04-Jun-2015	✓
BH42 1.0 C,	BH48 0.5C,							
BH49 0.0 C,	BH49 0.5C,							
BH51 0.0 C,	BH51 0.5 C,							
BH56 0.5 C,	BH56 1.0 C,							
BH56 1.25 C,	EB28 0.0 C,							
ASS DUPLICATE 38								

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA037: Ass Field Screening Analysis							
Snap Lock Bag - frozen on receipt at ALS (EA037)							
BH42 0.25 C, BH42 0.75 C, BH42 1.25 C, BH44 0.25 C, BH47 0.25C, BH48 0.25C, BH49 0.25C, BH50 0.25 C, BH50 0.75 C, BH51 0.25 C, BH51 0.75 C, BH52 0.25 C, BH53 0.25 C, BH53 0.75 C, BH54 0.25 C, BH54 0.75 C, BH55 0.25 C, BH55 0.75 C, BH56 0.25 C, BH56 0.75 C, EB28 0.25 C	**26-Feb-2015**	**06-Mar-2015**	25-Aug-2015	✓	**10-Mar-2015**	25-Aug-2015	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
ASS Field Screening Analysis	EA037	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	2	20	**10.00**	**10.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	1	20	**5.00**	**5.00**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Suspension Peroxide Oxidation-Combined Acidity and Sulphate	EA029	SOIL	In house: Referenced to Ahern et al 2004 - a suspension peroxide oxidation method following the 'sulfur trail' by determining the level of 1M KCL extractable sulfur and the sulfur level after oxidation of soil sulphides. The 'acidity trail' is followed by measurement of TAA, TPA and TSA. Liming Rate is based on results for samples as submitted and incorporates a minimum safety factor of 1.5.
ASS Field Screening Analysis	* EA037	SOIL	In house: Referenced to Acid Sulfate Soils Laboratory Methods Guidelines, version 2.1 June 2004. As received samples are tested for pH field and pH fox and assessed for a reaction rating.

Preparation Methods	Method	Matrix	Method Descriptions
Drying only	EN020D	SOIL	In House
Drying at 85 degrees, bagging and labelling (ASS)	EN020PR	SOIL	In house

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS: ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround		Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comment:

SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6809	RELINQUISHED BY: ~~Georgina Kerr~~ TMM	RECEIVED BY: ~~Kelly Schafer~~ Jodie	RELINQUISHED BY: Jodie
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 10/3/15	DATE/TIME: 10/3/15 15:00	DATE/TIME: 10/3/15 16:00
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com				
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com				

RECEIVED BY: Dan J — DATE/TIME: 11/3 0400

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (Solid filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	SD – 3 (Metals)	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	HOLD		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	GG02 0.4m (SPT)		S	250 ml Jar	1	✱						X		
2	GG02 1.0m SPT		S	250 ml Jar	1	X								
3	GG02 1.95m		S	250 ml Jar	1	X								
4	GG02 3.0m SPT		S	250 ml Jar	1	X								
5	GG12 2.0m SPT		S	250 ml Jar	1	X								
6	GG12 3.0m SPT		S	250 ml Jar	1	X								
7	GG14 0.9m		S	250 ml Jar	1	X								
8	GG14 1.9m.		S	250 ml Jar	1	X								

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulfate Soils; B = Unpreserved Bag.

Environmental Division
Sydney
Work Order
ES1505707

Telephone : +61-2-8784 8555

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS: ☐ Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround		Custody Seal Intact: Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt: Yes / No / N/A
ORDER NUMBER: 245553		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: 0 °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comments:
SAMPLER: Georgina Kerr	SAMPLER MOBILE: 04 7773 6109	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Georgina Kerr Tim	
Email Reports to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		DATE/TIME: 10/3/15	DATE/TIME: 10/3/15 15:00
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		RELINQUISHED BY:	RECEIVED BY: Dan
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:		DATE/TIME: 10/3/15 16:00	DATE/TIME: 11/3 0900

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required)								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	SD-3 (Metals)	Aurecon Suite 2	EP080-SD	Dioxins	Acid Sulfate Soils: SPOCAS	Acid Sulfate Soils: pH	HOLD		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
9	GG14 3.95m		S	250 ml Jar	1	X								
10	GG14 0.5m		S	250 ml Jar	1	[illegible]						X		
11	GG14 2.95m		S	250 ml Jar	1	X								
			S		1									
			S		1									
			S		1									
			S		1									
			S		1									

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VR = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulfate Soils; B = Unpreserved Bag.

CERTIFICATE OF ANALYSIS

Work Order	: **ES1505707**	Page	: 1 of 4
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245553		
C-O-C number	: ----	Date Samples Received	: 11-MAR-2015
Sampler	: GK	Issue Date	: 19-MAR-2015
Site	: ----		
		No. of samples received	: 11
Quote number	: SY/1021/14 V2	No. of samples analysed	: 9

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
Shobhna Chandra	Metals Coordinator	Sydney Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

Analytical Results

Sub-Matrix: **SOIL** (Matrix: **SOIL**)

Compound	CAS Number	LOR	Unit	Client sample ID	GG02 1.0M SPT	GG02 1.95M	GG02 3.0M SPT	GG12 2.0M SPT	GG12 3.0M SPT
				Client sampling date / time	10-MAR-2015 15:00	10-MAR-2015 15:00	10-MAR-2015 15:00	10-MAR-2015 15:00	10-MAR-2015 15:00
					ES1505707-002	ES1505707-003	ES1505707-004	ES1505707-005	ES1505707-006
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		**12.1**	**9.7**	**8.8**	**17.8**	**12.5**
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		**6590**	**5510**	**7730**	**5730**	**5270**
Iron	7439-89-6	50	mg/kg		**12900**	**6360**	**20300**	**20600**	**12600**
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		**2.99**	**1.09**	**2.84**	**4.56**	**3.77**
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg		**15.9**	**6.0**	**42.6**	**119**	**13.3**
Copper	7440-50-8	1.0	mg/kg		**10.9**	**4.4**	**13.0**	**17.9**	**7.7**
Cobalt	7440-48-4	0.5	mg/kg		**8.7**	**2.8**	**7.2**	**6.2**	**3.9**
Lead	7439-92-1	1.0	mg/kg		**3.3**	**1.5**	**4.3**	**3.2**	**2.8**
Manganese	7439-96-5	10	mg/kg		**168**	**44**	**110**	**213**	**104**
Nickel	7440-02-0	1.0	mg/kg		**8.7**	**3.3**	**11.3**	**11.6**	**6.8**
Selenium	7782-49-2	0.1	mg/kg		**1.2**	**0.9**	**3.2**	**0.7**	**0.6**
Silver	7440-22-4	0.1	mg/kg		<0.1	**0.2**	**0.2**	**0.2**	<0.1
Vanadium	7440-62-2	2.0	mg/kg		**25.1**	**12.4**	**32.2**	**24.8**	**19.9**
Zinc	7440-66-6	1.0	mg/kg		**24.8**	**13.3**	**32.8**	**25.1**	**22.9**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	<0.01	<0.01	<0.01	<0.01

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	GG14 0.9M	GG14 1.9M	GG14 3.95M	GG14 2.95M	----
				Client sampling date / time	10-MAR-2015 15:00	10-MAR-2015 15:00	10-MAR-2015 15:00	10-MAR-2015 15:00	----
Compound	CAS Number	LOR	Unit		ES1505707-007	ES1505707-008	ES1505707-009	ES1505707-011	----
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		19.5	20.3	22.2	17.9	----
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		18600	20100	18400	19300	----
Iron	7439-89-6	50	mg/kg		33900	35000	18300	34200	----
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	<0.50	<0.50	----
Arsenic	7440-38-2	1.00	mg/kg		7.80	7.51	1.03	7.79	----
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	0.2	<0.1	----
Chromium	7440-47-3	1.0	mg/kg		27.0	27.2	35.9	30.1	----
Copper	7440-50-8	1.0	mg/kg		35.7	33.8	14.6	28.3	----
Cobalt	7440-48-4	0.5	mg/kg		23.5	22.8	6.4	22.9	----
Lead	7439-92-1	1.0	mg/kg		17.6	16.0	9.0	14.4	----
Manganese	7439-96-5	10	mg/kg		1140	1070	149	1490	----
Nickel	7440-02-0	1.0	mg/kg		20.6	21.0	10.0	20.0	----
Selenium	7782-49-2	0.1	mg/kg		3.1	3.5	1.5	3.3	----
Silver	7440-22-4	0.1	mg/kg		<0.1	0.1	<0.1	0.2	----
Vanadium	7440-62-2	2.0	mg/kg		87.0	85.1	46.1	101	----
Zinc	7440-66-6	1.0	mg/kg		77.1	84.5	38.4	83.6	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		0.03	0.02	0.01	0.10	----

QUALITY CONTROL REPORT

Work Order	: **ES1505707**	Page	: 1 of 5
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 11-MAR-2015
Sampler	: GK	Issue Date	: 19-MAR-2015
Order number	: 245553		
		No. of samples received	: 11
Quote number	: SY/1021/14 V2	No. of samples analysed	: 9

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out ir compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
Shobhna Chandra	Metals Coordinator	Sydney Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA055: Moisture Content (QC Lot: 3860545)									
ES1505701-005	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	3.1	4.6	38.5	No Limit
ES1505707-008	GG14 1.9M	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	20.3	19.9	1.6	0% - 20%
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3860098)									
ES1505707-002	GG02 1.0M SPT	EG005-SD: Aluminium	7429-90-5	50	mg/kg	6590	6760	2.6	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	12900	15400	17.5	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3860097)									
ES1505707-002	GG02 1.0M SPT	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	1.2	0.8	38.9	0% - 50%
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	8.7	9.5	8.1	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	15.9	17.1	7.2	0% - 50%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	10.9	14.7	29.9	0% - 50%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	3.3	3.3	0.0	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	8.7	9.8	12.2	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	24.8	26.9	8.1	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	2.99	3.58	18.0	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	168	125	29.2	0% - 50%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	25.1	29.4	15.6	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3860096)									
ES1505707-002	GG02 1.0M SPT	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3860098)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	134	86	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	83.3	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3860097)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	4.6 mg/kg	110	70	130
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	111	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	124	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	112	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	92.2	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	116	84	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	106	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	108	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	120	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	126	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	2.10 mg/kg	129	64	148
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	112	87	131
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	120	83	137
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3860096)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.090 mg/kg	78.8	72	116

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3860097)							
ES1505707-003	GG02 1.95M	EG020-SD: Arsenic	7440-38-2	50 mg/kg	102	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	120	70	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3860097) - continued							
ES1505707-003	GG02 1.95M	EG020-SD: Chromium	7440-47-3	50 mg/kg	106	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	85.9	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	109	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	108	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	114	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3860096)							
ES1505707-002	GG02 1.0M SPT	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	116	70	130

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

The quality control term Matrix Spike (MS) and Matrix Spike Duplicate (MSD) refers to intralaboratory split samples spiked with a representative set of target analytes. The purpose of these QC parameters are to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3860096)										
ES1505707-002	GG02 1.0M SPT	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	116	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3860097)										
ES1505707-003	GG02 1.95M	EG020-SD: Arsenic	7440-38-2	50 mg/kg	102	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	120	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	106	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	85.9	----	70	130	----	----
		EG020-SD: Lead	7439-92-1	250 mg/kg	109	----	70	130	----	----
		EG020-SD: Nickel	7440-02-0	50 mg/kg	108	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	114	----	70	130	----	----

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1505707**	Page	: 1 of 5
Client	: AURECON AUSTRALASIA PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 11-MAR-2015
Sampler	: GK	Issue Date	: 19-MAR-2015
Order number	: 245553		
		No. of samples received	: 11
Quote number	: SY/1021/14 V2	No. of samples analysed	: 9

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with recommended holding times (USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content							
Soil Glass Jar - Unpreserved (EA055-103)							
GG02 1.0M SPT, GG02 1.95M, GG02 3.0M SPT, GG12 2.0M SPT, GG12 3.0M SPT, GG14 0.9M, GG14 1.9M, GG14 3.95M, GG14 2.95M	**10-MAR-2015**	**----**	----	----	**16-MAR-2015**	24-MAR-2015	✓
EG005-SD: Total Metals in Sediments by ICP-AES							
Soil Glass Jar - Unpreserved (EG005-SD)							
GG02 1.0M SPT, GG02 1.95M, GG02 3.0M SPT, GG12 2.0M SPT, GG12 3.0M SPT, GG14 0.9M, GG14 1.9M, GG14 3.95M, GG14 2.95M	**10-MAR-2015**	**16-MAR-2015**	06-SEP-2015	✓	**16-MAR-2015**	06-SEP-2015	✓
EG020-SD: Total Metals in Sediments by ICPMS							
Soil Glass Jar - Unpreserved (EG020-SD)							
GG02 1.0M SPT, GG02 1.95M, GG02 3.0M SPT, GG12 2.0M SPT, GG12 3.0M SPT, GG14 0.9M, GG14 1.9M, GG14 3.95M, GG14 2.95M	**10-MAR-2015**	**16-MAR-2015**	06-SEP-2015	✓	**17-MAR-2015**	06-SEP-2015	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T-LL)							
GG02 1.0M SPT, GG02 1.95M, GG02 3.0M SPT, GG12 2.0M SPT, GG12 3.0M SPT, GG14 0.9M, GG14 1.9M, GG14 3.95M, GG14 2.95M	**10-MAR-2015**	**16-MAR-2015**	07-APR-2015	✓	**17-MAR-2015**	07-APR-2015	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055-103	2	16	**12.5**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	1	9	**11.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	1	9	**11.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	1	9	**11.1**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Total Fe and Al in Sediments by ICPAES	EG005-SD	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Total Fe and Al in Sediments by ICPAES	EG005-SD	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Total Mercury by FIMS (Low Level)	EG035T-LL	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	1	9	**11.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055-103	SOIL	In-house. A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Total Fe and Al in Sediments by ICPAES	EG005-SD	SOIL	In house: Referenced to APHA 21st ed., 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3). LORs per NODG
Total Metals in Sediments by ICPMS	EG020-SD	SOIL	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector. Analyte list and LORs per NODG.
Total Mercury by FIMS (Low Level)	EG035T-LL	SOIL	In house: Referenced to AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW 846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Duplicate outliers occur.**
- **For all matrices, no Laboratory Control outliers occur.**
- **For all matrices, no Matrix Spike outliers occur.**

Regular Sample Surrogates

- **For all regular sample matrices, no surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- **No Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

ALS Environmental

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Ph: 02 4421 7561 E: nowra@alsglobal.com
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 245852	COC SEQUENCE NUMBER (Circle) COC: (1) 2 3 4 5 6 7	Random Sample Temperature on Receipt:	
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 (5) 6 7	Other comments:	
SAMPLER: Kurt Praeger SAMPLER MOBILE: -	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO) EDD FORMAT (or default):	Tim Murphy	Jodie Hebbard		
Email Reports to (will default to PM if no other addresses are listed): georgina.kerr@aurecongroup.com	DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com	16-Mar-15	16-Mar-15	16/3/15 16:00	16/3/15

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).					Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	SD-3					
1	GG02 2.95 m	10/03/2015	S	Glass Jar (250 ml)	1	1					
2	GG02 1.95 m	10/03/2015	S	Glass Jar (250 ml)	1	1					
3	GG02 0.45 m	11/03/2015	S	Glass Jar (250 ml)	1	1					
4	GG02 0.4 m (SPT)	11/03/2015	S	Glass Jar (250 ml)	1	1					
5	GG02 0.95 m	11/03/2015	S	Glass Jar (250 ml)	1	1					
6	GG02 3.95	10/03/2015	S	Glass Jar (250 ml)	1	1					
7	GG02 0.6 m	10/03/2015	S	Glass Jar (250 ml)	1	1					
				TOTAL	7	7					

Environmental Division
Sydney
Work Order
ES1506194

Telephone : +61-2-8784 8555

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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MELBOURNE 24 Woodlands Road Glen Waverley VIC 3150
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Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: samples.wollongong@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 245852	COC SEQUENCE NUMBER (Circle) COC: 1 (2) 3 4 5 6 7	Random Sample Temperature on Receipt:	
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 (5) 6 7	Other comments:	

SAMPLER: Kurt Praeger	SAMPLER MOBILE: -	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Tim Murphy	Jodie Hebbard		
Email Reports to (will default to PM if no other addresses are listed): georgina.kerr@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		16-Mar-15	16-Mar-15		17/3 09

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).							Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	SD-3							Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
8	GG03 1.95 m	11/03/2015	S	Glass Jar (250 ml)	1	1							
9	GG03 2.95 m	11/03/2015	S	Glass Jar (250 ml)	1	1							
10	GG03 3.95 m	11/03/2015	S	Glass Jar (250 ml)	1	1							
				TOTAL	3	3							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

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Ph: 07 4971 6900 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 24 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: springvale@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 6372 6735 E: mudgee@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
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Ph: 07 4796 0600 E: townsville@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS: ☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact?	Yes / No / N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	Free ice / frozen ice bricks present upon receipt?	Yes / No / N/A
ORDER NUMBER: 245852	COC SEQUENCE NUMBER (Circle) COC: 1 2 (3) 4 5 6 7	Random Sample Temperature on Receipt	Yes / No / °C
PROJECT MANAGER: Sally Leyland CONTACT PH: 07 3173 8006	OF: 1 2 3 4 (5) 6 7	Other comments:	

SAMPLER: Kurt Prenger	SAMPLER MOBILE: -	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY: Dan
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Tim Murphy	Jodie Hebbard		
Email Reports to (will default to PM if no other addresses are listed): georgina.kerr@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME: 17/3 0944
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		16-Mar-15	16-Mar-15		

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION	ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).							Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	SD-3						Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
11	GG04 3.95 m	12/03/2015	S	Glass Jar (250 ml)	1	1						
12	GG04 0.6 m	12/03/2015	S	Glass Jar (250 ml)	1	1						
13	GG04 1.95 m	12/03/2015	S	Glass Jar (250 ml)	1	1						
14	GG04 0.85 m	12/03/2015	S	Glass Jar (250 ml)	1	1						
15	GG04 2.95 m	12/03/2015	S	Glass Jar (250 ml)	1	1						
				TOTAL	5	5						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g. Ultra Trace Organics)	☐ Standard TAT (List due date): Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000			Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245852		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comment:

SAMPLER: Kurt Praeger	SAMPLER MOBILE: -	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Tim Murphy	Jodie Hebbard		Dan
Email Reports to (will default to PM if no other addresses are listed): georgina.kerr@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		16-Mar-15	16-Mar-15		17/3

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS (MATRIX: SOLID (S) WATER (W))			CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).						Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	SD-3						Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
16	GG07 2.0 m	13/03/2015	S	Glass Jar (250 ml)	1	1						
17	GG07 2.95 m	13/03/2015	S	Glass Jar (250 ml)	1	1						
18	GG07 0.6 m	13/03/2015	S	Glass Jar (250 ml)	1	1						
				TOTAL	3	3						

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ADELAIDE 21 Burma Road Pooraka SA 5095
Ph: 08 8359 0890 E: adelaide@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090
Ph: 08 9209 7655 E: samplesperth@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053
Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
TOWNSVILLE 14-15 Desma Court Garbutt QLD 4814
Ph: 07 4796 0600 E: townsville@alsglobal.com
GLADSTONE 46 Callemondah Drive Clinton QLD 4680
Ph: 07 4971 9600 E: gladstone@alsglobal.com
ORANGE 1/10 Hill Street Orange NSW 2800
Ph: 02 6372 6735 E: orange@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: newcastle@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 7514 0400 E: samples.sydney@alsglobal.com
ALBURY 31 Dalton Street Albury NSW 2640
Ph: 02 6043 5933 E: albury@alsglobal.com
TAMWORTH 10-12 Vernon Street Tamworth NSW 2340
Ph: 02 6767 5000 E: tamworth@alsglobal.com
COFFS HARBOUR 1/26 Bryon Street Coffs Harbour NSW 2450
Ph: 02 6651 5116 E: coffsharbour@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	**TURNAROUND REQUIREMENTS :** ☐ Standard TAT (List due date):		**FOR LABORATORY USE ONLY (Circle):**
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000	(Standard TAT may be longer for some tests e.g. Ultra Trace Organics) Yes - Non Standard or urgent TAT (List due date): 5 day turnaround		Custody Seal Intact? Yes / No / N/A
PROJECT: GPC Geochemical Investigation	**ALS QUOTE NO.:** SY - 1021-14 V2	**COC SEQUENCE NUMBER (Circle)**	Free ice / frozen ice bricks present upon receipt? Yes / No / N/A
ORDER NUMBER: 246852		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: °C
PROJECT MANAGER: Sally Leyland	**CONTACT PH:** 07 3173 8006	OP: 1 2 3 4 5 6 7	Other comments:

SAMPLER: Kurt Praeger	**SAMPLER MOBILE:** -	**RELINQUISHED BY:**	**RECEIVED BY:**	**RELINQUISHED BY:**	**RECEIVED BY:**
COC emailed to ALS? (YES / NO)	**EDD FORMAT (or default):**	*Tim Murphy*	*Jodie Hebbard*		
Email Reports to (will default to PM if no other addresses are listed): georgina.kerr@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME: 17/3
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		18-Mar-15	18-Mar-15		

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS — MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).							Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE *(refer to codes below)*	TOTAL CONTAINERS	SD-3							
19	GG10 0.6 m	15/03/2015	S	Glass Jar (250 ml)	1	1							
20	GG10 1.95 m	15/03/2015	S	Glass Jar (250 ml)	1	1							
21	GG10 3 m (SPT)	15/03/2015	S	Glass Jar (250 ml)	1	1							
22	GG10 0.95 m	15/03/2015	S	Glass Jar (250 ml)	1	1							
				TOTAL	4	4							

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CERTIFICATE OF ANALYSIS

Work Order	: **ES1506194**	Page	: 1 of 7
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245852		
C-O-C number	: ----	Date Samples Received	: 17-MAR-2015
Sampler	: KP	Issue Date	: 24-MAR-2015
Site	: ----		
		No. of samples received	: 22
Quote number	: SY/1021/14 V2	No. of samples analysed	: 22

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

- **EG020-SD: Poor precision was obtained for Chromium on samples ES1506194 # 21. Results have been confirmed by re-extraction and reanalysis.**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	GG02 2.95m	GG02 1.95m	GG02 0.45m	GG02 0.4m(STP)	GG02 0.95m
				Client sampling date / time	10-MAR-2015 15:00	10-MAR-2015 15:00	11-MAR-2015 15:00	11-MAR-2015 15:00	11-MAR-2015 15:00
Compound	CAS Number	LOR	Unit		ES1506194-001	ES1506194-002	ES1506194-003	ES1506194-004	ES1506194-005
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		16.4	19.2	10.3	16.8	21.3
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		7640	7990	5670	9060	6130
Iron	7439-89-6	50	mg/kg		21900	22700	12200	19100	20300
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		2.52	2.33	2.61	5.27	12.4
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg		13.0	12.6	9.3	16.0	11.8
Copper	7440-50-8	1.0	mg/kg		19.2	20.9	33.5	22.4	11.5
Cobalt	7440-48-4	0.5	mg/kg		7.8	7.8	7.2	8.8	7.9
Lead	7439-92-1	1.0	mg/kg		3.0	4.4	3.4	3.1	4.5
Manganese	7439-96-5	10	mg/kg		108	148	295	130	229
Nickel	7440-02-0	1.0	mg/kg		8.1	8.6	5.2	8.8	7.0
Selenium	7782-49-2	0.1	mg/kg		0.3	0.4	1.2	0.6	0.3
Silver	7440-22-4	0.1	mg/kg		<0.1	0.2	0.1	0.1	0.1
Vanadium	7440-62-2	2.0	mg/kg		52.6	54.2	32.9	49.5	33.1
Zinc	7440-66-6	1.0	mg/kg		30.9	30.3	21.5	35.6	25.0
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	<0.01	<0.01	<0.01	<0.01

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	GG02 3.95	GG02 0.6m	GG03 1.95m	GG03 2.95m	GG03 3.95m
				Client sampling date / time	10-MAR-2015 15:00	10-MAR-2015 15:00	11-MAR-2015 15:00	11-MAR-2015 15:00	11-MAR-2015 15:00
Compound	CAS Number	LOR	Unit		ES1506194-006	ES1506194-007	ES1506194-008	ES1506194-009	ES1506194-010
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		15.4	23.1	20.0	18.2	14.4
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		4230	4310	5850	5360	3380
Iron	7439-89-6	50	mg/kg		11800	12600	17200	12000	12100
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		2.29	10.6	10.8	8.41	5.90
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg		8.1	7.7	9.8	9.5	11.4
Copper	7440-50-8	1.0	mg/kg		19.6	5.1	8.6	6.6	12.4
Cobalt	7440-48-4	0.5	mg/kg		5.6	6.0	8.9	7.4	6.1
Lead	7439-92-1	1.0	mg/kg		1.3	2.5	4.4	3.0	2.0
Manganese	7439-96-5	10	mg/kg		83	330	440	433	98
Nickel	7440-02-0	1.0	mg/kg		6.2	4.4	6.8	5.0	4.0
Selenium	7782-49-2	0.1	mg/kg		0.4	0.3	0.4	0.6	0.2
Silver	7440-22-4	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
Vanadium	7440-62-2	2.0	mg/kg		27.6	23.1	33.4	29.0	26.5
Zinc	7440-66-6	1.0	mg/kg		20.2	16.6	22.9	13.7	15.6
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	<0.01	<0.01	<0.01	<0.01

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	GG04 3.95m	GG04 0.6m	GG04 1.95m	GG04 0.95m	GG04 2.95m
			Client sampling date / time	12-MAR-2015 15:00	12-MAR-2015 15:00	12-MAR-2015 15:00	12-MAR-2015 15:00	12-MAR-2015 15:00
Compound	CAS Number	LOR	Unit	ES1506194-011	ES1506194-012	ES1506194-013	ES1506194-014	ES1506194-015
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	24.8	13.2	18.2	15.1	12.0
EG005-SD: Total Metals in Sediments by ICP-AES								
Aluminium	7429-90-5	50	mg/kg	7480	3960	2970	3420	3530
Iron	7439-89-6	50	mg/kg	8840	7630	6410	6580	8920
EG020-SD: Total Metals in Sediments by ICPMS								
Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg	<1.00	1.99	2.03	1.60	2.65
Cadmium	7440-43-9	0.1	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg	8.1	4.6	3.8	4.3	4.6
Copper	7440-50-8	1.0	mg/kg	21.2	7.6	6.3	12.7	8.1
Cobalt	7440-48-4	0.5	mg/kg	3.8	3.0	3.0	3.4	4.0
Lead	7439-92-1	1.0	mg/kg	4.7	1.3	<1.0	<1.0	1.4
Manganese	7439-96-5	10	mg/kg	53	39	54	58	69
Nickel	7440-02-0	1.0	mg/kg	3.5	3.0	2.0	1.9	2.9
Selenium	7782-49-2	0.1	mg/kg	0.6	0.2	0.1	0.1	0.1
Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Vanadium	7440-62-2	2.0	mg/kg	30.7	16.1	13.2	14.9	17.8
Zinc	7440-66-6	1.0	mg/kg	23.9	13.9	9.2	10.5	42.9
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.01	mg/kg	0.02	<0.01	<0.01	<0.01	<0.01

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	GG07 2.0m	GG07 2.95m	GG07 0.6m	GG10 0.6m	GG10 1.95m
			Client sampling date / time	13-MAR-2015 15:00	13-MAR-2015 15:00	13-MAR-2015 15:00	15-MAR-2015 15:00	15-MAR-2015 15:00
Compound	CAS Number	LOR	Unit	ES1506194-016	ES1506194-017	ES1506194-018	ES1506194-019	ES1506194-020
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	17.6	15.9	18.9	16.0	16.1
EG005-SD: Total Metals in Sediments by ICP-AES								
Aluminium	7429-90-5	50	mg/kg	10000	6170	7440	5560	5440
Iron	7439-89-6	50	mg/kg	25800	15200	17400	11400	5770
EG020-SD: Total Metals in Sediments by ICPMS								
Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg	6.08	4.20	2.57	3.47	<1.00
Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg	15.0	9.7	10.4	11.1	6.2
Copper	7440-50-8	1.0	mg/kg	39.8	18.7	21.3	16.0	6.1
Cobalt	7440-48-4	0.5	mg/kg	10.9	5.5	6.9	4.4	2.6
Lead	7439-92-1	1.0	mg/kg	9.8	5.1	3.2	4.2	3.6
Manganese	7439-96-5	10	mg/kg	362	178	92	66	40
Nickel	7440-02-0	1.0	mg/kg	12.9	5.7	6.1	5.8	3.2
Selenium	7782-49-2	0.1	mg/kg	0.8	0.4	0.5	0.4	0.3
Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Vanadium	7440-62-2	2.0	mg/kg	56.9	32.0	35.4	30.9	14.2
Zinc	7440-66-6	1.0	mg/kg	51.6	27.0	28.4	26.3	16.9
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.01	mg/kg	0.01	<0.01	<0.01	<0.01	<0.01

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	GG10 3m(SPT)	GG10 0.95m	----	----	----
			Client sampling date / time	15-MAR-2015 15:00	15-MAR-2015 15:00	----	----	----
Compound	CAS Number	LOR	Unit	ES1506194-021	ES1506194-022	----	----	----
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	**11.5**	**24.7**	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES								
Aluminium	7429-90-5	50	mg/kg	**6100**	**5470**	----	----	----
Iron	7439-89-6	50	mg/kg	**17000**	**5090**	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS								
Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	----	----	----
Arsenic	7440-38-2	1.00	mg/kg	**10.2**	<1.00	----	----	----
Cadmium	7440-43-9	0.1	mg/kg	**0.1**	<0.1	----	----	----
Chromium	7440-47-3	1.0	mg/kg	**25.6**	**7.5**	----	----	----
Copper	7440-50-8	1.0	mg/kg	**18.0**	**6.9**	----	----	----
Cobalt	7440-48-4	0.5	mg/kg	**13.9**	**2.2**	----	----	----
Lead	7439-92-1	1.0	mg/kg	**3.9**	**2.5**	----	----	----
Manganese	7439-96-5	10	mg/kg	**173**	**32**	----	----	----
Nickel	7440-02-0	1.0	mg/kg	**13.1**	**3.1**	----	----	----
Selenium	7782-49-2	0.1	mg/kg	**0.5**	**0.3**	----	----	----
Silver	7440-22-4	0.1	mg/kg	<0.1	**0.4**	----	----	----
Vanadium	7440-62-2	2.0	mg/kg	**28.9**	**15.7**	----	----	----
Zinc	7440-66-6	1.0	mg/kg	**39.2**	**18.3**	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	----	----	----

QUALITY CONTROL REPORT

Work Order	: **ES1506194**	Page	: 1 of 7
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 17-MAR-2015
Sampler	: KP	Issue Date	: 24-MAR-2015
Order number	: 245852		
		No. of samples received	: 22
Quote number	: SY/1021/14 V2	No. of samples analysed	: 22

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out ir compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA055: Moisture Content (QC Lot: 3863788)									
ES1505837-023	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	10.0	9.5	5.0	No Limit
ES1506194-006	GG02 3.95	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	15.4	18.0	15.4	0% - 50%
EA055: Moisture Content (QC Lot: 3863789)									
ES1506194-015	GG04 2.95m	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	12.0	12.6	4.2	0% - 50%
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3864364)									
ES1506194-001	GG02 2.95m	EG005-SD: Aluminium	7429-90-5	50	mg/kg	7640	7520	1.5	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	21900	21800	0.6	0% - 20%
ES1506194-011	GG04 3.95m	EG005-SD: Aluminium	7429-90-5	50	mg/kg	7480	6960	7.1	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	8840	8680	1.8	0% - 20%
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3864367)									
ES1506194-021	GG10 3m(SPT)	EG005-SD: Aluminium	7429-90-5	50	mg/kg	6100	6590	7.7	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	17000	17100	0.3	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3864363)									
ES1506194-001	GG02 2.95m	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.3	0.3	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	7.8	7.2	6.7	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	13.0	12.2	6.2	0% - 50%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	19.2	18.9	1.7	0% - 50%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	3.0	3.6	18.6	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	8.1	7.6	6.8	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	30.9	29.9	3.2	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	2.52	2.36	6.3	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	108	111	3.2	0% - 50%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	52.6	51.4	2.3	0% - 20%
ES1506194-011	GG04 3.95m	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.6	0.6	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	3.8	4.0	5.1	No Limit
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	8.1	8.5	5.4	No Limit
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	21.2	21.4	1.0	0% - 20%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	4.7	4.8	2.3	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	3.5	3.6	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3864363) - continued									
ES1506194-011	GG04 3.95m	EG020-SD: Zinc	7440-66-6	1.0	mg/kg	23.9	26.6	10.8	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	<1.00	1.21	18.7	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	53	56	6.3	No Limit
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	30.7	30.8	0.6	0% - 50%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3864366)									
ES1506194-021	GG10 3m(SPT)	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	0.1	0.2	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.5	0.5	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	13.9	15.9	13.3	0% - 20%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	25.6	8.0	# 105	0% - 20%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	18.0	17.7	1.5	0% - 50%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	3.9	3.6	9.8	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	13.1	12.8	1.9	0% - 50%
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	39.2	45.9	15.7	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	10.2	13.4	27.7	0% - 50%
		EG020-SD: Manganese	7439-96-5	10	mg/kg	173	172	0.0	0% - 50%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	28.9	31.3	7.9	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3864362)									
ES1506194-001	GG02 2.95m	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit
ES1506194-011	GG04 3.95m	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	0.02	0.02	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3864365)									
ES1506194-021	GG10 3m(SPT)	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3864364)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	103	86	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	----	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3864367)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	108	86	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	70.1	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3864363)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	4.6 mg/kg	110	70	130
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	101	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	108	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	87.9	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	108	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	108	84	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	95.6	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	106	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	101	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	110	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	----	----	----	----
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	103	87	131
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	106	83	137
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3864366)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	4.6 mg/kg	109	70	130
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	97.8	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	102	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	88.6	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	102	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	104	84	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3864366) - continued								
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	98.6	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	104	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	102	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	115	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	2.10 mg/kg	140	64	148
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	104	87	131
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	107	83	137
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3864362)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.090 mg/kg	79.4	72	116
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3864365)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.090 mg/kg	74.4	72	116

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3864363)							
ES1506194-002	GG02 1.95m	EG020-SD: Arsenic	7440-38-2	50 mg/kg	85.9	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	97.2	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	93.6	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	96.0	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	94.4	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	96.8	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	96.2	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3864366)							
ES1506194-022	GG10 0.95m	EG020-SD: Arsenic	7440-38-2	50 mg/kg	85.7	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	97.9	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	94.5	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	94.1	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	95.7	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	93.9	70	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3864366) - continued							
ES1506194-022	GG10 0.95m	EG020-SD: Zinc	7440-66-6	250 mg/kg	97.2	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3864362)							
ES1506194-001	GG02 2.95m	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	117	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3864365)							
ES1506194-021	GG10 3m(SPT)	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	117	70	130

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

The quality control term Matrix Spike (MS) and Matrix Spike Duplicate (MSD) refers to intralaboratory split samples spiked with a representative set of target analytes. The purpose of these QC parameters are to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3864362)										
ES1506194-001	GG02 2.95m	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	117	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3864363)										
ES1506194-002	GG02 1.95m	EG020-SD: Arsenic	7440-38-2	50 mg/kg	85.9	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	97.2	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	93.6	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	96.0	----	70	130	----	----
		EG020-SD: Lead	7439-92-1	250 mg/kg	94.4	----	70	130	----	----
		EG020-SD: Nickel	7440-02-0	50 mg/kg	96.8	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	96.2	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3864365)										
ES1506194-021	GG10 3m(SPT)	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	117	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3864366)										
ES1506194-022	GG10 0.95m	EG020-SD: Arsenic	7440-38-2	50 mg/kg	85.7	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	97.9	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	94.5	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	94.1	----	70	130	----	----
		EG020-SD: Lead	7439-92-1	250 mg/kg	95.7	----	70	130	----	----
		EG020-SD: Nickel	7440-02-0	50 mg/kg	93.9	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	97.2	----	70	130	----	----

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1506194**	Page	: 1 of 7
Client	: AURECON AUSTRALASIA PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
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Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 17-MAR-2015
Sampler	: KP	Issue Date	: 24-MAR-2015
Order number	: 245852		
		No. of samples received	: 22
Quote number	: SY/1021/14 V2	No. of samples analysed	: 22

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with recommended holding times (USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content							
Soil Glass Jar - Unpreserved (EA055-103)							
GG02 2.95m, GG02 1.95m, GG02 3.95, GG02 0.6m	**10-MAR-2015**	**----**	----	----	**18-MAR-2015**	24-MAR-2015	✓
Soil Glass Jar - Unpreserved (EA055-103)							
GG02 0.45m, GG02 0.4m(STP), GG02 0.95m, GG03 1.95m, GG03 2.95m, GG03 3.95m	**11-MAR-2015**	**----**	----	----	**18-MAR-2015**	25-MAR-2015	✓
Soil Glass Jar - Unpreserved (EA055-103)							
GG04 3.95m, GG04 0.6m, GG04 1.95m, GG04 0.95m, GG04 2.95m	**12-MAR-2015**	**----**	----	----	**18-MAR-2015**	26-MAR-2015	✓
Soil Glass Jar - Unpreserved (EA055-103)							
GG07 2.0m, GG07 2.95m, GG07 0.6m	**13-MAR-2015**	**----**	----	----	**18-MAR-2015**	27-MAR-2015	✓
Soil Glass Jar - Unpreserved (EA055-103)							
GG10 0.6m, GG10 1.95m, GG10 3m(SPT), GG10 0.95m	**15-MAR-2015**	**----**	----	----	**18-MAR-2015**	29-MAR-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005-SD: Total Metals in Sediments by ICP-AES							
Soil Glass Jar - Unpreserved (EG005-SD) GG02 2.95m, GG02 1.95m, GG02 3.95, GG02 0.6m	**10-MAR-2015**	**18-MAR-2015**	06-SEP-2015	✓	**19-MAR-2015**	06-SEP-2015	✓
Soil Glass Jar - Unpreserved (EG005-SD) GG02 0.45m, GG02 0.4m(STP), GG02 0.95m, GG03 1.95m, GG03 2.95m, GG03 3.95m	**11-MAR-2015**	**18-MAR-2015**	07-SEP-2015	✓	**19-MAR-2015**	07-SEP-2015	✓
Soil Glass Jar - Unpreserved (EG005-SD) GG04 3.95m, GG04 0.6m, GG04 1.95m, GG04 0.95m, GG04 2.95m	**12-MAR-2015**	**18-MAR-2015**	08-SEP-2015	✓	**19-MAR-2015**	08-SEP-2015	✓
Soil Glass Jar - Unpreserved (EG005-SD) GG07 2.0m, GG07 2.95m, GG07 0.6m	**13-MAR-2015**	**18-MAR-2015**	09-SEP-2015	✓	**19-MAR-2015**	09-SEP-2015	✓
Soil Glass Jar - Unpreserved (EG005-SD) GG10 0.6m, GG10 1.95m, GG10 3m(SPT), GG10 0.95m	**15-MAR-2015**	**18-MAR-2015**	11-SEP-2015	✓	**19-MAR-2015**	11-SEP-2015	✓
EG020-SD: Total Metals in Sediments by ICPMS							
Soil Glass Jar - Unpreserved (EG020-SD) GG02 2.95m, GG02 1.95m, GG02 3.95, GG02 0.6m	**10-MAR-2015**	**18-MAR-2015**	06-SEP-2015	✓	**19-MAR-2015**	06-SEP-2015	✓
Soil Glass Jar - Unpreserved (EG020-SD) GG02 0.45m, GG02 0.4m(STP), GG02 0.95m, GG03 1.95m, GG03 2.95m, GG03 3.95m	**11-MAR-2015**	**18-MAR-2015**	07-SEP-2015	✓	**19-MAR-2015**	07-SEP-2015	✓
Soil Glass Jar - Unpreserved (EG020-SD) GG04 3.95m, GG04 0.6m, GG04 1.95m, GG04 0.95m, GG04 2.95m	**12-MAR-2015**	**18-MAR-2015**	08-SEP-2015	✓	**19-MAR-2015**	08-SEP-2015	✓
Soil Glass Jar - Unpreserved (EG020-SD) GG07 2.0m, GG07 2.95m, GG07 0.6m	**13-MAR-2015**	**18-MAR-2015**	09-SEP-2015	✓	**19-MAR-2015**	09-SEP-2015	✓
Soil Glass Jar - Unpreserved (EG020-SD) GG10 0.6m, GG10 1.95m, GG10 3m(SPT), GG10 0.95m	**15-MAR-2015**	**18-MAR-2015**	11-SEP-2015	✓	**19-MAR-2015**	11-SEP-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T-LL) GG02 2.95m, GG02 1.95m, GG02 3.95, GG02 0.6m	**10-MAR-2015**	**18-MAR-2015**	07-APR-2015	✓	**24-MAR-2015**	07-APR-2015	✓
Soil Glass Jar - Unpreserved (EG035T-LL) GG02 0.45m, GG02 0.4m(STP), GG02 0.95m, GG03 1.95m, GG03 2.95m, GG03 3.95m	**11-MAR-2015**	**18-MAR-2015**	08-APR-2015	✓	**24-MAR-2015**	08-APR-2015	✓
Soil Glass Jar - Unpreserved (EG035T-LL) GG04 3.95m, GG04 0.6m, GG04 1.95m, GG04 0.95m, GG04 2.95m	**12-MAR-2015**	**18-MAR-2015**	09-APR-2015	✓	**24-MAR-2015**	09-APR-2015	✓
Soil Glass Jar - Unpreserved (EG035T-LL) GG07 2.0m, GG07 2.95m, GG07 0.6m	**13-MAR-2015**	**18-MAR-2015**	10-APR-2015	✓	**24-MAR-2015**	10-APR-2015	✓
Soil Glass Jar - Unpreserved (EG035T-LL) GG10 0.6m, GG10 1.95m, GG10 3m(SPT), GG10 0.95m	**15-MAR-2015**	**18-MAR-2015**	12-APR-2015	✓	**24-MAR-2015**	12-APR-2015	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055-103	3	30	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	3	22	**13.6**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	3	22	**13.6**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	3	22	**13.6**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	22	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	22	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	22	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	22	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	22	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	22	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Total Mercury by FIMS (Low Level)	EG035T-LL	2	22	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	22	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055-103	SOIL	In-house. A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Total Fe and Al in Sediments by ICPAES	EG005-SD	SOIL	In house: Referenced to APHA 21st ed., 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3). LORs per NODG
Total Metals in Sediments by ICPMS	EG020-SD	SOIL	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector. Analyte list and LORs per NODG.
Total Mercury by FIMS (Low Level)	EG035T-LL	SOIL	In house: Referenced to AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW 846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG020-SD: Total Metals in Sediments by ICPMS	ES1506194-021	GG10 3m(SPT)	**Chromium**	7440-47-3	105 %	0-20%	**RPD exceeds LOR based limits**

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Laboratory Control outliers occur.**
- **For all matrices, no Matrix Spike outliers occur.**

Regular Sample Surrogates

- **For all regular sample matrices, no surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- **No Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

ALS Environmental

ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0390 E: adelaide@alsglobal.com
ALICE SPRINGS 89 Shannon Street Braitling NT 0870 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 4971 5600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 8448 E: samples.newcastle@alsglobal.com
ORANGE 10 Hose Way Wagga WA 6650 Ph: 02 6933 7605 E: samples.wagga@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Cct Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: wollongong@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS: (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes Non Standard or urgent TAT (List due date): 5 day turnaround	Custody seal intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	Free ice/coolants present upon receipt? Yes No N/A
ORDER NUMBER: 245852		OF: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		Other comments:
SAMPLER: Kurt Praeger/ Alice Clark	SAMPLER MOBILE: -		
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		
Email Reports to (will default to PM if no other addresses are listed): georgina.kerr@aurecongroup.com			
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Tim Murphy			
DATE/TIME: 30-Mar-15 14:55	DATE/TIME: 31/3/15 14:55	DATE/TIME: 31/3/15 16:00	DATE/TIME: 2/4 9am

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).						Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	SD-3						Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	BW02 0.95 m	26/03/2015	S	Glass Jar (250 ml)	1	1						
2	BW02 2.0 m	26/03/2015	S	Glass Jar (250 ml)	1	1						
3	BW02 2.95 m	26/03/2015	S	Glass Jar (250 ml)	1	1						
4	BW02 3.95 m	26/03/2015	S	Glass Jar (250 ml)	1	1						
5	GG05 0.6 m	28/03/2015	S	Glass Jar (250 ml)	1	1						
6	GG05 0.95 m	28/03/2015	S	Glass Jar (250 ml)	1	1						
7	GG05 1.95 m	28/03/2015	S	Glass Jar (250 ml)	1	1						
				TOTAL	7	7						

Environmental Division Sydney

Work Order

ES1507499

Telephone : +61-2-8784 8555

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

☐ ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 7350 0900 E: adelaide@alsglobal.com	☐ MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com	☐ NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com	☐ SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
☐ BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com	☐ MELBOURNE 24 Woodall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com	☐ NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com	☐ TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
☐ GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com	☐ MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com	☐ PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7355 E: samples.perth@alsglobal.com	☐ WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seals Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 246862		COC: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: 0
PROJECT MANAGER: Sally.Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 3 4 5 6 7	Other comments:

SAMPLER: Kurt Praeger	SAMPLER MOBILE: -	RELINQUISHED BY: Tim Murphy	RECEIVED BY: [signature]	RELINQUISHED BY: [signature]	RECEIVED BY: [signature]
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):				
Email Reports to (will default to PM if no other addresses are listed): georgina.karr@aurecongroup.com		DATE/TIME: 31-Mar-15 14:55.	DATE/TIME: 31/3/15 14:55	DATE/TIME: 31/3/15 16:00	DATE/TIME: 2/4 9am
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com					

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	SD-3								Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
8	GG16 2.0m	19/03/2015	S	Glass Jar (250 ml)	1	1								
9	GG16 4.0m	19/03/2015	S	Glass Jar (250 ml)	1	1								
10	GG18 0.6m	21/03/2015	S	Glass Jar (250 ml)	1	1								
11	GG18 0.95m	21/03/2015	S	Glass Jar (250 ml)	1	1								
12	GG18 1.95m	21/03/2015	S	Glass Jar (250 ml)	1	1								
13	GG18 3.0m	21/03/2015	S	Glass Jar (250 ml)	1	1								
14	GG18 4.0m	21/03/2015	S	Glass Jar (250 ml)	1	1								
				TOTAL	7	7								

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ALS Environmental

☐ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8260 0080 E: adelaide@alsglobal.com
☐BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
☐GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
☐MACKAY 73 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
☐MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
☐MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
☐NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: newcastle@alsglobal.com
☐NOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 02 4423 2063 E: nowra@alsglobal.com
☐PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
☐SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
☐TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4275 3174 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g.. Ultra Trace Organics)	☐ Standard TAT (List due date):
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		(Yes) Non Standard or urgent TAT (List due date): 5 day turnaround
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle)
ORDER NUMBER: 245852		COC: 1 2 (3) 4 5 6 7
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006	OF: 1 2 (3) 4 5 6 7

FOR LABORATORY USE ONLY (Circle)

Custody Seal Intact?	Yes	No	N/A
Free ice/Frozen ice bricks present upon receipt?	Yes	No	N/A
Random Sample Temperature on Receipt		C	
Other Comments			

SAMPLER: Kurt Praeger	SAMPLER MOBILE: -	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	Tim Murphy			
Email Reports to (will default to PM if no other addresses are listed): georgina.kerr@aurecongroup.com		DATE/TIME:	DATE/TIME:	DATE/TIME:	DATE/TIME: 2/4 9am
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com		30-Mar-15			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID(S) WATER(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).								Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	SD-3								Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
15	GG21 0.6 m	23/03/2015	S	Glass Jar (250 ml)	1	1								
16	GG21 0.95 m	23/03/2015	S											
17	GG21 2.0 m	23/03/2015	S											
18	GG21 2.95 m	23/03/2015	S	Glass Jar (250 ml)	1	1								
19	GG21 3.95 m	23/03/2015	S	Glass Jar (250 ml)	1	1								
				TOTAL	3	3								

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CERTIFICATE OF ANALYSIS

Work Order	: **ES1507499**	Page	: 1 of 6
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245852		
C-O-C number	: ----	Date Samples Received	: 02-APR-2015
Sampler	: KURT PRAEGER	Issue Date	: 13-APR-2015
Site	: ----		
		No. of samples received	: 19
Quote number	: SY/1021/14 V2	No. of samples analysed	: 17

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	BW02 0.95M	BW02 2.0M	BW02 2.95M	BW02 3.95M	CG05 0.6M
				Client sampling date / time	26-MAR-2015 15:00	26-MAR-2015 15:00	26-MAR-2015 15:00	26-MAR-2015 15:00	28-MAR-2015 15:00
Compound	CAS Number	LOR	Unit		ES1507499-001	ES1507499-002	ES1507499-003	ES1507499-004	ES1507499-005
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		29.2	16.1	13.6	16.3	23.7
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		10700	16400	10200	12700	9040
Iron	7439-89-6	50	mg/kg		18400	28700	12800	17000	16400
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		21.6	5.50	5.02	6.53	12.4
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg		17.8	23.0	13.8	25.4	14.3
Copper	7440-50-8	1.0	mg/kg		7.0	25.2	8.0	9.1	7.0
Cobalt	7440-48-4	0.5	mg/kg		8.3	9.0	11.0	66.7	8.0
Lead	7439-92-1	1.0	mg/kg		4.7	8.9	5.9	8.5	4.3
Manganese	7439-96-5	10	mg/kg		837	284	418	1740	378
Nickel	7440-02-0	1.0	mg/kg		8.2	14.9	12.9	17.7	6.7
Selenium	7782-49-2	0.1	mg/kg		0.5	0.6	0.4	2.5	0.4
Silver	7440-22-4	0.1	mg/kg		0.2	0.5	<0.1	<0.1	<0.1
Vanadium	7440-62-2	2.0	mg/kg		40.3	53.3	19.4	40.7	35.6
Zinc	7440-66-6	1.0	mg/kg		28.2	38.0	15.9	30.2	19.6
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		0.02	0.02	<0.01	0.01	0.01

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	CG05 0.95M	CG05 1.95M	CG16 2.0M	CG16 4.0M	CG18 0.6M
				Client sampling date / time	28-MAR-2015 15:00	28-MAR-2015 15:00	19-MAR-2015 15:00	19-MAR-2015 15:00	21-MAR-2015 15:00
Compound	CAS Number	LOR	Unit		ES1507499-006	ES1507499-007	ES1507499-008	ES1507499-009	ES1507499-010
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		17.1	40.5	23.4	25.0	19.7
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		6710	8950	12600	12900	18600
Iron	7439-89-6	50	mg/kg		11600	29200	21900	20800	34200
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		4.81	24.9	4.55	6.65	6.66
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg		11.1	14.6	21.6	22.1	31.6
Copper	7440-50-8	1.0	mg/kg		6.5	12.7	24.9	26.2	34.6
Cobalt	7440-48-4	0.5	mg/kg		7.4	13.5	10.9	9.2	17.6
Lead	7439-92-1	1.0	mg/kg		3.7	5.0	7.5	8.5	10.8
Manganese	7439-96-5	10	mg/kg		670	992	394	148	274
Nickel	7440-02-0	1.0	mg/kg		5.7	9.6	13.2	12.1	18.9
Selenium	7782-49-2	0.1	mg/kg		0.4	0.6	0.6	0.6	0.8
Silver	7440-22-4	0.1	mg/kg		<0.1	0.1	0.1	0.1	<0.1
Vanadium	7440-62-2	2.0	mg/kg		35.3	44.3	58.9	59.0	75.2
Zinc	7440-66-6	1.0	mg/kg		14.9	24.3	40.5	43.0	59.4
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	0.02	0.02	0.02	0.03

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	CG18 0.95M	CG18 1.95M	CG18 3.0M	CG18 4.0M	CG21 0.6M
				Client sampling date / time	21-MAR-2015 15:00	21-MAR-2015 15:00	21-MAR-2015 15:00	21-MAR-2015 15:00	23-MAR-2015 15:00
Compound	CAS Number	LOR	Unit		ES1507499-011	ES1507499-012	ES1507499-013	ES1507499-014	ES1507499-015
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		10.8	17.7	24.0	21.2	17.7
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		8620	8410	19900	19000	17600
Iron	7439-89-6	50	mg/kg		16600	15800	38300	37600	33700
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		4.69	5.68	9.36	10.8	7.22
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg		15.8	13.9	23.8	19.4	30.1
Copper	7440-50-8	1.0	mg/kg		12.4	8.1	40.8	37.9	19.9
Cobalt	7440-48-4	0.5	mg/kg		8.7	7.3	14.5	66.9	14.1
Lead	7439-92-1	1.0	mg/kg		5.0	6.1	11.9	25.3	10.2
Manganese	7439-96-5	10	mg/kg		120	153	748	4420	236
Nickel	7440-02-0	1.0	mg/kg		8.3	8.3	21.0	22.3	19.9
Selenium	7782-49-2	0.1	mg/kg		0.3	0.5	0.6	1.1	0.7
Silver	7440-22-4	0.1	mg/kg		0.1	<0.1	<0.1	0.1	<0.1
Vanadium	7440-62-2	2.0	mg/kg		35.2	35.0	71.5	78.9	71.5
Zinc	7440-66-6	1.0	mg/kg		27.8	26.7	48.4	42.0	50.8
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		0.01	0.01	0.02	0.03	0.02

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	CG21 2.95M	CG21 3.95M	----	----	----
			Client sampling date / time	23-MAR-2015 15:00	23-MAR-2015 15:00	----	----	----
Compound	CAS Number	LOR	Unit	ES1507499-018	ES1507499-019	----	----	----
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	12.8	13.0	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES								
Aluminium	7429-90-5	50	mg/kg	8400	9200	----	----	----
Iron	7439-89-6	50	mg/kg	10300	16200	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS								
Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	----	----	----
Arsenic	7440-38-2	1.00	mg/kg	3.03	13.9	----	----	----
Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	----	----	----
Chromium	7440-47-3	1.0	mg/kg	13.9	15.0	----	----	----
Copper	7440-50-8	1.0	mg/kg	4.3	4.5	----	----	----
Cobalt	7440-48-4	0.5	mg/kg	4.7	6.4	----	----	----
Lead	7439-92-1	1.0	mg/kg	4.6	4.8	----	----	----
Manganese	7439-96-5	10	mg/kg	93	152	----	----	----
Nickel	7440-02-0	1.0	mg/kg	5.4	7.1	----	----	----
Selenium	7782-49-2	0.1	mg/kg	0.5	0.7	----	----	----
Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	----	----	----
Vanadium	7440-62-2	2.0	mg/kg	23.1	36.4	----	----	----
Zinc	7440-66-6	1.0	mg/kg	9.2	17.6	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.01	mg/kg	0.02	0.01	----	----	----

QUALITY CONTROL REPORT

Work Order	: **ES1507499**	Page	: 1 of 6
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 02-APR-2015
Sampler	: KURT PRAEGER	Issue Date	: 13-APR-2015
Order number	: 245852		
		No. of samples received	: 19
Quote number	: SY/1021/14 V2	No. of samples analysed	: 17

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out ir compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Pabi Subba	Senior Organic Chemist	Sydney Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA055: Moisture Content (QC Lot: 3885737)									
ES1507482-003	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	3.2	3.1	4.6	No Limit
ES1507499-003	BW02 2.95M	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	13.6	13.3	2.6	0% - 50%
EA055: Moisture Content (QC Lot: 3885738)									
ES1507499-012	CG18 1.95M	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	17.7	17.7	0.0	0% - 50%
ES1507576-013	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	11.6	12.0	3.0	0% - 50%
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3887813)									
ES1507499-001	BW02 0.95M	EG005-SD: Aluminium	7429-90-5	50	mg/kg	10700	11400	6.5	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	18400	19300	4.7	0% - 20%
ES1507499-011	CG18 0.95M	EG005-SD: Aluminium	7429-90-5	50	mg/kg	8620	8660	0.4	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	16600	16300	1.4	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3887812)									
ES1507499-001	BW02 0.95M	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.5	0.6	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	0.2	0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	8.3	8.8	5.8	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	17.8	18.5	3.4	0% - 50%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	7.0	7.9	12.1	No Limit
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	4.7	5.0	5.2	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	8.2	9.1	10.0	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	28.2	26.0	8.3	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	21.6	23.2	7.5	0% - 20%
		EG020-SD: Manganese	7439-96-5	10	mg/kg	837	762	9.5	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	40.3	42.3	4.9	0% - 20%
ES1507499-011	CG18 0.95M	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.3	0.3	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	8.7	8.0	7.6	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	15.8	14.2	10.6	0% - 50%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	12.4	10.3	18.0	0% - 50%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	5.0	5.4	7.5	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	8.3	7.9	5.4	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	27.8	26.8	3.7	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	4.69	5.19	10.0	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	120	112	7.1	0% - 50%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3887812) - continued									
ES1507499-011	CG18 0.95M	EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	35.2	34.6	1.9	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3887811)									
ES1507499-001	BW02 0.95M	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	0.02	0.02	0.0	No Limit
ES1507499-011	CG18 0.95M	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	0.01	0.01	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3887813)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	----	----	----	----
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	103	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3887812)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	4.6 mg/kg	118	70	130
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	98.1	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	93.0	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	112	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	100	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	101	84	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	99.9	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	115	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	101	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	126	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	----	----	----	----
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	111	87	131
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	101	83	137
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3887811)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.110 mg/kg	98.1	72	116

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3887812)							
ES1507499-002	BW02 2.0M	EG020-SD: Arsenic	7440-38-2	50 mg/kg	94.2	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	98.9	70	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3887812) - continued							
ES1507499-002	BW02 2.0M	EG020-SD: Chromium	7440-47-3	50 mg/kg	116	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	107	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	93.7	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	95.5	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	101	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3887811)							
ES1507499-001	BW02 0.95M	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	105	70	130

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

The quality control term Matrix Spike (MS) and Matrix Spike Duplicate (MSD) refers to intralaboratory split samples spiked with a representative set of target analytes. The purpose of these QC parameters are to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3887811)										
ES1507499-001	BW02 0.95M	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	105	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3887812)										
ES1507499-002	BW02 2.0M	EG020-SD: Arsenic	7440-38-2	50 mg/kg	94.2	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	98.9	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	116	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	107	----	70	130	----	----
		EG020-SD: Lead	7439-92-1	250 mg/kg	93.7	----	70	130	----	----
		EG020-SD: Nickel	7440-02-0	50 mg/kg	95.5	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	101	----	70	130	----	----

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1507499**	Page	: 1 of 6
Client	: AURECON AUSTRALASIA PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 02-APR-2015
Sampler	: KURT PRAEGER	Issue Date	: 13-APR-2015
Order number	: 245852		
		No. of samples received	: 19
Quote number	: SY/1021/14 V2	No. of samples analysed	: 17

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with recommended holding times (USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content							
Soil Glass Jar - Unpreserved (EA055-103) CG16 2.0M, CG16 4.0M	**19-MAR-2015**	**----**	----	----	**02-APR-2015**	02-APR-2015	✓
Soil Glass Jar - Unpreserved (EA055-103) CG18 0.6M, CG18 0.95M, CG18 1.95M, CG18 3.0M, CG18 4.0M	**21-MAR-2015**	**----**	----	----	**02-APR-2015**	04-APR-2015	✓
Soil Glass Jar - Unpreserved (EA055-103) CG21 0.6M, CG21 2.95M, CG21 3.95M	**23-MAR-2015**	**----**	----	----	**02-APR-2015**	06-APR-2015	✓
Soil Glass Jar - Unpreserved (EA055-103) BW02 0.95M, BW02 2.0M, BW02 2.95M, BW02 3.95M	**26-MAR-2015**	**----**	----	----	**02-APR-2015**	09-APR-2015	✓
Soil Glass Jar - Unpreserved (EA055-103) CG05 0.6M, CG05 0.95M, CG05 1.95M	**28-MAR-2015**	**----**	----	----	**02-APR-2015**	11-APR-2015	✓
EG005-SD: Total Metals in Sediments by ICP-AES							
Soil Glass Jar - Unpreserved (EG005-SD) CG16 2.0M, CG16 4.0M	**19-MAR-2015**	**07-APR-2015**	15-SEP-2015	✓	**07-APR-2015**	15-SEP-2015	✓
Soil Glass Jar - Unpreserved (EG005-SD) CG18 0.6M, CG18 0.95M, CG18 1.95M, CG18 3.0M, CG18 4.0M	**21-MAR-2015**	**07-APR-2015**	17-SEP-2015	✓	**07-APR-2015**	17-SEP-2015	✓
Soil Glass Jar - Unpreserved (EG005-SD) CG21 0.6M, CG21 2.95M, CG21 3.95M	**23-MAR-2015**	**07-APR-2015**	19-SEP-2015	✓	**07-APR-2015**	19-SEP-2015	✓
Soil Glass Jar - Unpreserved (EG005-SD) BW02 0.95M, BW02 2.0M, BW02 2.95M, BW02 3.95M	**26-MAR-2015**	**07-APR-2015**	22-SEP-2015	✓	**07-APR-2015**	22-SEP-2015	✓
Soil Glass Jar - Unpreserved (EG005-SD) CG05 0.6M, CG05 0.95M, CG05 1.95M	**28-MAR-2015**	**07-APR-2015**	24-SEP-2015	✓	**07-APR-2015**	24-SEP-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020-SD: Total Metals in Sediments by ICPMS							
Soil Glass Jar - Unpreserved (EG020-SD) CG16 2.0M, CG16 4.0M	**19-MAR-2015**	**07-APR-2015**	15-SEP-2015	✓	**07-APR-2015**	15-SEP-2015	✓
Soil Glass Jar - Unpreserved (EG020-SD) CG18 0.6M, CG18 0.95M, CG18 1.95M, CG18 3.0M, CG18 4.0M	**21-MAR-2015**	**07-APR-2015**	17-SEP-2015	✓	**07-APR-2015**	17-SEP-2015	✓
Soil Glass Jar - Unpreserved (EG020-SD) CG21 0.6M, CG21 2.95M, CG21 3.95M	**23-MAR-2015**	**07-APR-2015**	19-SEP-2015	✓	**07-APR-2015**	19-SEP-2015	✓
Soil Glass Jar - Unpreserved (EG020-SD) BW02 0.95M, BW02 2.0M, BW02 2.95M, BW02 3.95M	**26-MAR-2015**	**07-APR-2015**	22-SEP-2015	✓	**07-APR-2015**	22-SEP-2015	✓
Soil Glass Jar - Unpreserved (EG020-SD) CG05 0.6M, CG05 0.95M, CG05 1.95M	**28-MAR-2015**	**07-APR-2015**	24-SEP-2015	✓	**07-APR-2015**	24-SEP-2015	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T-LL) CG16 2.0M, CG16 4.0M	**19-MAR-2015**	**07-APR-2015**	16-APR-2015	✓	**09-APR-2015**	16-APR-2015	✓
Soil Glass Jar - Unpreserved (EG035T-LL) CG18 0.6M, CG18 0.95M, CG18 1.95M, CG18 3.0M, CG18 4.0M	**21-MAR-2015**	**07-APR-2015**	18-APR-2015	✓	**09-APR-2015**	18-APR-2015	✓
Soil Glass Jar - Unpreserved (EG035T-LL) CG21 0.6M, CG21 2.95M, CG21 3.95M	**23-MAR-2015**	**07-APR-2015**	20-APR-2015	✓	**09-APR-2015**	20-APR-2015	✓
Soil Glass Jar - Unpreserved (EG035T-LL) BW02 0.95M, BW02 2.0M, BW02 2.95M, BW02 3.95M	**26-MAR-2015**	**07-APR-2015**	23-APR-2015	✓	**09-APR-2015**	23-APR-2015	✓
Soil Glass Jar - Unpreserved (EG035T-LL) CG05 0.6M, CG05 0.95M, CG05 1.95M	**28-MAR-2015**	**07-APR-2015**	25-APR-2015	✓	**09-APR-2015**	25-APR-2015	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055-103	4	40	**10.0**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	17	**11.8**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	17	**11.8**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	17	**11.8**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Total Fe and Al in Sediments by ICPAES	EG005-SD	1	17	**5.9**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	1	17	**5.9**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	1	17	**5.9**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Total Fe and Al in Sediments by ICPAES	EG005-SD	1	17	**5.9**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	1	17	**5.9**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	1	17	**5.9**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Total Mercury by FIMS (Low Level)	EG035T-LL	1	17	**5.9**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	1	17	**5.9**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055-103	SOIL	In-house. A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Total Fe and Al in Sediments by ICPAES	EG005-SD	SOIL	In house: Referenced to APHA 21st ed., 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3). LORs per NODG
Total Metals in Sediments by ICPMS	EG020-SD	SOIL	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector. Analyte list and LORs per NODG.
Total Mercury by FIMS (Low Level)	EG035T-LL	SOIL	In house: Referenced to AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW 846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Duplicate outliers occur.**
- **For all matrices, no Laboratory Control outliers occur.**
- **For all matrices, no Matrix Spike outliers occur.**

Regular Sample Surrogates

- **For all regular sample matrices, no surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- **No Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

ALS Environmental

ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 46 Callemondah Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com
MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 24-Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
CANBERRA 1/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com
SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818 Ph: 07 4796 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: Aurecon Australasia Pty Ltd	TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)	☐ Standard TAT (List due date):	FOR LABORATORY USE ONLY (Circle)
OFFICE: Level 14, 32 Turbot Street, Brisbane, QLD 4000		Yes - Non Standard or urgent TAT (List due date): 5 day turnaround	Custody Seal Intact? Yes No N/A
PROJECT: GPC Geochemical Investigation	ALS QUOTE NO.: SY - 1021-14 V2	COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: 245852		OF: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt °C
PROJECT MANAGER: Sally Leyland	CONTACT PH: 07 3173 8006		Other comments:
SAMPLER: Kurt Praeger	SAMPLER MOBILE: -	RELINQUISHED BY: Tim Murphy DATE/TIME: 13-Apr-15	RECEIVED BY: DATE/TIME: 13/4/15 14:30
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):		RELINQUISHED BY: DATE/TIME: 13/4/15 16:00
Email Reports to (will default to PM if no other addresses are listed): georgina.kerr@aurecongroup.com			RECEIVED BY: DATE/TIME: 14/4/15 9am
Email Invoice to (will default to PM if no other addresses are listed): sally.leyland@aurecongroup.com			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).			Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	SD-3			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
1	WBI-3 1.95m	2/04/2015	S	Glass Jar (250 ml)	1	1			
2	WBI-3 2.95m	2/04/2015	S	Glass Jar (250 ml)	1	1			
3	WBI-10 0.6m	5/04/2015	S	Glass Jar (250 ml)	1	1			
4	WBI-10 0.95m	5/04/2015	S	Glass Jar (250 ml)	1	1			
5	WBI-10 1.95m	5/04/2015	S	Glass Jar (250 ml)	1	1			
6	WBI-10 2.95m	5/04/2015	S	Glass Jar (250 ml)	1	1			
7	WBI-10 3.95m	5/04/2015	S	Glass Jar (250 ml)	1	1			
				TOTAL	7	7			

Environmental Division Sydney

Work Order

ES1508332

Telephone : +61-2-8784 8555

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CERTIFICATE OF ANALYSIS

Work Order	: **ES1508332**	Page	: 1 of 7
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: 245852		
C-O-C number	: ----	Date Samples Received	: 14-APR-2015
Sampler	: KP	Issue Date	: 21-APR-2015
Site	: ----		
		No. of samples received	: 22
Quote number	: SY/1021/14 V2	No. of samples analysed	: 22

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
Shobhna Chandra	Metals Coordinator	Sydney Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WBI-3 1.95M	WBI-3 2.95M	WBI-10 0.6M	WBI-10 0.95M	WBI-10 1.95M
				Client sampling date / time	02-APR-2015 15:00	02-APR-2015 15:00	05-APR-2015 15:00	05-APR-2015 15:00	05-APR-2015 15:00
Compound	CAS Number	LOR	Unit		ES1508332-001	ES1508332-002	ES1508332-003	ES1508332-004	ES1508332-005
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		15.5	18.9	22.0	22.0	16.4
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		6320	3330	5870	17400	12200
Iron	7439-89-6	50	mg/kg		16800	9340	16800	34900	26700
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		4.87	3.31	20.4	4.87	6.24
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg		10.9	8.1	13.6	23.7	18.1
Copper	7440-50-8	1.0	mg/kg		9.3	6.0	5.8	46.2	34.9
Cobalt	7440-48-4	0.5	mg/kg		4.1	2.8	8.8	16.7	12.3
Lead	7439-92-1	1.0	mg/kg		4.7	2.5	4.9	10.7	10.0
Manganese	7439-96-5	10	mg/kg		109	82	1210	300	254
Nickel	7440-02-0	1.0	mg/kg		6.0	3.6	7.2	23.4	17.0
Selenium	7782-49-2	0.1	mg/kg		0.2	0.1	0.5	0.4	0.5
Silver	7440-22-4	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
Vanadium	7440-62-2	2.0	mg/kg		28.9	17.8	39.0	72.2	55.7
Zinc	7440-66-6	1.0	mg/kg		26.4	16.7	19.5	57.8	40.8
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	<0.01	<0.01	0.02	0.01

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	WBI-10 2.95M	WBI-10 3.95M	GG17 0.6M	GG17 0.95M	GG17 1.95M
				Client sampling date / time	05-APR-2015 15:00	05-APR-2015 15:00	06-APR-2015 15:00	06-APR-2015 15:00	06-APR-2015 15:00
Compound	CAS Number	LOR	Unit		ES1508332-006	ES1508332-007	ES1508332-008	ES1508332-009	ES1508332-010
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		13.7	17.7	20.0	17.8	18.7
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		8550	5500	12800	9710	14000
Iron	7439-89-6	50	mg/kg		21100	15100	27800	30200	32800
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		22.9	12.6	6.50	6.94	8.64
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg		15.4	11.3	19.6	18.8	22.8
Copper	7440-50-8	1.0	mg/kg		5.2	5.9	25.4	32.2	30.9
Cobalt	7440-48-4	0.5	mg/kg		5.0	5.8	16.0	84.3	16.1
Lead	7439-92-1	1.0	mg/kg		4.4	3.9	8.8	16.8	13.8
Manganese	7439-96-5	10	mg/kg		109	108	386	4290	759
Nickel	7440-02-0	1.0	mg/kg		5.8	5.5	21.0	26.9	23.1
Selenium	7782-49-2	0.1	mg/kg		0.3	0.2	0.4	0.5	0.6
Silver	7440-22-4	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
Vanadium	7440-62-2	2.0	mg/kg		48.0	34.7	67.1	58.9	72.2
Zinc	7440-66-6	1.0	mg/kg		15.6	19.3	43.8	43.3	54.4
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	0.01	0.03	<0.01	0.02

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	GG17 2.95M	GG17 3.95M	PCE-3 0.4M	PCE-3 1.0M	PCE-3 2.0M
				Client sampling date / time	06-APR-2015 15:00	06-APR-2015 15:00	08-APR-2015 15:00	08-APR-2015 15:00	08-APR-2015 15:00
Compound	CAS Number	LOR	Unit		ES1508332-011	ES1508332-012	ES1508332-013	ES1508332-014	ES1508332-015
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		15.4	17.4	36.4	25.9	11.1
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		8250	6360	14000	10800	3850
Iron	7439-89-6	50	mg/kg		16000	8870	25000	20200	5670
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		4.27	<1.00	8.46	4.54	2.71
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg		13.9	9.1	18.0	11.3	13.1
Copper	7440-50-8	1.0	mg/kg		10.0	8.8	36.8	28.0	2.9
Cobalt	7440-48-4	0.5	mg/kg		5.9	3.2	10.6	8.3	2.1
Lead	7439-92-1	1.0	mg/kg		4.6	4.2	7.3	6.6	3.1
Manganese	7439-96-5	10	mg/kg		126	72	293	107	35
Nickel	7440-02-0	1.0	mg/kg		6.3	3.8	12.6	10.0	3.5
Selenium	7782-49-2	0.1	mg/kg		0.3	<0.1	0.7	0.4	0.1
Silver	7440-22-4	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
Vanadium	7440-62-2	2.0	mg/kg		22.8	16.2	57.6	59.6	15.4
Zinc	7440-66-6	1.0	mg/kg		25.3	18.1	45.0	30.2	4.2
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	<0.01	0.02	0.02	<0.01

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	PCE-3 3.0M	PCE-3 4.0M	PCE-1 0.4M	PCE-1 1.0M	PCE-1 1.95M
				Client sampling date / time	08-APR-2015 15:00	08-APR-2015 15:00	09-APR-2015 15:00	09-APR-2015 15:00	09-APR-2015 15:00
Compound	CAS Number	LOR	Unit		ES1508332-016	ES1508332-017	ES1508332-018	ES1508332-019	ES1508332-020
EA055: Moisture Content									
Moisture Content (dried @ 103°C)	----	1.0	%		12.8	13.9	32.8	28.0	22.1
EG005-SD: Total Metals in Sediments by ICP-AES									
Aluminium	7429-90-5	50	mg/kg		6170	6240	7800	12500	6040
Iron	7439-89-6	50	mg/kg		15000	15800	15600	22400	15200
EG020-SD: Total Metals in Sediments by ICPMS									
Antimony	7440-36-0	0.50	mg/kg		<0.50	<0.50	<0.50	<0.50	<0.50
Arsenic	7440-38-2	1.00	mg/kg		12.0	9.56	10.4	5.94	9.85
Cadmium	7440-43-9	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	7440-47-3	1.0	mg/kg		11.4	10.3	14.8	13.9	11.4
Copper	7440-50-8	1.0	mg/kg		7.6	10.7	10.8	30.0	10.5
Cobalt	7440-48-4	0.5	mg/kg		4.9	4.3	8.0	9.8	8.8
Lead	7439-92-1	1.0	mg/kg		2.5	2.8	5.4	7.0	4.9
Manganese	7439-96-5	10	mg/kg		74	69	242	118	204
Nickel	7440-02-0	1.0	mg/kg		6.8	5.6	8.0	10.9	6.8
Selenium	7782-49-2	0.1	mg/kg		0.1	0.2	0.6	0.6	0.4
Silver	7440-22-4	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
Vanadium	7440-62-2	2.0	mg/kg		39.4	45.8	30.2	60.6	34.8
Zinc	7440-66-6	1.0	mg/kg		15.6	17.3	29.6	35.6	18.5
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.01	mg/kg		<0.01	<0.01	0.01	0.01	<0.01

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	PCE-1 2.95M	PCE-1 3.95M	----	----	----
			Client sampling date / time	09-APR-2015 15:00	09-APR-2015 15:00	----	----	----
Compound	CAS Number	LOR	Unit	ES1508332-021	ES1508332-022	----	----	----
EA055: Moisture Content								
Moisture Content (dried @ 103°C)	----	1.0	%	**25.5**	**20.8**	----	----	----
EG005-SD: Total Metals in Sediments by ICP-AES								
Aluminium	7429-90-5	50	mg/kg	**13200**	**11100**	----	----	----
Iron	7439-89-6	50	mg/kg	**27000**	**21900**	----	----	----
EG020-SD: Total Metals in Sediments by ICPMS								
Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	----	----	----
Arsenic	7440-38-2	1.00	mg/kg	**13.8**	**4.28**	----	----	----
Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	----	----	----
Chromium	7440-47-3	1.0	mg/kg	**13.6**	**11.8**	----	----	----
Copper	7440-50-8	1.0	mg/kg	**67.0**	**27.2**	----	----	----
Cobalt	7440-48-4	0.5	mg/kg	**19.8**	**15.6**	----	----	----
Lead	7439-92-1	1.0	mg/kg	**8.7**	**5.8**	----	----	----
Manganese	7439-96-5	10	mg/kg	**296**	**1080**	----	----	----
Nickel	7440-02-0	1.0	mg/kg	**15.2**	**12.7**	----	----	----
Selenium	7782-49-2	0.1	mg/kg	**0.5**	**0.4**	----	----	----
Silver	7440-22-4	0.1	mg/kg	<0.1	**0.1**	----	----	----
Vanadium	7440-62-2	2.0	mg/kg	**90.7**	**98.3**	----	----	----
Zinc	7440-66-6	1.0	mg/kg	**34.8**	**28.7**	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.01	mg/kg	**0.02**	**0.04**	----	----	----

QUALITY CONTROL REPORT

Work Order	: **ES1508332**	Page	: 1 of 7
Client	: **AURECON AUSTRALASIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 14-APR-2015
Sampler	: KP	Issue Date	: 21-APR-2015
Order number	: 245852		
		No. of samples received	: 22
Quote number	: SY/1021/14 V2	No. of samples analysed	: 22

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

NATA Accredited Laboratory 825

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out ir compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Pabi Subba	Senior Organic Chemist	Sydney Inorganics
Shobhna Chandra	Metals Coordinator	Sydney Inorganics

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EA055: Moisture Content (QC Lot: 3899171)									
ES1508317-007	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	3.3	2.4	28.7	No Limit
ES1508324-015	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	8.8	7.7	13.4	No Limit
EA055: Moisture Content (QC Lot: 3899172)									
ES1508332-004	WBI-10 0.95M	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	22.0	22.5	2.1	0% - 20%
ES1508419-008	Anonymous	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	17.4	14.4	18.6	0% - 50%
EA055: Moisture Content (QC Lot: 3899333)									
ES1508332-008	GG17 0.6M	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	20.0	21.0	5.0	0% - 20%
ES1508332-019	PCE-1 1.0M	EA055-103: Moisture Content (dried @ 103°C)	----	1.0	%	28.0	28.1	0.0	0% - 20%
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3900120)									
ES1508332-001	WBI-3 1.95M	EG005-SD: Aluminium	7429-90-5	50	mg/kg	6320	6880	8.5	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	16800	19900	17.3	0% - 20%
ES1508332-011	GG17 2.95M	EG005-SD: Aluminium	7429-90-5	50	mg/kg	8250	9720	16.3	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	16000	17200	7.5	0% - 20%
EG005-SD: Total Metals in Sediments by ICP-AES (QC Lot: 3900123)									
ES1508332-021	PCE-1 2.95M	EG005-SD: Aluminium	7429-90-5	50	mg/kg	13200	12600	4.3	0% - 20%
		EG005-SD: Iron	7439-89-6	50	mg/kg	27000	33000	19.9	0% - 20%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3900119)									
ES1508332-001	WBI-3 1.95M	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.2	0.2	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	4.1	5.0	19.1	No Limit
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	10.9	13.5	21.8	0% - 50%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	9.3	11.3	18.8	0% - 50%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	4.7	6.1	26.9	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	6.0	7.3	18.9	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	26.4	31.2	16.6	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	4.87	6.88	34.2	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	109	145	28.0	0% - 50%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	28.9	34.0	16.0	0% - 50%
ES1508332-011	GG17 2.95M	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.3	0.3	0.0	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	5.9	6.8	13.4	0% - 50%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3900119) - continued									
ES1508332-011	GG17 2.95M	EG020-SD: Chromium	7440-47-3	1.0	mg/kg	13.9	15.0	7.5	0% - 50%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	10.0	11.8	15.8	0% - 50%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	4.6	5.5	18.7	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	6.3	6.8	7.5	No Limit
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	25.3	27.0	6.6	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	4.27	5.59	26.7	No Limit
		EG020-SD: Manganese	7439-96-5	10	mg/kg	126	149	17.3	0% - 50%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	22.8	29.3	25.0	0% - 50%
EG020-SD: Total Metals in Sediments by ICPMS (QC Lot: 3900122)									
ES1508332-021	PCE-1 2.95M	EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Selenium	7782-49-2	0.1	mg/kg	0.5	0.4	23.8	No Limit
		EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
		EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	19.8	17.5	12.5	0% - 20%
		EG020-SD: Antimony	7440-36-0	0.50	mg/kg	<0.50	<0.50	0.0	No Limit
		EG020-SD: Chromium	7440-47-3	1.0	mg/kg	13.6	13.3	2.7	0% - 50%
		EG020-SD: Copper	7440-50-8	1.0	mg/kg	67.0	62.8	6.4	0% - 20%
		EG020-SD: Lead	7439-92-1	1.0	mg/kg	8.7	8.1	7.4	No Limit
		EG020-SD: Nickel	7440-02-0	1.0	mg/kg	15.2	14.4	5.1	0% - 50%
		EG020-SD: Zinc	7440-66-6	1.0	mg/kg	34.8	34.8	0.0	0% - 20%
		EG020-SD: Arsenic	7440-38-2	1.00	mg/kg	13.8	9.90	33.0	0% - 50%
		EG020-SD: Manganese	7439-96-5	10	mg/kg	296	297	0.3	0% - 20%
		EG020-SD: Vanadium	7440-62-2	2.0	mg/kg	90.7	91.3	0.7	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3900118)									
ES1508332-001	WBI-3 1.95M	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit
ES1508332-011	GG17 2.95M	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	<0.01	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3900121)									
ES1508332-021	PCE-1 2.95M	EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	0.02	0.02	0.0	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3900120)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	100	86	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	83.6	70	130
EG005-SD: Total Metals in Sediments by ICP-AES (QCLot: 3900123)								
EG005-SD: Aluminium	7429-90-5	50	mg/kg	<50	6134 mg/kg	102	86	136
EG005-SD: Iron	7439-89-6	50	mg/kg	<50	8400 mg/kg	86.1	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3900119)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	----	----	----	----
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	112	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	104	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	99.2	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	94.9	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	115	84	130
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	98.6	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	106	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	125	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	86.2	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	2.10 mg/kg	123	64	148
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	99.6	87	131
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	109	83	137
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3900122)								
EG020-SD: Antimony	7440-36-0	0.5	mg/kg	<0.50	----	----	----	----
EG020-SD: Arsenic	7440-38-2	1.0	mg/kg	<1.00	21.7 mg/kg	116	81	139
EG020-SD: Cadmium	7440-43-9	0.1	mg/kg	<0.1	4.64 mg/kg	106	83	127
EG020-SD: Chromium	7440-47-3	1.0	mg/kg	<1.0	43.9 mg/kg	106	73	130
EG020-SD: Copper	7440-50-8	1.0	mg/kg	<1.0	32 mg/kg	100	82	130
EG020-SD: Cobalt	7440-48-4	0.5	mg/kg	<10.0	16 mg/kg	124	84	130

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3900122) - continued								
EG020-SD: Lead	7439-92-1	1.0	mg/kg	<1.0	40 mg/kg	103	82	130
EG020-SD: Manganese	7439-96-5	10	mg/kg	<10	130 mg/kg	113	79	130
EG020-SD: Nickel	7440-02-0	1.0	mg/kg	<1.0	55 mg/kg	128	86	130
EG020-SD: Selenium	7782-49-2	0.1	mg/kg	<0.1	5.37 mg/kg	88.6	72	130
EG020-SD: Silver	7440-22-4	0.1	mg/kg	<0.1	2.10 mg/kg	128	64	148
EG020-SD: Vanadium	7440-62-2	2	mg/kg	<2.0	29.6 mg/kg	105	87	131
EG020-SD: Zinc	7440-66-6	1.0	mg/kg	<1.0	60.8 mg/kg	112	83	137
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3900118)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.110 mg/kg	81.4	72	116
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3900121)								
EG035T-LL: Mercury	7439-97-6	0.01	mg/kg	<0.01	0.110 mg/kg	75.0	72	116

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3900119)							
ES1508332-002	WBI-3 2.95M	EG020-SD: Arsenic	7440-38-2	50 mg/kg	104	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	103	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	97.8	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	106	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	100	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	104	70	130
		EG020-SD: Zinc	7440-66-6	250 mg/kg	110	70	130
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3900122)							
ES1508332-022	PCE-1 3.95M	EG020-SD: Arsenic	7440-38-2	50 mg/kg	95.6	70	130
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	104	70	130
		EG020-SD: Chromium	7440-47-3	50 mg/kg	94.9	70	130
		EG020-SD: Copper	7440-50-8	250 mg/kg	104	70	130
		EG020-SD: Lead	7439-92-1	250 mg/kg	99.5	70	130
		EG020-SD: Nickel	7440-02-0	50 mg/kg	114	70	130

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3900122) - continued							
ES1508332-022	PCE-1 3.95M	EG020-SD: Zinc	7440-66-6	250 mg/kg	109	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3900118)							
ES1508332-001	WBI-3 1.95M	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	123	70	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3900121)							
ES1508332-021	PCE-1 2.95M	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	117	70	130

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

The quality control term Matrix Spike (MS) and Matrix Spike Duplicate (MSD) refers to intralaboratory split samples spiked with a representative set of target analytes. The purpose of these QC parameters are to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	MSD	Low	High	Value	Control Limit
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3900118)										
ES1508332-001	WBI-3 1.95M	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	123	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3900119)										
ES1508332-002	WBI-3 2.95M	EG020-SD: Arsenic	7440-38-2	50 mg/kg	104	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	103	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	97.8	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	106	----	70	130	----	----
		EG020-SD: Lead	7439-92-1	250 mg/kg	100	----	70	130	----	----
		EG020-SD: Nickel	7440-02-0	50 mg/kg	104	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	110	----	70	130	----	----
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3900121)										
ES1508332-021	PCE-1 2.95M	EG035T-LL: Mercury	7439-97-6	0.050 mg/kg	117	----	70	130	----	----
EG020-SD: Total Metals in Sediments by ICPMS (QCLot: 3900122)										
ES1508332-022	PCE-1 3.95M	EG020-SD: Arsenic	7440-38-2	50 mg/kg	95.6	----	70	130	----	----
		EG020-SD: Cadmium	7440-43-9	50 mg/kg	104	----	70	130	----	----
		EG020-SD: Chromium	7440-47-3	50 mg/kg	94.9	----	70	130	----	----
		EG020-SD: Copper	7440-50-8	250 mg/kg	104	----	70	130	----	----
		EG020-SD: Lead	7439-92-1	250 mg/kg	99.5	----	70	130	----	----
		EG020-SD: Nickel	7440-02-0	50 mg/kg	114	----	70	130	----	----
		EG020-SD: Zinc	7440-66-6	250 mg/kg	109	----	70	130	----	----

INTERPRETIVE QUALITY CONTROL REPORT

Work Order	: **ES1508332**	Page	: 1 of 7
Client	: AURECON AUSTRALASIA PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: SALLY LEYLAND	Contact	: Client Services
Address	: LOCKED BAG 331 32 TURBOT STREET BRISBANE QLD, AUSTRALIA 4001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: sally.leyland@aurecongroup.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 07 3173 8006	Telephone	: +61-2-8784 8555
Facsimile	: +61 07 3173 8001	Facsimile	: +61-2-8784 8500
Project	: GPC GEOCHEMICAL INVESTIGATION	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Site	: ----		
C-O-C number	: ----	Date Samples Received	: 14-APR-2015
Sampler	: KP	Issue Date	: 21-APR-2015
Order number	: 245852		
		No. of samples received	: 22
Quote number	: SY/1021/14 V2	No. of samples analysed	: 22

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Interpretive Quality Control Report contains the following information:

- Analysis Holding Time Compliance
- Quality Control Parameter Frequency Compliance
- Brief Method Summaries
- Summary of Outliers

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with recommended holding times (USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content							
Soil Glass Jar - Unpreserved (EA055-103) WBI-3 1.95M, WBI-3 2.95M	**02-APR-2015**	**----**	----	----	**15-APR-2015**	16-APR-2015	✓
Soil Glass Jar - Unpreserved (EA055-103) WBI-10 0.6M, WBI-10 0.95M, WBI-10 1.95M, WBI-10 2.95M, WBI-10 3.95M	**05-APR-2015**	**----**	----	----	**15-APR-2015**	19-APR-2015	✓
Soil Glass Jar - Unpreserved (EA055-103) GG17 0.6M, GG17 0.95M, GG17 1.95M, GG17 2.95M, GG17 3.95M	**06-APR-2015**	**----**	----	----	**15-APR-2015**	20-APR-2015	✓
Soil Glass Jar - Unpreserved (EA055-103) PCE-3 0.4M, PCE-3 1.0M, PCE-3 2.0M, PCE-3 3.0M, PCE-3 4.0M	**08-APR-2015**	**----**	----	----	**15-APR-2015**	22-APR-2015	✓
Soil Glass Jar - Unpreserved (EA055-103) PCE-1 0.4M, PCE-1 1.0M, PCE-1 1.95M, PCE-1 2.95M, PCE-1 3.95M	**09-APR-2015**	**----**	----	----	**15-APR-2015**	23-APR-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005-SD: Total Metals in Sediments by ICP-AES							
Soil Glass Jar - Unpreserved (EG005-SD) WBI-3 1.95M, WBI-3 2.95M	**02-APR-2015**	**15-APR-2015**	29-SEP-2015	✓	**16-APR-2015**	29-SEP-2015	✓
Soil Glass Jar - Unpreserved (EG005-SD) WBI-10 0.6M, WBI-10 0.95M, WBI-10 1.95M, WBI-10 2.95M, WBI-10 3.95M	**05-APR-2015**	**15-APR-2015**	02-OCT-2015	✓	**16-APR-2015**	02-OCT-2015	✓
Soil Glass Jar - Unpreserved (EG005-SD) GG17 0.6M, GG17 0.95M, GG17 1.95M, GG17 2.95M, GG17 3.95M	**06-APR-2015**	**15-APR-2015**	03-OCT-2015	✓	**16-APR-2015**	03-OCT-2015	✓
Soil Glass Jar - Unpreserved (EG005-SD) PCE-3 0.4M, PCE-3 1.0M, PCE-3 2.0M, PCE-3 3.0M, PCE-3 4.0M	**08-APR-2015**	**15-APR-2015**	05-OCT-2015	✓	**16-APR-2015**	05-OCT-2015	✓
Soil Glass Jar - Unpreserved (EG005-SD) PCE-1 0.4M, PCE-1 1.0M, PCE-1 1.95M, PCE-1 2.95M, PCE-1 3.95M	**09-APR-2015**	**15-APR-2015**	06-OCT-2015	✓	**16-APR-2015**	06-OCT-2015	✓
EG020-SD: Total Metals in Sediments by ICPMS							
Soil Glass Jar - Unpreserved (EG020-SD) WBI-3 1.95M, WBI-3 2.95M	**02-APR-2015**	**15-APR-2015**	29-SEP-2015	✓	**16-APR-2015**	29-SEP-2015	✓
Soil Glass Jar - Unpreserved (EG020-SD) WBI-10 0.6M, WBI-10 0.95M, WBI-10 1.95M, WBI-10 2.95M, WBI-10 3.95M	**05-APR-2015**	**15-APR-2015**	02-OCT-2015	✓	**16-APR-2015**	02-OCT-2015	✓
Soil Glass Jar - Unpreserved (EG020-SD) GG17 0.6M, GG17 0.95M, GG17 1.95M, GG17 2.95M, GG17 3.95M	**06-APR-2015**	**15-APR-2015**	03-OCT-2015	✓	**16-APR-2015**	03-OCT-2015	✓
Soil Glass Jar - Unpreserved (EG020-SD) PCE-3 0.4M, PCE-3 1.0M, PCE-3 2.0M, PCE-3 3.0M, PCE-3 4.0M	**08-APR-2015**	**15-APR-2015**	05-OCT-2015	✓	**16-APR-2015**	05-OCT-2015	✓
Soil Glass Jar - Unpreserved (EG020-SD) PCE-1 0.4M, PCE-1 1.0M, PCE-1 1.95M, PCE-1 2.95M, PCE-1 3.95M	**09-APR-2015**	**15-APR-2015**	06-OCT-2015	✓	**16-APR-2015**	06-OCT-2015	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T-LL)							
WBI-3 1.95M, WBI-3 2.95M	**02-APR-2015**	**15-APR-2015**	30-APR-2015	✓	**20-APR-2015**	30-APR-2015	✓
Soil Glass Jar - Unpreserved (EG035T-LL)							
WBI-10 0.6M, WBI-10 0.95M, WBI-10 1.95M, WBI-10 2.95M, WBI-10 3.95M	**05-APR-2015**	**15-APR-2015**	03-MAY-2015	✓	**20-APR-2015**	03-MAY-2015	✓
Soil Glass Jar - Unpreserved (EG035T-LL)							
GG17 0.6M, GG17 0.95M, GG17 1.95M, GG17 2.95M, GG17 3.95M	**06-APR-2015**	**15-APR-2015**	04-MAY-2015	✓	**20-APR-2015**	04-MAY-2015	✓
Soil Glass Jar - Unpreserved (EG035T-LL)							
PCE-3 0.4M, PCE-3 1.0M, PCE-3 2.0M, PCE-3 3.0M, PCE-3 4.0M	**08-APR-2015**	**15-APR-2015**	06-MAY-2015	✓	**20-APR-2015**	06-MAY-2015	✓
Soil Glass Jar - Unpreserved (EG035T-LL)							
PCE-1 0.4M, PCE-1 1.0M, PCE-1 1.95M, PCE-1 2.95M, PCE-1 3.95M	**09-APR-2015**	**15-APR-2015**	07-MAY-2015	✓	**20-APR-2015**	07-MAY-2015	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055-103	6	58	**10.3**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Fe and Al in Sediments by ICPAES	EG005-SD	3	22	**13.6**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	3	22	**13.6**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	3	22	**13.6**	**10.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Laboratory Control Samples (LCS)							
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	22	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	22	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	22	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Method Blanks (MB)							
Total Fe and Al in Sediments by ICPAES	EG005-SD	2	22	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Mercury by FIMS (Low Level)	EG035T-LL	2	22	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	22	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Matrix Spikes (MS)							
Total Mercury by FIMS (Low Level)	EG035T-LL	2	22	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Total Metals in Sediments by ICPMS	EG020-SD	2	22	**9.1**	**5.0**	✓	NEPM 2013 Schedule B(3) and ALS QCS3 requirement

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055-103	SOIL	In-house. A gravimetric procedure based on weight loss over a 12 hour drying period at 103-105 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Total Fe and Al in Sediments by ICPAES	EG005-SD	SOIL	In house: Referenced to APHA 21st ed., 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3). LORs per NODG
Total Metals in Sediments by ICPMS	EG020-SD	SOIL	In house: Referenced to APHA 21st ed., 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector. Analyte list and LORs per NODG.
Total Mercury by FIMS (Low Level)	EG035T-LL	SOIL	In house: Referenced to AS 3550, APHA 21st ed., 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)

Summary of Outliers

Outliers : Quality Control Samples

The following report highlights outliers flagged in the Quality Control (QC) Report. Surrogate recovery limits are static and based on USEPA SW 846 or ALS-QWI/EN/38 (in the absence of specific USEPA limits). This report displays QC Outliers (breaches) only.

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

- **For all matrices, no Method Blank value outliers occur.**
- **For all matrices, no Duplicate outliers occur.**
- **For all matrices, no Laboratory Control outliers occur.**
- **For all matrices, no Matrix Spike outliers occur.**

Regular Sample Surrogates

- **For all regular sample matrices, no surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

This report displays Holding Time breaches only. Only the respective Extraction / Preparation and/or Analysis component is/are displayed.

- **No Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

The following report highlights breaches in the Frequency of Quality Control Samples.

- **No Quality Control Sample Frequency Outliers exist.**

Appendix E
Secondary Laboratory Results

eurofins | mgt

☐ **Sydney**
Unit F3 - 6 Building F, 16 Mars Road, Lane Cove
Phone: +612 9900 8400
Email: EnviroSampleNSW@eurofins.com.au

☑ **Brisbane**
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Email: EnviroSampleQLD@eurofins.com.au

☐ **Melbourne**
2 Kingston Town Close, Oakleigh, VIC 3166
Phone: +613 8564 5000 Fax: +613 8564 5090
Email: EnviroSampleVic@eurofins.com.au

CHAIN OF CUSTODY RECORD

CLIENT DETAILS

Company Name : Aurecon	Contact Name: Sally Leyland	Purchase Order :	COC Number :
Office Address : Level 14, 32 Turbot Street, Brisbane QLD 4000	Project Manager : Sally Leyland	PROJECT Number : 245852-400	Eurofins | mgt quote ID : #150127AUR
	Email for results : sally.leyland@aurecongroup.com	PROJECT Name : GPC Geochemcial investigation	Data output format:

Special Directions & Comments :

Eurofins | mgt DI water batch number:

#	Sample ID	Date	Matrix	M8 (metals) + PAHs	B14 (OCP, OPP) + Herbicides	B1 (TRH/BTEX)	Asbestos	PCB	Dioxins	R21 (Soil Classification)	E. coli & total coliforms	Radioactivity (gross alpha and beta)	TRH (C6-C10)/BTEX	HOLD	Aurecon Suite 1
1	Dup 4B	15/02/2015	Soil												1

Analytes

Some common holding times (with correct preservation). For further information contact the lab

Waters		Soils	
BTEX, MAH, VOC	14 days	BTEX, MAH, VOC	14 days
TRH, PAH, Phenols, Pesticides	7 days	TRH, PAH, Phenols, Pesticides	14 days
Heavy Metals	6 months	Heavy Metals	6 months
Mercury, CrVI	28 days	Mercury, CrVI	28 days
Microbiological testing	24 hours	Microbiological testing	72 hours
BOD, Nitrate, Nitrite, Total N	2 days	Anions	28 days
Solids - TSS, TDS etc	7 days	SPOCAS, pH Field and FOX, CrS	24 hours
Ferrous Iron	7 days	ASLP, TCLP	7 days

Containers:

1LP	250P	125P	1LA	40mL vial	125mL A	Jar
						2

Sample comments:

Laboratory Staff

Relinquished By:	Received By: Arnold Rutkowski
Date & Time::	Date & Time: 18/02/15 8:45
Signature:	Signature:

Turn around time

1 DAY ☐ 2 DAY ☐ 3 DAY ☐
5 DAY ☑ 10 DAY ☐ Other:

Method Of Shipment

☐ Courier
☐ Hand Delivered
☐ Postal
Courier Consignment # :

Temperature on arrival: 15°C

Report number:

QS3009_R1 Issue Date: 05/02/15 Page 1 of 1

C	CN	HD	# CON NOTES	POST CODE
AP	OR			MASS

Parcmail
18/02 11:30 am
447829

ANALYTICAL RATES

The following analysis prices are on a per sample basis, excluding GST and any associated fees that may apply.

Prices apply for the scope of laboratory testing requested and do not apply to secondary/QC samples unless agreed otherwise.

--- AURECON SUITE 1 ---

Analysis[*3]	*Sample Number*	*Price per Sample*	*Line Total*
Metals (Sb, As, Cd, Cr, Cu, Pb, Hg, Mn, Ni, Ag, Zn) – Marine Trace Level	7	$85.00	$595.00
Organotins (MBT, DBT, TBT)[*2]	7	$200.00	$1,400.00
Eurofins Suite: B1[*1] TRH/BTEXN	7	$45.00	$315.00
Poly Aromatic Hydrocarbons (PAH) – Trace Level	7	$75.00	$525.00
Eurofins Suite: B13[*1] PCB/OC Pesticides (*inc DDD, DDE, DDT, Dieldrin, Chlordane, Endrin)* – Trace Level	7	$63.00	$441.00
Total Organic Carbon (TOC)	7	$22.50	$157.50
Nitrogen's – speciated (Total N, Ammonia, Nitrite, Nitrate, NOx, TKN) – Trace Level	7	$33.80	$236.60
Phosphate – Total – Trace Level	7	$8.30	$58.10
Total Analysis Price excluding GST			$3,728.20

*1 Please reference Eurofins Suite codes on all COC's to ensure quoted price is applied.
*2 Analysis is subcontracted to Eurofins Gfa in Germany. Estimated turnaround time is 10 working days.
*3 Please refer to TEST SPECIFICATION over page for applicable reporting limits (LOR's) against the NAGD PQL.

--- AURECON SUITE 2 ---

Analysis	*Sample Number*	*Price per Sample*	*Line Total*
Particle Size Distribution (Sieve & Hydrometer)[*4]	7	$200.00	$1,400.00
Settleability (Settling Rate)[*5]	7	$110.00	$770.00
Total Analysis Price excluding GST			$2,170.00

*4 Analysis subcontracted to SESL Australia. Estimated turnaround time is 10 working days.

*5 Analysis subcontracted to SESL Australia and non NATA Accredited. Estimated turnaround time is 10 working days.

Analyte	*Limit of Reporting*[6] (mg/Kg)	*NAGD PQL (mg/Kg)*
Moisture Content	0.1%	0.1%
Total Organic Carbon	50 (0.005%)	0.1%
Antimony (Sb) – Trace Level	0.5	0.5
Arsenic (As) – Trace Level	1	1
Chromium (Cr) – Trace Level	1	1
Cadmium (Cd) – Trace Level	0.1	0.1
Copper (Cu) – Trace Level	1	1
Manganese (Mn) – Trace Level	5	10
Mercury (Hg) – Trace Level	0.01	0.01
Nickel (Ni) – Trace Level	1	1
Lead (Pb) – Trace Level	1	1
Zinc (Zn) – Trace Level	1	1
Silver (Ag) – Trace Level	0.1	0.1
Total Petroleum Hydrocarbons (TPH)	20-100	100
BTEX	100 µg/kg	200 µg/kg
OC Pesticides – Trace Level	1 µg/kg	1 µg/kg
Poly Aromatic Hydrocarbons (PAH) – Trace Level	1 µg/kg	5 µg/kg
Poly Chlorinated Biphenyls (PCB's) – Trace Level	5 µg/kg	5 µg/kg
Organotins (Mono, Di & Tributyl Tin)	0.5 µg/kg	1 µg/kg
Phosphate – Total – Trace Level	2	0.1
Nitrogen – Total – Trace Level	1	0.1
Nitrate as N – Trace Level	0.1	0.1
Nitrite as N – Trace Level	0.1	0.1
Ammonia as N – Trace Level	0.1	0.1

*6 Matrix interferences may affect detection limits obtained.

eurofins | mgt

☐ **Sydney**
Unit F3 - 6 Building F, 16 Mars Road, Lane Cove
Phone: +612 9900 8400
Email: EnviroSampleNSW@eurofins.com.au

☑ **Brisbane**
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Phone: +617 3902 4600
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☐ **Melbourne**
2 Kingston Town Close, Oakleigh, VIC 3166
Phone: +613 8564 5000 Fax: +613 8564 5090
Email: EnviroSampleVic@eurofins.com.au

CHAIN OF CUSTODY RECORD

CLIENT DETAILS

Company Name : Aurecon	Contact Name: Sally Leyland	Purchase Order :	COC Number :
Office Address : Level 14, 32 Turbot Street, Brisbane QLD 4000	Project Manager : Sally Leyland	PROJECT Number : 245852-400	Eurofins | mgt quote ID : #150127AUR
	Email for results : sally.leyland@aurecongroup.com	PROJECT Name : GPC Geochemcial investigation	Data output format:

Special Directions & Comments :

Eurofins | mgt DI water batch number:

#	Sample ID	Date	Matrix	M8 (metals) + PAHs	B14 (OCP, OPP) + Herbicides	B1 (TRH/BTEX)	Asbestos	PCB	Dioxins	R21 (Soil Classification)	E. coli & total coliforms	Radioactivity (gross alpha and beta)	TRH (C6-C10)/BTEX	HOLD	Aurecon Suite 1
1	Dup 4B	15/02/2015	Soil												1

Analytes

Some common holding times (with correct preservation). For further information contact the lab

Waters		Soils	
BTEX, MAH, VOC	14 days	BTEX, MAH, VOC	14 days
TRH, PAH, Phenols, Pesticides	7 days	TRH, PAH, Phenols, Pesticides	14 days
Heavy Metals	6 months	Heavy Metals	6 months
Mercury, CrVI	28 days	Mercury, CrVI	28 days
Microbiological testing	24 hours	Microbiological testing	72 hours
BOD, Nitrate, Nitrite, Total N	2 days	Anions	28 days
Solids - TSS, TDS etc	7 days	SPOCAS, pH Field and FOX, CrS	24 hours
Ferrous Iron	7 days	ASLP, TCLP	7 days

Containers:

1LP	250P	125P	1LA	40mL vial	125mL A	Jar
						2

Sample comments:

Laboratory Staff

Relinquished By:	Received By: Arnold Rutkowski
Date & Time::	Date & Time: 18/02/15 8:45
Signature:	Signature:

Turn around time

1 DAY ☐ 2 DAY ☐ 3 DAY ☐
5 DAY ☑ 10 DAY ☐ Other:

Method Of Shipment

☐ Courier
☐ Hand Delivered
☐ Postal
Courier Consignment # :

Temperature on arrival: 15°C

Report number:

QS3009_R1 Issue Date: 05/02/15 Page 1 of 1

C	CN	HD	# CON NOTES	POST CODE
AP	OR			MASS

Parcmail
18/02 11:30 am
447829

ANALYTICAL RATES

The following analysis prices are on a per sample basis, excluding GST and any associated fees that may apply.

Prices apply for the scope of laboratory testing requested and do not apply to secondary/QC samples unless agreed otherwise.

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--- AURECON SUITE 2 ---

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Cadmium (Cd) – Trace Level	0.1	0.1
Copper (Cu) – Trace Level	1	1
Manganese (Mn) – Trace Level	5	10
Mercury (Hg) – Trace Level	0.01	0.01
Nickel (Ni) – Trace Level	1	1
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ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com.au web : www.eurofins.com.au

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Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
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16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Sample Receipt Advice

Company name:	**Aurecon Australia (BRIS) Pty Ltd**
Contact name:	Sally Leyland
Project name:	GPC GEOCHEMICAL INVESTIGATION
Project ID:	245852-400
COC number:	Not provided
Turn around time:	5 Day
Date/Time received:	Feb 18, 2015 8:45 AM
Eurofins | mgt reference:	**447829**

Sample information

☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.

☑ All samples have been received as described on the above COC.

☑ COC has been completed correctly.

☑ Attempt to chill was evident.

☑ Appropriately preserved sample containers have been used.

☑ All samples were received in good condition.

☑ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.

☑ Appropriate sample containers have been used.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Notes

Organotins conducted at Eurofins Germany on 10 day TAT

Contact notes

If you have any questions with respect to these samples please contact:

Mark Rodriquez on Phone : (+61) 8 8947 1557 or by e.mail: MarkRodriquez@eurofins.com.au

Results will be delivered electronically via e.mail to Sally Leyland - Sally.Leyland@aurecongroup.com.

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NATA # 1261 Site # 20794

Company Name: Aurecon Australia (BRIS) Pty Ltd
Address: Level 14, 32 Turbot St
Brisbane
QLD 4001

Project Name: GPC GEOCHEMICAL INVESTIGATION
Project ID: 245852-400

Order No.:
Report #: 447829
Phone: 07 3173 8000
Fax: +61 7 3173 8001

Received: Feb 18, 2015 8:45 AM
Due: Feb 25, 2015
Priority: 5 Day
Contact Name: Sally Leyland

Eurofins | mgt Client Manager: Mark Rodriquez

Sample Detail					Antimony	Manganese	Organotins (Suite of 8)	Phosphorus	Silver	Total Organic Carbon	Polycyclic Aromatic Hydrocarbons	Metals M8	Eurofins | mgt Suite 13	Nitrogens (speciated)	Eurofins | mgt Suite 1	Moisture Set
Laboratory where analysis is conducted																
Melbourne Laboratory - NATA Site # 1254 & 14271					X	X		X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217																
Brisbane Laboratory - NATA Site # 20794																
External Laboratory							X									
Sample ID	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**												
DUP 4B	Feb 15, 2015		Sediment (Trace)	B15-Fe13011	X	X	X	X	X	X	X	X	X	X	X	X

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Received: Feb 18, 2015 8:45 AM
Due: Feb 25, 2015
Priority: 5 Day
Contact Name: Sally Leyland

Eurofins | mgt Client Manager: Mark Rodriquez

Sample Detail					Antimony	Manganese	Organotins (Suite of 8)	Phosphorus	Silver	Total Organic Carbon	Polycyclic Aromatic Hydrocarbons	Metals M8	Eurofins | mgt Suite 13	Nitrogens (speciated)	Eurofins | mgt Suite 1	Moisture Set
Laboratory where analysis is conducted																
Melbourne Laboratory - NATA Site # 1254 & 14271					X	X		X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217																
Brisbane Laboratory - NATA Site # 20794																
External Laboratory							X									
Sample ID	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**												
DUP 4B	Feb 15, 2015		Sediment (Trace)	B15-Fe13011	X	X	X	X	X	X	X	X	X	X	X	X

eurofins | mgt

Certificate of Analysis

Aurecon Australia (BRIS) Pty Ltd
Level 14, 32 Turbot St
Brisbane
QLD 4001

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025.
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention: **Sally Leyland**

Report **447829-S**
Project name GPC GEOCHEMICAL INVESTIGATION
Project ID 245852-400
Received Date Feb 18, 2015

Client Sample ID			**DUP 4B**
Sample Matrix			**Sediment (Trace)**
Eurofins | mgt Sample No.			**B15-Fe13011**
Date Sampled			**Feb 15, 2015**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons - 1999 NEPM Fractions			
TRH C6-C9	20000	ug/kg	< 20000
TRH C10-C14	50000	ug/kg	< 50000
TRH C15-C28	50000	ug/kg	< 50000
TRH C29-C36	50000	ug/kg	75000
TRH C10-36 (Total)	10000	ug/kg	75000
BTEX			
Benzene	100	ug/kg	< 100
Toluene	100	ug/kg	< 100
Ethylbenzene	100	ug/kg	< 100
m&p-Xylenes	200	ug/kg	< 200
o-Xylene	100	ug/kg	< 100
Xylenes - Total	50	ug/kg	< 50
4-Bromofluorobenzene (surr.)	1	%	64
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene[N02]	500	ug/kg	< 500
TRH C6-C10	20000	ug/kg	< 20000
TRH C6-C10 less BTEX (F1)[N04]	20000	ug/kg	< 20000
TRH >C10-C16	50000	ug/kg	< 50000
TRH >C10-C16 less Naphthalene (F2)[N01]	50000	ug/kg	< 50000
TRH >C16-C34	100000	ug/kg	< 100000
TRH >C34-C40	100000	ug/kg	< 100000
Polycyclic Aromatic Hydrocarbons			
Benzo(a)pyrene TEQ (lower bound) *	1	ug/kg	< 1
Benzo(a)pyrene TEQ (medium bound) *	1	ug/kg	1
Benzo(a)pyrene TEQ (upper bound) *	1	ug/kg	2
Acenaphthene	1	ug/kg	< 1
Acenaphthylene	1	ug/kg	< 1
Anthracene	1	ug/kg	< 1
Benz(a)anthracene	1	ug/kg	< 1
Benzo(a)pyrene	1	ug/kg	< 1
Benzo(b&j)fluoranthene[N07]	1	ug/kg	< 1
Benzo(g.h.i)perylene	1	ug/kg	< 1
Benzo(k)fluoranthene	1	ug/kg	< 1
Chrysene	1	ug/kg	< 1

Client Sample ID			DUP 4B
Sample Matrix			Sediment (Trace)
Eurofins | mgt Sample No.			B15-Fe13011
Date Sampled			Feb 15, 2015
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons			
Dibenz(a.h)anthracene	1	ug/kg	< 1
Fluoranthene	1	ug/kg	< 1
Fluorene	1	ug/kg	< 1
Indeno(1.2.3-cd)pyrene	1	ug/kg	< 1
Naphthalene	1	ug/kg	< 1
Phenanthrene	1	ug/kg	< 1
Pyrene	1	ug/kg	< 1
Total PAH*	1	ug/kg	< 1
2-Fluorobiphenyl (surr.)	1	%	75
p-Terphenyl-d14 (surr.)	1	%	97
Organochlorine Pesticides			
Chlordanes - Total	5	ug/kg	< 5
4.4'-DDD	1	ug/kg	< 1
4.4'-DDE	1	ug/kg	< 1
4.4'-DDT	1	ug/kg	< 1
a-BHC	1	ug/kg	< 1
Aldrin	1	ug/kg	< 1
b-BHC	1	ug/kg	< 1
d-BHC	1	ug/kg	< 1
Dieldrin	1	ug/kg	< 1
Endosulfan I	1	ug/kg	< 1
Endosulfan II	1	ug/kg	< 1
Endosulfan sulphate	1	ug/kg	< 1
Endrin	1	ug/kg	< 1
Endrin aldehyde	1	ug/kg	< 1
Endrin ketone	1	ug/kg	< 1
g-BHC (Lindane)	1	ug/kg	< 1
Heptachlor	1	ug/kg	< 1
Heptachlor epoxide	1	ug/kg	< 1
Hexachlorobenzene	1	ug/kg	< 1
Methoxychlor	1	ug/kg	< 1
Toxaphene	5	ug/kg	< 5
Dibutylchlorendate (surr.)	1	%	88
Tetrachloro-m-xylene (surr.)	1	%	126
Polychlorinated Biphenyls			
Aroclor-1016	5	ug/kg	< 5
Aroclor-1221	5	ug/kg	< 5
Aroclor-1232	5	ug/kg	< 5
Aroclor-1242	5	ug/kg	< 5
Aroclor-1248	5	ug/kg	< 5
Aroclor-1254	5	ug/kg	< 5
Aroclor-1260	5	ug/kg	< 5
Total PCB*	5	ug/kg	< 5
Dibutylchlorendate (surr.)	1	%	88
Tetrachloro-m-xylene (surr.)	1	%	126

Client Sample ID			DUP 4B
Sample Matrix			**Sediment (Trace)**
Eurofins | mgt Sample No.			**B15-Fe13011**
Date Sampled			**Feb 15, 2015**
Test/Reference	LOR	Unit	
Total Organic Carbon	50	mg/kg	42000
Phosphorus	5	mg/kg	180
Organotins (Suite of 8)			see attached
% Moisture	0.1	%	43
Nitrogens (speciated)			
Ammonia (as N)	0.1	mg/kg	5.5
Nitrate (as N)	0.1	mg/kg	0.9
Nitrite (as N)	0.1	mg/kg	0.6
Organic Nitrogen (as N)	0.1	mg/kg	1300
Total Kjeldahl Nitrogen (as N)	0.1	mg/kg	1300
Total Nitrogen (as N)	0.1	mg/kg	1300
Heavy Metals			
Comments			G01
Antimony	0.5	mg/kg	< 10
Arsenic	1	mg/kg	12
Cadmium	0.1	mg/kg	< 0.1
Chromium	1	mg/kg	26
Copper	1	mg/kg	50
Lead	1	mg/kg	< 5
Manganese	10	mg/kg	300
Mercury	0.01	mg/kg	0.03
Nickel	1	mg/kg	12
Silver	0.1	mg/kg	< 1
Zinc	1	mg/kg	49

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Eurofins | mgt Suite 1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Feb 25, 2015	14 Day
- Method: TRH C6-C36 - LTM-ORG-2010			
BTEX	Melbourne	Feb 25, 2015	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Feb 25, 2015	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Polycyclic Aromatic Hydrocarbons	Melbourne	Feb 25, 2015	14 Day
- Method: USEPA 8270 Polycyclic Aromatic Hydrocarbons			
Total Organic Carbon	Melbourne	Feb 24, 2015	28 Day
- Method: APHA 5310B Total Organic Carbon			
Phosphorus	Melbourne	Feb 26, 2015	180 Day
- Method: USEPA 6010			
Nitrogens (speciated)			
Ammonia (as N)	Melbourne	Feb 26, 2015	7 Day
- Method: APHA 4500-NH3 Ammonia Nitrogen by FIA			
Nitrate (as N)	Melbourne	Feb 26, 2015	28 Day
- Method: APHA 4500-NO3 Nitrate Nitrogen by FIA			
Nitrite (as N)	Melbourne	Feb 26, 2015	28 Day
- Method: APHA 4500-NO2 Nitrite Nitrogen by FIA			
Organic Nitrogen (as N)	Melbourne	Feb 26, 2015	7 Day
- Method: APHA 4500 Organic Nitrogen (N)			
Total Kjeldahl Nitrogen (as N)	Melbourne	Feb 26, 2015	28 Day
- Method: APHA 4500 TKN			
Heavy Metals	Melbourne	Feb 26, 2015	180 Day
- Method: USEPA 6010/6020 Heavy Metals			
Metals M8	Melbourne	Feb 26, 2015	28 Day
- Method: USEPA 6010/6020 Heavy Metals & USEPA 7470/71 Mercury			
Eurofins | mgt Suite 13			
Organochlorine Pesticides	Melbourne	Feb 25, 2015	14 Day
- Method: USEPA 8081 Organochlorine Pesticides			
Polychlorinated Biphenyls	Melbourne	Feb 25, 2015	28 Day
- Method: USEPA 8082 Polychlorinated Biphenyls			
% Moisture	Melbourne	Feb 25, 2015	14 Day
- Method: LTM-GEN-7080 Moisture			

Eurofins | mgt Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
4. Results are uncorrected for matrix spikes or surrogate recoveries.
5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

****NOTE:** pH duplicates are reported as a range NOT as RPD

UNITS

mg/kg: milligrams per Kilogram

ug/l: micrograms per litre

ppb: Parts per billion

org/100ml: Organisms per 100 millilitres

MPN/100mL: Most Probable Number of organisms per 100 millilitres

mg/l: milligrams per litre

ppm: Parts per million

%: Percentage

NTU: Nephelometric Turbidity Units

TERMS

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery
CRM	Certified Reference Material - reported as percent recovery
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands. In the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
Batch Duplicate	A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.
Batch SPIKE	Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
ASLP	Australian Standard Leaching Procedure (AS4439.3)
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within
TEQ	Toxic Equivalency Quotient

QC - ACCEPTANCE CRITERIA

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries : Recoveries must lie between 50-150% - Phenols 20-130%.

QC DATA GENERAL COMMENTS

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxophene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	ug/kg	< 20000			20000	Pass	
TRH C10-C14	ug/kg	< 50000			50000	Pass	
TRH C15-C28	ug/kg	< 50000			50000	Pass	
TRH C29-C36	ug/kg	< 50000			50000	Pass	
Method Blank							
BTEX							
Benzene	ug/kg	< 100			100	Pass	
Toluene	ug/kg	< 100			100	Pass	
Ethylbenzene	ug/kg	< 100			100	Pass	
m&p-Xylenes	ug/kg	< 200			200	Pass	
o-Xylene	ug/kg	< 100			100	Pass	
Xylenes - Total	ug/kg	< 50			50	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	ug/kg	< 500			500	Pass	
TRH C6-C10	ug/kg	< 20000			20000	Pass	
TRH C6-C10 less BTEX (F1)	ug/kg	< 20000			20000	Pass	
TRH >C10-C16	ug/kg	< 50000			50000	Pass	
TRH >C16-C34	ug/kg	< 100000			100000	Pass	
TRH >C34-C40	ug/kg	< 100000			100000	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	ug/kg	< 1			1	Pass	
Acenaphthylene	ug/kg	< 1			1	Pass	
Anthracene	ug/kg	< 1			1	Pass	
Benz(a)anthracene	ug/kg	< 1			1	Pass	
Benzo(a)pyrene	ug/kg	< 1			1	Pass	
Benzo(b&j)fluoranthene	ug/kg	< 1			1	Pass	
Benzo(g.h.i)perylene	ug/kg	< 1			1	Pass	
Benzo(k)fluoranthene	ug/kg	< 1			1	Pass	
Chrysene	ug/kg	< 1			1	Pass	
Dibenz(a.h)anthracene	ug/kg	< 1			1	Pass	
Fluoranthene	ug/kg	< 1			1	Pass	
Fluorene	ug/kg	< 1			1	Pass	
Indeno(1.2.3-cd)pyrene	ug/kg	< 1			1	Pass	
Naphthalene	ug/kg	< 1			1	Pass	
Phenanthrene	ug/kg	< 1			1	Pass	
Pyrene	ug/kg	< 1			1	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	ug/kg	< 5			5	Pass	
4.4'-DDD	ug/kg	< 1			1	Pass	
4.4'-DDE	ug/kg	< 1			1	Pass	
4.4'-DDT	ug/kg	< 1			1	Pass	
a-BHC	ug/kg	< 1			1	Pass	
Aldrin	ug/kg	< 1			1	Pass	
b-BHC	ug/kg	< 1			1	Pass	
d-BHC	ug/kg	< 1			1	Pass	
Dieldrin	ug/kg	< 1			1	Pass	
Endosulfan I	ug/kg	< 1			1	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endosulfan II	ug/kg	< 1			1	Pass	
Endosulfan sulphate	ug/kg	< 1			1	Pass	
Endrin	ug/kg	< 1			1	Pass	
Endrin aldehyde	ug/kg	< 1			1	Pass	
Endrin ketone	ug/kg	< 1			1	Pass	
g-BHC (Lindane)	ug/kg	< 1			1	Pass	
Heptachlor	ug/kg	< 1			1	Pass	
Heptachlor epoxide	ug/kg	< 1			1	Pass	
Hexachlorobenzene	ug/kg	< 1			1	Pass	
Methoxychlor	ug/kg	< 1			1	Pass	
Toxaphene	ug/kg	< 5			5	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	ug/kg	< 5			5	Pass	
Aroclor-1221	ug/kg	< 5			5	Pass	
Aroclor-1232	ug/kg	< 5			5	Pass	
Aroclor-1242	ug/kg	< 5			5	Pass	
Aroclor-1248	ug/kg	< 5			5	Pass	
Aroclor-1254	ug/kg	< 5			5	Pass	
Aroclor-1260	ug/kg	< 5			5	Pass	
Total PCB*	ug/kg	< 5			5	Pass	
Method Blank							
Nitrogens (speciated)							
Ammonia (as N)	mg/kg	< 0.1			0.1	Pass	
Nitrate (as N)	mg/kg	< 0.1			0.1	Pass	
Nitrite (as N)	mg/kg	< 0.1			0.1	Pass	
Method Blank							
Heavy Metals							
Antimony	mg/kg	< 0.5			0.5	Pass	
Arsenic	mg/kg	< 1			1	Pass	
Cadmium	mg/kg	< 0.1			0.1	Pass	
Chromium	mg/kg	< 1			1	Pass	
Copper	mg/kg	< 1			1	Pass	
Lead	mg/kg	< 1			1	Pass	
Manganese	mg/kg	< 10			10	Pass	
Mercury	mg/kg	< 0.01			0.01	Pass	
Nickel	mg/kg	< 1			1	Pass	
Silver	mg/kg	< 0.1			0.1	Pass	
Zinc	mg/kg	< 1			1	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	83			70-130	Pass	
TRH C10-C14	%	102			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	82			70-130	Pass	
Toluene	%	83			70-130	Pass	
Ethylbenzene	%	80			70-130	Pass	
m&p-Xylenes	%	82			70-130	Pass	
Xylenes - Total	%	81			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	80			75-125	Pass	
TRH C6-C10	%	86			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH >C10-C16	%	102			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	107			70-130	Pass	
Acenaphthylene	%	111			70-130	Pass	
Anthracene	%	106			70-130	Pass	
Benz(a)anthracene	%	113			70-130	Pass	
Benzo(a)pyrene	%	111			70-130	Pass	
Benzo(b&j)fluoranthene	%	121			70-130	Pass	
Benzo(g.h.i)perylene	%	92			70-130	Pass	
Benzo(k)fluoranthene	%	109			70-130	Pass	
Chrysene	%	109			70-130	Pass	
Dibenz(a.h)anthracene	%	85			70-130	Pass	
Fluoranthene	%	120			70-130	Pass	
Fluorene	%	107			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	89			70-130	Pass	
Naphthalene	%	105			70-130	Pass	
Phenanthrene	%	100			70-130	Pass	
Pyrene	%	116			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
4.4'-DDD	%	97			70-130	Pass	
4.4'-DDE	%	99			70-130	Pass	
4.4'-DDT	%	102			70-130	Pass	
a-BHC	%	107			70-130	Pass	
Aldrin	%	91			70-130	Pass	
b-BHC	%	114			70-130	Pass	
d-BHC	%	78			70-130	Pass	
Dieldrin	%	94			70-130	Pass	
Endosulfan I	%	87			70-130	Pass	
Endosulfan II	%	94			70-130	Pass	
Endosulfan sulphate	%	80			70-130	Pass	
Endrin	%	105			70-130	Pass	
Endrin aldehyde	%	86			70-130	Pass	
Endrin ketone	%	86			70-130	Pass	
g-BHC (Lindane)	%	99			70-130	Pass	
Heptachlor	%	90			70-130	Pass	
Heptachlor epoxide	%	92			70-130	Pass	
Hexachlorobenzene	%	83			70-130	Pass	
Methoxychlor	%	92			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	90			70-130	Pass	
LCS - % Recovery							
Nitrogens (speciated)							
Ammonia (as N)	%	115			70-130	Pass	
Nitrate (as N)	%	101			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Antimony	%	106			80-120	Pass	
Arsenic	%	112			80-120	Pass	
Cadmium	%	111			80-120	Pass	
Chromium	%	117			80-120	Pass	
Copper	%	118			80-120	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Lead			%	116			80-120	Pass	
Manganese			%	117			80-120	Pass	
Mercury			%	108			75-125	Pass	
Nickel			%	117			80-120	Pass	
Silver			%	113			80-120	Pass	
Zinc			%	107			80-120	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	M15-Fe19377	NCP	%	80			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M15-Fe19377	NCP	%	82			70-130	Pass	
Toluene	M15-Fe19377	NCP	%	84			70-130	Pass	
Ethylbenzene	M15-Fe19377	NCP	%	82			70-130	Pass	
m&p-Xylenes	M15-Fe19377	NCP	%	82			70-130	Pass	
o-Xylene	M15-Fe19377	NCP	%	79			70-130	Pass	
Xylenes - Total	M15-Fe19377	NCP	%	81			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M15-Fe19377	NCP	%	77			70-130	Pass	
TRH C6-C10	M15-Fe19377	NCP	%	85			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
4.4'-DDD	M15-Fe18201	NCP	%	112			70-130	Pass	
4.4'-DDE	M15-Fe18201	NCP	%	106			70-130	Pass	
4.4'-DDT	M15-Fe18201	NCP	%	90			70-130	Pass	
a-BHC	M15-Fe18201	NCP	%	97			70-130	Pass	
Aldrin	M15-Fe18201	NCP	%	100			70-130	Pass	
b-BHC	M15-Fe18201	NCP	%	120			70-130	Pass	
d-BHC	M15-Fe18201	NCP	%	88			70-130	Pass	
Dieldrin	M15-Fe18201	NCP	%	104			70-130	Pass	
Endosulfan I	M15-Fe18201	NCP	%	96			70-130	Pass	
Endosulfan II	M15-Fe18201	NCP	%	105			70-130	Pass	
Endosulfan sulphate	M15-Fe18201	NCP	%	90			70-130	Pass	
Endrin	M15-Fe18201	NCP	%	110			70-130	Pass	
Endrin aldehyde	M15-Fe18201	NCP	%	80			70-130	Pass	
Endrin ketone	M15-Fe18201	NCP	%	91			70-130	Pass	
g-BHC (Lindane)	M15-Fe18201	NCP	%	94			70-130	Pass	
Heptachlor	M15-Fe18201	NCP	%	97			70-130	Pass	
Heptachlor epoxide	M15-Fe18201	NCP	%	101			70-130	Pass	
Hexachlorobenzene	M15-Fe18201	NCP	%	106			70-130	Pass	
Methoxychlor	M15-Fe18201	NCP	%	96			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1260	M15-Fe18201	NCP	%	83			70-130	Pass	
Spike - % Recovery									
Nitrogens (speciated)				Result 1					
Ammonia (as N)	M15-Fe18182	NCP	%	88			70-130	Pass	
Nitrate (as N)	M15-Fe18182	NCP	%	87			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Antimony	M15-Fe19383	NCP	%	96			70-130	Pass	
Arsenic	M15-Fe19383	NCP	%	103			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Cadmium	M15-Fe19383	NCP	%	100			75-125	Pass	
Chromium	M15-Fe19383	NCP	%	99			75-125	Pass	
Copper	M15-Fe19383	NCP	%	103			75-125	Pass	
Lead	M15-Fe19383	NCP	%	102			75-125	Pass	
Manganese	M15-Fe19383	NCP	%	101			75-125	Pass	
Mercury	M15-Fe18243	NCP	%	99			70-130	Pass	
Nickel	M15-Fe19383	NCP	%	105			75-125	Pass	
Silver	M15-Fe19383	NCP	%	104			75-125	Pass	
Zinc	M15-Fe19383	NCP	%	86			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	M15-Fe19151	NCP	ug/kg	< 20000	< 20000	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M15-Fe19151	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Toluene	M15-Fe19151	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Ethylbenzene	M15-Fe19151	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
m&p-Xylenes	M15-Fe19151	NCP	ug/kg	< 200	< 200	<1	30%	Pass	
o-Xylene	M15-Fe19151	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Xylenes - Total	M15-Fe19151	NCP	ug/kg	< 300	< 300	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M15-Fe19151	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
TRH C6-C10	M15-Fe19151	NCP	ug/kg	< 20000	< 20000	<1	30%	Pass	
TRH C6-C10 less BTEX (F1)	M15-Fe19151	NCP	ug/kg	< 20000	< 20000	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M15-Fe17373	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
4.4'-DDD	M15-Fe17373	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
4.4'-DDE	M15-Fe17373	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
4.4'-DDT	M15-Fe17373	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
a-BHC	M15-Fe17373	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Aldrin	M15-Fe17373	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
b-BHC	M15-Fe17373	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
d-BHC	M15-Fe17373	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Dieldrin	M15-Fe17373	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endosulfan I	M15-Fe17373	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endosulfan II	M15-Fe17373	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endosulfan sulphate	M15-Fe17373	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endrin	M15-Fe17373	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endrin aldehyde	M15-Fe17373	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endrin ketone	M15-Fe17373	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
g-BHC (Lindane)	M15-Fe17373	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Heptachlor	M15-Fe17373	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Heptachlor epoxide	M15-Fe17373	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Hexachlorobenzene	M15-Fe17373	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Methoxychlor	M15-Fe17373	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Toxaphene	M15-Fe17373	NCP	ug/kg	< 1000	< 1000	<1	30%	Pass	

Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	M15-Fe17373	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1221	M15-Fe17373	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1232	M15-Fe17373	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1242	M15-Fe17373	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1248	M15-Fe17373	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1254	M15-Fe17373	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1260	M15-Fe17373	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Total PCB*	M15-Fe17373	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Phosphorus	M15-Fe18888	NCP	mg/kg	270	320	16	30%	Pass	
% Moisture	M15-Fe17868	NCP	%	4.3	4.7	10	30%	Pass	
Duplicate									
Nitrogens (speciated)				Result 1	Result 2	RPD			
Ammonia (as N)	M15-Fe18173	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Nitrate (as N)	M15-Fe18173	NCP	mg/kg	6.8	6.9	2.0	30%	Pass	
Nitrite (as N)	M15-Fe18173	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Antimony	M15-Fe19382	NCP	mg/kg	< 10	< 10	<1	30%	Pass	
Arsenic	M15-Fe19382	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M15-Fe19382	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M15-Fe19382	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Copper	M15-Fe19382	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Lead	M15-Fe19382	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Manganese	M15-Fe19382	NCP	mg/kg	6.9	8.4	20	30%	Pass	
Mercury	M15-Fe19377	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	M15-Fe19382	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Silver	M15-Fe19382	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Zinc	M15-Fe19382	NCP	mg/kg	< 5	< 5	<1	30%	Pass	

Comments

Organo tins: Eurofins GfA Lab Services GmbH, DAkkS Accreditation no. D-PL-14629-01-00, report number AR-15-GF-007202-01.

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
G01	The LORs have been raised due to matrix interference
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised By

Mark Rodriquez	Analytical Services Manager
Carroll Lee	Senior Analyst-Organic (VIC)
Carroll Lee	Senior Analyst-Volatile (VIC)
Emily Rosenberg	Senior Analyst-Metal (VIC)
Huong Le	Senior Analyst-Inorganic (VIC)



Glenn Jackson

National Laboratory Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Uncertainty data is available on request

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Certificate of Analysis

Aurecon Australia (BRIS) Pty Ltd
Level 14, 32 Turbot St
Brisbane
QLD 4001

Attention: **Sally Leyland**

Report **447829-S**
Project name GPC GEOCHEMICAL INVESTIGATION
Project ID 245852-400
Received Date Feb 18, 2015

Client Sample ID			**DUP 4B**
Sample Matrix			**Sediment (Trace)**
Eurofins | mgt Sample No.			**B15-Fe13011**
Date Sampled			**Feb 15, 2015**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons - 1999 NEPM Fractions			
TRH C6-C9	20000	ug/kg	< 20000
TRH C10-C14	50000	ug/kg	< 50000
TRH C15-C28	50000	ug/kg	< 50000
TRH C29-C36	50000	ug/kg	75000
TRH C10-36 (Total)	10000	ug/kg	75000
BTEX			
Benzene	100	ug/kg	< 100
Toluene	100	ug/kg	< 100
Ethylbenzene	100	ug/kg	< 100
m&p-Xylenes	200	ug/kg	< 200
o-Xylene	100	ug/kg	< 100
Xylenes - Total	50	ug/kg	< 50
4-Bromofluorobenzene (surr.)	1	%	64
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene[N02]	500	ug/kg	< 500
TRH C6-C10	20000	ug/kg	< 20000
TRH C6-C10 less BTEX (F1)[N04]	20000	ug/kg	< 20000
TRH >C10-C16	50000	ug/kg	< 50000
TRH >C10-C16 less Naphthalene (F2)[N01]	50000	ug/kg	< 50000
TRH >C16-C34	100000	ug/kg	< 100000
TRH >C34-C40	100000	ug/kg	< 100000
Polycyclic Aromatic Hydrocarbons			
Benzo(a)pyrene TEQ (lower bound) *	1	ug/kg	< 1
Benzo(a)pyrene TEQ (medium bound) *	1	ug/kg	1200
Benzo(a)pyrene TEQ (upper bound) *	1	ug/kg	2400
Acenaphthene	1	ug/kg	< 1
Acenaphthylene	1	ug/kg	< 1
Anthracene	1	ug/kg	< 1
Benz(a)anthracene	1	ug/kg	< 1
Benzo(a)pyrene	1	ug/kg	< 1
Benzo(b&j)fluoranthene[N07]	1	ug/kg	< 1
Benzo(g.h.i)perylene	1	ug/kg	< 1
Benzo(k)fluoranthene	1	ug/kg	< 1
Chrysene	1	ug/kg	< 1

Client Sample ID			DUP 4B
Sample Matrix			Sediment (Trace)
Eurofins | mgt Sample No.			B15-Fe13011
Date Sampled			Feb 15, 2015
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons			
Dibenz(a.h)anthracene	1	ug/kg	< 1
Fluoranthene	1	ug/kg	< 1
Fluorene	1	ug/kg	< 1
Indeno(1.2.3-cd)pyrene	1	ug/kg	< 1
Naphthalene	1	ug/kg	< 1
Phenanthrene	1	ug/kg	< 1
Pyrene	1	ug/kg	< 1
Total PAH*	1	ug/kg	< 1
2-Fluorobiphenyl (surr.)	1	%	75
p-Terphenyl-d14 (surr.)	1	%	97
Organochlorine Pesticides			
Chlordanes - Total	5	ug/kg	< 5
4.4'-DDD	1	ug/kg	< 1
4.4'-DDE	1	ug/kg	< 1
4.4'-DDT	1	ug/kg	< 1
a-BHC	1	ug/kg	< 1
Aldrin	1	ug/kg	< 1
b-BHC	1	ug/kg	< 1
d-BHC	1	ug/kg	< 1
Dieldrin	1	ug/kg	< 1
Endosulfan I	1	ug/kg	< 1
Endosulfan II	1	ug/kg	< 1
Endosulfan sulphate	1	ug/kg	< 1
Endrin	1	ug/kg	< 1
Endrin aldehyde	1	ug/kg	< 1
Endrin ketone	1	ug/kg	< 1
g-BHC (Lindane)	1	ug/kg	< 1
Heptachlor	1	ug/kg	< 1
Heptachlor epoxide	1	ug/kg	< 1
Hexachlorobenzene	1	ug/kg	< 1
Methoxychlor	1	ug/kg	< 1
Toxaphene	5	ug/kg	< 5
Dibutylchlorendate (surr.)	1	%	88
Tetrachloro-m-xylene (surr.)	1	%	126
Polychlorinated Biphenyls			
Aroclor-1016	5	ug/kg	< 5
Aroclor-1221	5	ug/kg	< 5
Aroclor-1232	5	ug/kg	< 5
Aroclor-1242	5	ug/kg	< 5
Aroclor-1248	5	ug/kg	< 5
Aroclor-1254	5	ug/kg	< 5
Aroclor-1260	5	ug/kg	< 5
Total PCB*	5	ug/kg	< 5
Dibutylchlorendate (surr.)	1	%	88
Tetrachloro-m-xylene (surr.)	1	%	126

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Client Sample ID			DUP 4B
Sample Matrix			**Sediment (Trace)**
Eurofins | mgt Sample No.			**B15-Fe13011**
Date Sampled			**Feb 15, 2015**
Test/Reference	LOR	Unit	
Total Organic Carbon	50	mg/kg	42000
Phosphorus	5	mg/kg	180
Organotins (Suite of 8)			
% Moisture	0.1	%	43
Nitrogens (speciated)			
Ammonia (as N)	0.1	mg/kg	5.5
Nitrate (as N)	0.1	mg/kg	0.9
Nitrite (as N)	0.1	mg/kg	0.6
Organic Nitrogen (as N)	0.1	mg/kg	1300
Total Kjeldahl Nitrogen (as N)	0.1	mg/kg	1300
Total Nitrogen (as N)	0.1	mg/kg	1300
Heavy Metals			
Comments			G01
Antimony	0.5	mg/kg	< 10
Arsenic	1	mg/kg	12
Cadmium	0.1	mg/kg	< 0.1
Chromium	1	mg/kg	26
Copper	1	mg/kg	50
Lead	1	mg/kg	< 5
Manganese	10	mg/kg	300
Mercury	0.01	mg/kg	0.03
Nickel	1	mg/kg	12
Silver	0.1	mg/kg	< 1
Zinc	1	mg/kg	49

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Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Eurofins | mgt Suite 1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Feb 25, 2015	14 Day
- Method: TRH C6-C36 - LTM-ORG-2010			
BTEX	Melbourne	Feb 25, 2015	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Feb 25, 2015	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Polycyclic Aromatic Hydrocarbons	Melbourne	Feb 25, 2015	14 Day
- Method: USEPA 8270 Polycyclic Aromatic Hydrocarbons			
Total Organic Carbon	Melbourne	Feb 24, 2015	28 Day
- Method: APHA 5310B Total Organic Carbon			
Phosphorus	Melbourne	Feb 26, 2015	180 Day
- Method: USEPA 6010			
Nitrogens (speciated)			
Ammonia (as N)	Melbourne	Feb 26, 2015	7 Day
- Method: APHA 4500-NH3 Ammonia Nitrogen by FIA			
Nitrate (as N)	Melbourne	Feb 26, 2015	28 Day
- Method: APHA 4500-NO3 Nitrate Nitrogen by FIA			
Nitrite (as N)	Melbourne	Feb 26, 2015	28 Day
- Method: APHA 4500-NO2 Nitrite Nitrogen by FIA			
Organic Nitrogen (as N)	Melbourne	Feb 26, 2015	7 Day
- Method: APHA 4500 Organic Nitrogen (N)			
Total Kjeldahl Nitrogen (as N)	Melbourne	Feb 26, 2015	28 Day
- Method: APHA 4500 TKN			
Heavy Metals	Melbourne	Feb 26, 2015	180 Day
- Method: USEPA 6010/6020 Heavy Metals			
Metals M8	Melbourne	Feb 26, 2015	28 Day
- Method: USEPA 6010/6020 Heavy Metals & USEPA 7470/71 Mercury			
Eurofins | mgt Suite 13			
Organochlorine Pesticides	Melbourne	Feb 25, 2015	14 Day
- Method: USEPA 8081 Organochlorine Pesticides			
Polychlorinated Biphenyls	Melbourne	Feb 25, 2015	28 Day
- Method: USEPA 8082 Polychlorinated Biphenyls			
% Moisture	Melbourne	Feb 25, 2015	14 Day
- Method: LTM-GEN-7080 Moisture			

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Eurofins | mgt Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
4. Results are uncorrected for matrix spikes or surrogate recoveries.
5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

****NOTE:** pH duplicates are reported as a range NOT as RPD

UNITS

mg/kg: milligrams per Kilogram

mg/l: milligrams per litre

ug/l: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100ml: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

TERMS

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery
CRM	Certified Reference Material - reported as percent recovery
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands. In the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
Batch Duplicate	A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.
Batch SPIKE	Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
ASLP	Australian Standard Leaching Procedure (AS4439.3)
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within
TEQ	Toxic Equivalency Quotient

QC - ACCEPTANCE CRITERIA

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries : Recoveries must lie between 50-150% - Phenols 20-130%.

QC DATA GENERAL COMMENTS

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxophene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data.

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Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	ug/kg	< 20000			20000	Pass	
TRH C10-C14	ug/kg	< 50000			50000	Pass	
TRH C15-C28	ug/kg	< 50000			50000	Pass	
TRH C29-C36	ug/kg	< 50000			50000	Pass	
Method Blank							
BTEX							
Benzene	ug/kg	< 100			100	Pass	
Toluene	ug/kg	< 100			100	Pass	
Ethylbenzene	ug/kg	< 100			100	Pass	
m&p-Xylenes	ug/kg	< 200			200	Pass	
o-Xylene	ug/kg	< 100			100	Pass	
Xylenes - Total	ug/kg	< 50			50	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	ug/kg	< 500			500	Pass	
TRH C6-C10	ug/kg	< 20000			20000	Pass	
TRH C6-C10 less BTEX (F1)	ug/kg	< 20000			20000	Pass	
TRH >C10-C16	ug/kg	< 50000			50000	Pass	
TRH >C16-C34	ug/kg	< 100000			100000	Pass	
TRH >C34-C40	ug/kg	< 100000			100000	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	ug/kg	< 1			1	Pass	
Acenaphthylene	ug/kg	< 1			1	Pass	
Anthracene	ug/kg	< 1			1	Pass	
Benz(a)anthracene	ug/kg	< 1			1	Pass	
Benzo(a)pyrene	ug/kg	< 1			1	Pass	
Benzo(b&j)fluoranthene	ug/kg	< 1			1	Pass	
Benzo(g.h.i)perylene	ug/kg	< 1			1	Pass	
Benzo(k)fluoranthene	ug/kg	< 1			1	Pass	
Chrysene	ug/kg	< 1			1	Pass	
Dibenz(a.h)anthracene	ug/kg	< 1			1	Pass	
Fluoranthene	ug/kg	< 1			1	Pass	
Fluorene	ug/kg	< 1			1	Pass	
Indeno(1.2.3-cd)pyrene	ug/kg	< 1			1	Pass	
Naphthalene	ug/kg	< 1			1	Pass	
Phenanthrene	ug/kg	< 1			1	Pass	
Pyrene	ug/kg	< 1			1	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	ug/kg	< 5			5	Pass	
4.4'-DDD	ug/kg	< 1			1	Pass	
4.4'-DDE	ug/kg	< 1			1	Pass	
4.4'-DDT	ug/kg	< 1			1	Pass	
a-BHC	ug/kg	< 1			1	Pass	
Aldrin	ug/kg	< 1			1	Pass	
b-BHC	ug/kg	< 1			1	Pass	
d-BHC	ug/kg	< 1			1	Pass	
Dieldrin	ug/kg	< 1			1	Pass	
Endosulfan I	ug/kg	< 1			1	Pass	

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Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endosulfan II	ug/kg	< 1			1	Pass	
Endosulfan sulphate	ug/kg	< 1			1	Pass	
Endrin	ug/kg	< 1			1	Pass	
Endrin aldehyde	ug/kg	< 1			1	Pass	
Endrin ketone	ug/kg	< 1			1	Pass	
g-BHC (Lindane)	ug/kg	< 1			1	Pass	
Heptachlor	ug/kg	< 1			1	Pass	
Heptachlor epoxide	ug/kg	< 1			1	Pass	
Hexachlorobenzene	ug/kg	< 1			1	Pass	
Methoxychlor	ug/kg	< 1			1	Pass	
Toxaphene	ug/kg	< 5			5	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	ug/kg	< 5			5	Pass	
Aroclor-1221	ug/kg	< 5			5	Pass	
Aroclor-1232	ug/kg	< 5			5	Pass	
Aroclor-1242	ug/kg	< 5			5	Pass	
Aroclor-1248	ug/kg	< 5			5	Pass	
Aroclor-1254	ug/kg	< 5			5	Pass	
Aroclor-1260	ug/kg	< 5			5	Pass	
Total PCB*	ug/kg	< 5			5	Pass	
Method Blank							
Nitrogens (speciated)							
Ammonia (as N)	mg/kg	< 0.1			0.1	Pass	
Nitrate (as N)	mg/kg	< 0.1			0.1	Pass	
Nitrite (as N)	mg/kg	< 0.1			0.1	Pass	
Method Blank							
Heavy Metals							
Antimony	mg/kg	< 0.5			0.5	Pass	
Arsenic	mg/kg	< 1			1	Pass	
Cadmium	mg/kg	< 0.1			0.1	Pass	
Chromium	mg/kg	< 1			1	Pass	
Copper	mg/kg	< 1			1	Pass	
Lead	mg/kg	< 1			1	Pass	
Manganese	mg/kg	< 10			10	Pass	
Mercury	mg/kg	< 0.01			0.01	Pass	
Nickel	mg/kg	< 1			1	Pass	
Silver	mg/kg	< 0.1			0.1	Pass	
Zinc	mg/kg	< 1			1	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	83			70-130	Pass	
TRH C10-C14	%	102			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	82			70-130	Pass	
Toluene	%	83			70-130	Pass	
Ethylbenzene	%	80			70-130	Pass	
m&p-Xylenes	%	82			70-130	Pass	
Xylenes - Total	%	81			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	80			75-125	Pass	
TRH C6-C10	%	86			70-130	Pass	

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Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH >C10-C16	%	102			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	107			70-130	Pass	
Acenaphthylene	%	111			70-130	Pass	
Anthracene	%	106			70-130	Pass	
Benz(a)anthracene	%	113			70-130	Pass	
Benzo(a)pyrene	%	111			70-130	Pass	
Benzo(b&j)fluoranthene	%	121			70-130	Pass	
Benzo(g.h.i)perylene	%	92			70-130	Pass	
Benzo(k)fluoranthene	%	109			70-130	Pass	
Chrysene	%	109			70-130	Pass	
Dibenz(a.h)anthracene	%	85			70-130	Pass	
Fluoranthene	%	120			70-130	Pass	
Fluorene	%	107			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	89			70-130	Pass	
Naphthalene	%	105			70-130	Pass	
Phenanthrene	%	100			70-130	Pass	
Pyrene	%	116			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
4.4'-DDD	%	97			70-130	Pass	
4.4'-DDE	%	99			70-130	Pass	
4.4'-DDT	%	102			70-130	Pass	
a-BHC	%	107			70-130	Pass	
Aldrin	%	91			70-130	Pass	
b-BHC	%	114			70-130	Pass	
d-BHC	%	78			70-130	Pass	
Dieldrin	%	94			70-130	Pass	
Endosulfan I	%	87			70-130	Pass	
Endosulfan II	%	94			70-130	Pass	
Endosulfan sulphate	%	80			70-130	Pass	
Endrin	%	105			70-130	Pass	
Endrin aldehyde	%	86			70-130	Pass	
Endrin ketone	%	86			70-130	Pass	
g-BHC (Lindane)	%	99			70-130	Pass	
Heptachlor	%	90			70-130	Pass	
Heptachlor epoxide	%	92			70-130	Pass	
Hexachlorobenzene	%	83			70-130	Pass	
Methoxychlor	%	92			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	90			70-130	Pass	
LCS - % Recovery							
Nitrogens (speciated)							
Ammonia (as N)	%	115			70-130	Pass	
Nitrate (as N)	%	101			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Antimony	%	106			80-120	Pass	
Arsenic	%	112			80-120	Pass	
Cadmium	%	111			80-120	Pass	
Chromium	%	117			80-120	Pass	
Copper	%	118			80-120	Pass	

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Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Lead			%	116			80-120	Pass	
Manganese			%	117			80-120	Pass	
Mercury			%	108			75-125	Pass	
Nickel			%	117			80-120	Pass	
Silver			%	113			80-120	Pass	
Zinc			%	107			80-120	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	M15-Fe19377	NCP	%	80			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M15-Fe19377	NCP	%	82			70-130	Pass	
Toluene	M15-Fe19377	NCP	%	84			70-130	Pass	
Ethylbenzene	M15-Fe19377	NCP	%	82			70-130	Pass	
m&p-Xylenes	M15-Fe19377	NCP	%	82			70-130	Pass	
o-Xylene	M15-Fe19377	NCP	%	79			70-130	Pass	
Xylenes - Total	M15-Fe19377	NCP	%	81			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M15-Fe19377	NCP	%	77			70-130	Pass	
TRH C6-C10	M15-Fe19377	NCP	%	85			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
4.4'-DDD	M15-Fe18201	NCP	%	112			70-130	Pass	
4.4'-DDE	M15-Fe18201	NCP	%	106			70-130	Pass	
4.4'-DDT	M15-Fe18201	NCP	%	90			70-130	Pass	
a-BHC	M15-Fe18201	NCP	%	97			70-130	Pass	
Aldrin	M15-Fe18201	NCP	%	100			70-130	Pass	
b-BHC	M15-Fe18201	NCP	%	120			70-130	Pass	
d-BHC	M15-Fe18201	NCP	%	88			70-130	Pass	
Dieldrin	M15-Fe18201	NCP	%	104			70-130	Pass	
Endosulfan I	M15-Fe18201	NCP	%	96			70-130	Pass	
Endosulfan II	M15-Fe18201	NCP	%	105			70-130	Pass	
Endosulfan sulphate	M15-Fe18201	NCP	%	90			70-130	Pass	
Endrin	M15-Fe18201	NCP	%	110			70-130	Pass	
Endrin aldehyde	M15-Fe18201	NCP	%	80			70-130	Pass	
Endrin ketone	M15-Fe18201	NCP	%	91			70-130	Pass	
g-BHC (Lindane)	M15-Fe18201	NCP	%	94			70-130	Pass	
Heptachlor	M15-Fe18201	NCP	%	97			70-130	Pass	
Heptachlor epoxide	M15-Fe18201	NCP	%	101			70-130	Pass	
Hexachlorobenzene	M15-Fe18201	NCP	%	106			70-130	Pass	
Methoxychlor	M15-Fe18201	NCP	%	96			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1260	M15-Fe18201	NCP	%	83			70-130	Pass	
Spike - % Recovery									
Nitrogens (speciated)				Result 1					
Ammonia (as N)	M15-Fe18182	NCP	%	88			70-130	Pass	
Nitrate (as N)	M15-Fe18182	NCP	%	87			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Antimony	M15-Fe19383	NCP	%	96			70-130	Pass	
Arsenic	M15-Fe19383	NCP	%	103			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Cadmium	M15-Fe19383	NCP	%	100			75-125	Pass	
Chromium	M15-Fe19383	NCP	%	99			75-125	Pass	
Copper	M15-Fe19383	NCP	%	103			75-125	Pass	
Lead	M15-Fe19383	NCP	%	102			75-125	Pass	
Manganese	M15-Fe19383	NCP	%	101			75-125	Pass	
Mercury	M15-Fe18243	NCP	%	99			70-130	Pass	
Nickel	M15-Fe19383	NCP	%	105			75-125	Pass	
Silver	M15-Fe19383	NCP	%	104			75-125	Pass	
Zinc	M15-Fe19383	NCP	%	86			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	M15-Fe19151	NCP	ug/kg	< 20000	< 20000	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M15-Fe19151	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Toluene	M15-Fe19151	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Ethylbenzene	M15-Fe19151	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
m&p-Xylenes	M15-Fe19151	NCP	ug/kg	< 200	< 200	<1	30%	Pass	
o-Xylene	M15-Fe19151	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Xylenes - Total	M15-Fe19151	NCP	ug/kg	< 300	< 300	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M15-Fe19151	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
TRH C6-C10	M15-Fe19151	NCP	ug/kg	< 20000	< 20000	<1	30%	Pass	
TRH C6-C10 less BTEX (F1)	M15-Fe19151	NCP	ug/kg	< 20000	< 20000	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M15-Fe17373	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
4.4'-DDD	M15-Fe17373	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
4.4'-DDE	M15-Fe17373	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
4.4'-DDT	M15-Fe17373	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
a-BHC	M15-Fe17373	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Aldrin	M15-Fe17373	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
b-BHC	M15-Fe17373	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
d-BHC	M15-Fe17373	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Dieldrin	M15-Fe17373	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endosulfan I	M15-Fe17373	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endosulfan II	M15-Fe17373	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endosulfan sulphate	M15-Fe17373	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endrin	M15-Fe17373	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endrin aldehyde	M15-Fe17373	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endrin ketone	M15-Fe17373	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
g-BHC (Lindane)	M15-Fe17373	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Heptachlor	M15-Fe17373	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Heptachlor epoxide	M15-Fe17373	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Hexachlorobenzene	M15-Fe17373	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Methoxychlor	M15-Fe17373	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Toxaphene	M15-Fe17373	NCP	ug/kg	< 1000	< 1000	<1	30%	Pass	

Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	M15-Fe17373	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1221	M15-Fe17373	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1232	M15-Fe17373	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1242	M15-Fe17373	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1248	M15-Fe17373	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1254	M15-Fe17373	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1260	M15-Fe17373	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Total PCB*	M15-Fe17373	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Phosphorus	M15-Fe18888	NCP	mg/kg	270	320	16	30%	Pass	
% Moisture	M15-Fe17868	NCP	%	4.3	4.7	10	30%	Pass	
Duplicate									
Nitrogens (speciated)				Result 1	Result 2	RPD			
Ammonia (as N)	M15-Fe18173	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Nitrate (as N)	M15-Fe18173	NCP	mg/kg	6.8	6.9	2.0	30%	Pass	
Nitrite (as N)	M15-Fe18173	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Antimony	M15-Fe19382	NCP	mg/kg	< 10	< 10	<1	30%	Pass	
Arsenic	M15-Fe19382	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	M15-Fe19382	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M15-Fe19382	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Copper	M15-Fe19382	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Lead	M15-Fe19382	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Manganese	M15-Fe19382	NCP	mg/kg	6.9	8.4	20	30%	Pass	
Mercury	M15-Fe19377	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	M15-Fe19382	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Silver	M15-Fe19382	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Zinc	M15-Fe19382	NCP	mg/kg	< 5	< 5	<1	30%	Pass	

DRAFT

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
G01	The LORs have been raised due to matrix interference
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised By

Mark Rodriquez	Analytical Services Manager
Carroll Lee	Senior Analyst-Organic (VIC)
Carroll Lee	Senior Analyst-Volatile (VIC)
Emily Rosenberg	Senior Analyst-Metal (VIC)
Huong Le	Senior Analyst-Inorganic (VIC)

Glenn Jackson
National Laboratory Manager

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Uncertainty data is available on request

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DRAFT

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Eurofins Environment Testing Australia Pty Ltd
attn. Results
2-5 Kingston Town Close
P.O. Box 276
Vic 3166 Oakleigh
AUSTRALIEN

Person in charge Dr. D. Stegemann
ASM Dr. D. Stegemann

Report date 04.03.2015

Analytical report AR-15-GF-007202-01

Sample Code 710-2015-03997001

Reference	DUP 4B
Sample sender	Mr. Onur Mehmet
Reception date time	23.02.2015
Transport by	DHL
Client Purchase order nr.	B15_015 447829
Purchase order date	18.02.2015
Client sample code	B15-Fe13011
Packaging	glass with screw closure
Number of containers	1
Reception temperature	room temperature
End analysis	04.03.2015

Test results

CYP07 dry matter (°) (#)
Method EC 152/2009, , produce dry matter of original sample

dry residue	53.9	%

CY031 Organotin ~ 8 compounds ~ soil, sludge, sediment (°) (#)
Method Internal method, GLS OC 600, LRMS

Monobutyltin (MBT)	< 0.877	µg/kg dw
Monobutyltin (MBT) - Sn	< 0.592	µg/kg dw
Dibutyltin (DBT)	< 0.877	µg/kg dw
Dibutyltin (DBT) - Sn	< 0.447	µg/kg dw
Tributyltin (TBT)	< 0.877	µg/kg dw
Tributyltin (TBT) - Sn	< 0.359	µg/kg dw
Tetrabutyltin (TTBT)	< 0.877	µg/kg dw
Tetrabutyltin (TTBT) - Sn	< 0.300	µg/kg dw
Monooctyltin (MOT)	< 0.877	µg/kg dw
Monooctyltin (MOT) - Sn	< 0.449	µg/kg dw

The results of examination refer exclusively to the checked samples.
Duplicates - even in parts - must be authorized by the test laboratory in written form.
Eurofins GfA Lab Service GmbH · Neuländer Kamp 1 a · D-21079 Hamburg
Headquarters: Eurofins GfA Lab Service GmbH – Neuländer Kamp 1a D-21079 Hamburg
HRB 115907 AG Hamburg
General Managers: Dr. Christian Temme
VAT No.: DE 275912372
Nord/LB ● Bank code: 250 500 00 ● Account No.: 199878695 ● SWIFT-BIC: NOLADE2HXXX
IBAN: DE37 2505 0000 0199 8786 95

Our General Terms & Conditions, available upon request and online at
http://www.eurofins.de/lebensmittel/kontakt/avb.aspx, shall apply.

Durch die DAP Deutsches Akkreditierungssystem Prüfwesen GmbH akkreditiertes Prüflaboratorium
DIN EN ISO/IEC 17025
Die Akkreditierung gilt für die in der Urkunde aufgeführten Prüfverfahren

Analytical report AR-15-GF-007202-01

Sample Code 710-2015-03997001

Dioctyltin (DOT)	< 0.877	µg/kg dw
Dioctyltin (DOT) - Sn	< 0.302	µg/kg dw
Triphenyltin (TPhT)	< 0.877	µg/kg dw
Triphenyltin (TPhT) - Sn	< 0.298	µg/kg dw
Tricyclohexyltin (TCHT)	< 1.75	µg/kg dw
Tricyclohexyltin (TCHT) - Sn	< 0.566	µg/kg dw

(°) = The test was performed at the laboratory site: Am Neuländer Gewerbepark 4
(#) = Eurofins GfA Lab Service Gmbh (Hamburg) is accredited for this test.

< - Concentration below the indicated limit of quantification (LOQ)

This electronically generated test report has been checked and approved. It is also valid without signature.

Stephanie Schilling
(Analytical Services Manager)

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eurofins | mgt

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☐ **Melbourne**
2 Kingston Town Close, Oakleigh, VIC 3166
Phone: +613 8564 5000 Fax: +613 8564 5090
Email: EnviroSampleVic@eurofins.com.au

CHAIN OF CUSTODY RECORD

CLIENT DETAILS

Company Name : Aurecon	Contact Name: Sally Leyland	Purchase Order :	COC Number :
Office Address : Level 14, 32 Turbot Street, Brisbane QLD 4000	Project Manager : Sally Leyland	PROJECT Number : 245852-400	Eurofins | mgt quote ID : #150127AUR
	Email for results : sally.leyland@aurecongroup.com	PROJECT Name : GPC Geochemcial investigation	Data output format:

Special Directions & Comments :

Eurofins | mgt DI water batch number:

	Sample ID	Date	Matrix	M8 (metals) + PAHs	B14 (OCP, OPP) + Herbicides	B1 (TRH/BTEX)	Asbestos	PCB	Dioxins	R21 (Soil Classification)	E. coli & total coliforms	Radioactivity (gross alpha and beta)	TRH (C6-C10)/BTEX	HOLD	Aurecon Suite 1
1	Dup 5B	22/02/2015	Soil												1

Some common holding times (with correct preservation). For further information contact the lab

Waters		Soils	
BTEX, MAH, VOC	14 days	BTEX, MAH, VOC	14 days
TRH, PAH, Phenols, Pesticides	7 days	TRH, PAH, Phenols, Pesticides	14 days
Heavy Metals	6 months	Heavy Metals	6 months
Mercury, CrVI	28 days	Mercury, CrVI	28 days
Microbiological testing	24 hours	Microbiological testing	72 hours
BOD, Nitrate, Nitrite, Total N	2 days	Anions	28 days
Solids - TSS, TDS etc	7 days	SPOCAS, pH Field and FOX, CrS	24 hours
Ferrous iron	7 days	ASLP, TCLP	7 days

Containers:

1LP	250P	125P	1LA	40mL vial	125mL A	Jar
						2

Sample comments:

Temperature on arrival:

Report number:

Laboratory Staff

Relinquished By:	Received By: R. Grao
Date & Time::	Date & Time: 24.2.15 9am
Signature:	Signature:

Turn around time

☐ 1 DAY ☐ 2 DAY ☐ 3 DAY ☐
☐ 5 DAY ☑ 10 DAY ☐ Other:

Method Of Shipment

☐ Courier
☐ Hand Delivered
☐ Postal
Courier Consignment # :

Parcmail
24/02 10:35am
#448436

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com.au web : www.eurofins.com.au

Melbourne
3-5 Kingston Town Close
Oakleigh Vic 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Sample Receipt Advice

Company name:	**Aurecon Australia (BRIS) Pty Ltd**
Contact name:	Sally Leyland
Project name:	GPC GEOCHEMICAL INVESTIGATION
Project ID:	245852-400
COC number:	Not provided
Turn around time:	5 Day
Date/Time received:	Feb 24, 2015 9:00 AM
Eurofins | mgt reference:	**448436**

Sample information

☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.

☑ All samples have been received as described on the above COC.

☑ COC has been completed correctly.

☑ Attempt to chill was evident.

☑ Appropriately preserved sample containers have been used.

☑ All samples were received in good condition.

☑ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.

☑ Appropriate sample containers have been used.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Notes

Organotins conducted at Eurofins Germany on 10 day TAT

Contact notes

If you have any questions with respect to these samples please contact:

Mark Rodriquez on Phone : (+61) 8 8947 1557 or by e.mail: MarkRodriquez@eurofins.com.au

Results will be delivered electronically via e.mail to Sally Leyland - Sally.Leyland@aurecongroup.com.

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com.au web : www.eurofins.com.au

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Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Company Name: Aurecon Australia (BRIS) Pty Ltd
Address: Level 14, 32 Turbot St
Brisbane
QLD 4001

Project Name: GPC GEOCHEMICAL INVESTIGATION
Project ID: 245852-400

Order No.:
Report #: 448436
Phone: 07 3173 8000
Fax: +61 7 3173 8001

Received: Feb 24, 2015 9:00 AM
Due: Mar 3, 2015
Priority: 5 Day
Contact Name: Sally Leyland

Eurofins | mgt Client Manager: Mark Rodriquez

Sample Detail					Antimony	Manganese	Organotins (Suite of 8)	Phosphorus	Silver	Total Organic Carbon	Polycyclic Aromatic Hydrocarbons	Metals M8	Nitrogens (speciated)	Eurofins | mgt Suite 13	Eurofins | mgt Suite 1	Moisture Set
Laboratory where analysis is conducted																
Melbourne Laboratory - NATA Site # 1254 & 14271								X		X						
Sydney Laboratory - NATA Site # 18217					X	X			X		X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794																
External Laboratory							X									
Sample ID	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**												
DUP 5B	Feb 22, 2015		Sediment (Trace)	B15-Fe17766	X	X	X	X	X	X	X	X	X	X	X	X

Certificate of Analysis

Aurecon Australia (BRIS) Pty Ltd
Level 14, 32 Turbot St
Brisbane
QLD 4001

Attention: **Sally Leyland**

Report **448436-S**
Project name GPC GEOCHEMICAL INVESTIGATION
Project ID 245852-400
Received Date Feb 24, 2015

Client Sample ID			**DUP 5B**
Sample Matrix			**Sediment (Trace)**
Eurofins | mgt Sample No.			**B15-Fe17766**
Date Sampled			**Feb 22, 2015**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons - 1999 NEPM Fractions			
TRH C6-C9	20000	ug/kg	< 20000
TRH C10-C14	20000	ug/kg	< 20000
TRH C15-C28	50000	ug/kg	< 50000
TRH C29-C36	50000	ug/kg	< 50000
TRH C10-36 (Total)	50000	ug/kg	< 50000
BTEX			
Benzene	100	ug/kg	< 100
Toluene	100	ug/kg	< 100
Ethylbenzene	100	ug/kg	< 100
m&p-Xylenes	200	ug/kg	< 200
o-Xylene	100	ug/kg	< 100
Xylenes - Total	300	ug/kg	< 300
4-Bromofluorobenzene (surr.)	1	%	92
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene[N02]	500	ug/kg	< 500
TRH C6-C10	20000	ug/kg	< 20000
TRH C6-C10 less BTEX (F1)[N04]	20000	ug/kg	< 20000
TRH >C10-C16	50000	ug/kg	< 50000
TRH >C10-C16 less Naphthalene (F2)[N01]	50000	ug/kg	< 50000
TRH >C16-C34	100000	ug/kg	< 100000
TRH >C34-C40	100000	ug/kg	< 100000
Polycyclic Aromatic Hydrocarbons			
Benzo(a)pyrene TEQ (lower bound) *	1	ug/kg	< 1
Benzo(a)pyrene TEQ (medium bound) *	1	ug/kg	1200
Benzo(a)pyrene TEQ (upper bound) *	1	ug/kg	2400
Acenaphthene	1	ug/kg	< 1
Acenaphthylene	1	ug/kg	< 1
Anthracene	1	ug/kg	< 1
Benz(a)anthracene	1	ug/kg	< 1
Benzo(a)pyrene	1	ug/kg	< 1
Benzo(b&j)fluoranthene[N07]	1	ug/kg	< 1
Benzo(g.h.i)perylene	1	ug/kg	< 1
Benzo(k)fluoranthene	1	ug/kg	< 1
Chrysene	1	ug/kg	< 1

Client Sample ID			DUP 5B
Sample Matrix			Sediment (Trace)
Eurofins | mgt Sample No.			B15-Fe17766
Date Sampled			Feb 22, 2015
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons			
Dibenz(a.h)anthracene	1	ug/kg	< 1
Fluoranthene	1	ug/kg	< 1
Fluorene	1	ug/kg	< 1
Indeno(1.2.3-cd)pyrene	1	ug/kg	< 1
Naphthalene	1	ug/kg	< 1
Phenanthrene	1	ug/kg	< 1
Pyrene	1	ug/kg	< 1
Total PAH*	1	ug/kg	< 1
2-Fluorobiphenyl (surr.)	1	%	126
p-Terphenyl-d14 (surr.)	1	%	129
Organochlorine Pesticides			
Chlordanes - Total	5	ug/kg	< 5
4.4'-DDD	1	ug/kg	< 1
4.4'-DDE	1	ug/kg	< 1
4.4'-DDT	1	ug/kg	< 1
a-BHC	1	ug/kg	< 1
Aldrin	1	ug/kg	< 1
b-BHC	1	ug/kg	< 1
d-BHC	1	ug/kg	< 1
Dieldrin	1	ug/kg	< 1
Endosulfan I	1	ug/kg	< 1
Endosulfan II	1	ug/kg	< 1
Endosulfan sulphate	1	ug/kg	< 1
Endrin	1	ug/kg	< 1
Endrin aldehyde	1	ug/kg	< 1
Endrin ketone	1	ug/kg	< 1
g-BHC (Lindane)	1	ug/kg	< 1
Heptachlor	1	ug/kg	< 1
Heptachlor epoxide	1	ug/kg	< 1
Hexachlorobenzene	1	ug/kg	8
Methoxychlor	1	ug/kg	< 1
Toxaphene	5	ug/kg	< 5
Dibutylchlorendate (surr.)	1	%	128
Tetrachloro-m-xylene (surr.)	1	%	115
Polychlorinated Biphenyls (PCB)			
Aroclor-1016	5	ug/kg	< 5
Aroclor-1232	5	ug/kg	< 5
Aroclor-1242	5	ug/kg	< 5
Aroclor-1248	5	ug/kg	< 5
Aroclor-1254	5	ug/kg	< 5
Aroclor-1260	5	ug/kg	< 5
Total PCB*	5	ug/kg	< 5
Dibutylchlorendate (surr.)	1	%	128
Total Organic Carbon	50	mg/kg	12000
Phosphorus	5	mg/kg	400
Organotins (Suite of 8)			
% Moisture	0.1	%	21

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Client Sample ID			DUP 5B
Sample Matrix			**Sediment (Trace)**
Eurofins | mgt Sample No.			**B15-Fe17766**
Date Sampled			**Feb 22, 2015**
Test/Reference	LOR	Unit	
Nitrogens (speciated)			
Ammonia (as N)	0.1	mg/kg	0.7
Nitrate (as N)	0.1	mg/kg	< 0.1
Nitrite (as N)	0.1	mg/kg	< 0.1
Organic Nitrogen (as N)	0.1	mg/kg	200
Total Kjeldahl Nitrogen (as N)	0.1	mg/kg	200
Total Nitrogen (as N)	0.1	mg/kg	200
Heavy Metals			
Antimony	0.5	mg/kg	< 0.5
Arsenic	1	mg/kg	20
Cadmium	0.1	mg/kg	< 0.1
Chromium	1	mg/kg	11
Copper	1	mg/kg	2.8
Lead	1	mg/kg	3.0
Manganese	10	mg/kg	790
Mercury	0.01	mg/kg	0.01
Nickel	1	mg/kg	4.9
Silver	0.1	mg/kg	< 0.1
Zinc	1	mg/kg	13

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Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Eurofins | mgt Suite 1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Feb 27, 2015	14 Day
- Method: TRH C6-C36 - LTM-ORG-2010			
BTEX	Sydney	Feb 27, 2015	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Feb 27, 2015	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Polycyclic Aromatic Hydrocarbons	Sydney	Feb 27, 2015	14 Day
- Method: E007 Polyaromatic Hydrocarbons (PAH)			
Total Organic Carbon	Melbourne	Feb 26, 2015	28 Day
- Method: APHA 5310B Total Organic Carbon			
Phosphorus	Melbourne	Mar 04, 2015	180 Day
- Method: USEPA 6010			
Nitrogens (speciated)			
Ammonia (as N)	Sydney	Mar 03, 2015	28 Day
- Method: E036/E050 Ammonia as N			
Nitrate (as N)	Sydney	Mar 03, 2015	28 Day
- Method: E037 /E051 Nitrate as N			
Nitrite (as N)	Sydney	Mar 03, 2015	28 Day
- Method: E037 /E051 Nitrite as N			
Organic Nitrogen (as N)	Sydney	Mar 03, 2015	7 Day
Total Kjeldahl Nitrogen (as N)	Sydney	Mar 03, 2015	28 Day
- Method: E039/E053 Unfiltered Total Kjeldahl Nitrogen as N			
Heavy Metals	Sydney	Feb 27, 2015	180 Day
- Method: E022 Acid Extractable metals in Soils			
Metals M8	Sydney	Feb 27, 2015	28 Day
- Method: LTM-MET-3040_R0 TOTAL AND DISSOLVED METALS AND MERCURY IN WATERS BY ICP-MS			
Eurofins | mgt Suite 13			
Organochlorine Pesticides	Sydney	Feb 27, 2015	14 Day
- Method: E013 Organochlorine Pesticides (OC)			
Polychlorinated Biphenyls (PCB)	Sydney	Feb 27, 2015	28 Day
- Method: E013 Polychlorinated Biphenyls (PCB)			
% Moisture	Sydney	Feb 25, 2015	14 Day
- Method: LTM-GEN-7080 Moisture			

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Eurofins | mgt Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
4. Results are uncorrected for matrix spikes or surrogate recoveries.
5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

****NOTE:** pH duplicates are reported as a range NOT as RPD

UNITS

mg/kg: milligrams per Kilogram

mg/l: milligrams per litre

ug/l: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100ml: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

TERMS

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery
CRM	Certified Reference Material - reported as percent recovery
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands. In the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
Batch Duplicate	A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.
Batch SPIKE	Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
ASLP	Australian Standard Leaching Procedure (AS4439.3)
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within
TEQ	Toxic Equivalency Quotient

QC - ACCEPTANCE CRITERIA

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries : Recoveries must lie between 50-150% - Phenols 20-130%.

QC DATA GENERAL COMMENTS

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxophene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data.

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Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	ug/kg	< 20000			20000	Pass	
TRH C10-C14	ug/kg	< 20000			20000	Pass	
TRH C15-C28	ug/kg	< 50000			50000	Pass	
TRH C29-C36	ug/kg	< 50000			50000	Pass	
TRH C10-36 (Total)	ug/kg	< 0			50000	Pass	
Method Blank							
BTEX							
Benzene	ug/kg	< 100			100	Pass	
Toluene	ug/kg	< 100			100	Pass	
Ethylbenzene	ug/kg	< 100			100	Pass	
m&p-Xylenes	ug/kg	< 200			200	Pass	
o-Xylene	ug/kg	< 100			100	Pass	
Xylenes - Total	ug/kg	< 300			300	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	ug/kg	< 500			500	Pass	
TRH C6-C10	ug/kg	< 20000			20000	Pass	
TRH C6-C10 less BTEX (F1)	ug/kg	< 20000			20000	Pass	
TRH >C10-C16	ug/kg	< 50000			50000	Pass	
TRH >C16-C34	ug/kg	< 100000			100000	Pass	
TRH >C34-C40	ug/kg	< 100000			100000	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	ug/kg	< 1			1	Pass	
Acenaphthylene	ug/kg	< 1			1	Pass	
Anthracene	ug/kg	< 1			1	Pass	
Benz(a)anthracene	ug/kg	< 1			1	Pass	
Benzo(a)pyrene	ug/kg	< 1			1	Pass	
Benzo(b&j)fluoranthene	ug/kg	< 1			1	Pass	
Benzo(g.h.i)perylene	ug/kg	< 1			1	Pass	
Benzo(k)fluoranthene	ug/kg	< 1			1	Pass	
Chrysene	ug/kg	< 1			1	Pass	
Dibenz(a.h)anthracene	ug/kg	< 1			1	Pass	
Fluoranthene	ug/kg	< 1			1	Pass	
Fluorene	ug/kg	< 1			1	Pass	
Indeno(1.2.3-cd)pyrene	ug/kg	< 1			1	Pass	
Naphthalene	ug/kg	< 1			1	Pass	
Phenanthrene	ug/kg	< 1			1	Pass	
Pyrene	ug/kg	< 1			1	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	ug/kg	< 5			5	Pass	
4.4'-DDD	ug/kg	< 1			1	Pass	
4.4'-DDE	ug/kg	< 1			1	Pass	
4.4'-DDT	ug/kg	< 1			1	Pass	
a-BHC	ug/kg	< 1			1	Pass	
Aldrin	ug/kg	< 1			1	Pass	
b-BHC	ug/kg	< 1			1	Pass	
d-BHC	ug/kg	< 1			1	Pass	
Dieldrin	ug/kg	< 1			1	Pass	

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Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endosulfan I	ug/kg	< 1			1	Pass	
Endosulfan II	ug/kg	< 1			1	Pass	
Endosulfan sulphate	ug/kg	< 1			1	Pass	
Endrin	ug/kg	< 1			1	Pass	
Endrin aldehyde	ug/kg	< 1			1	Pass	
Endrin ketone	ug/kg	< 1			1	Pass	
g-BHC (Lindane)	ug/kg	< 1			1	Pass	
Heptachlor	ug/kg	< 1			1	Pass	
Heptachlor epoxide	ug/kg	< 1			1	Pass	
Hexachlorobenzene	ug/kg	< 1			1	Pass	
Methoxychlor	ug/kg	< 1			1	Pass	
Toxaphene	ug/kg	< 5			5	Pass	
Method Blank							
Polychlorinated Biphenyls (PCB)							
Aroclor-1016	ug/kg	< 5			5	Pass	
Aroclor-1232	ug/kg	< 5			5	Pass	
Aroclor-1242	ug/kg	< 5			5	Pass	
Aroclor-1248	ug/kg	< 5			5	Pass	
Aroclor-1254	ug/kg	< 5			5	Pass	
Aroclor-1260	ug/kg	< 5			5	Pass	
Total PCB*	ug/kg	< 0			5	Pass	
Method Blank							
Total Organic Carbon	mg/kg	< 50			50	Pass	
Method Blank							
Nitrogens (speciated)							
Ammonia (as N)	mg/kg	< 0.1			0.1	Pass	
Nitrate (as N)	mg/kg	< 0.1			0.1	Pass	
Nitrite (as N)	mg/kg	< 0.1			0.1	Pass	
Method Blank							
Heavy Metals							
Antimony	mg/kg	< 0.5			0.5	Pass	
Arsenic	mg/kg	< 1			1	Pass	
Chromium	mg/kg	< 1			1	Pass	
Copper	mg/kg	< 1			1	Pass	
Lead	mg/kg	< 1			1	Pass	
Manganese	mg/kg	< 10			10	Pass	
Silver	mg/kg	< 0.1			0.1	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	76			70-130	Pass	
TRH C10-C14	%	108			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	90			70-130	Pass	
Toluene	%	89			70-130	Pass	
Ethylbenzene	%	90			70-130	Pass	
m&p-Xylenes	%	87			70-130	Pass	
o-Xylene	%	88			70-130	Pass	
Xylenes - Total	%	87			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	98			70-130	Pass	
TRH C6-C10	%	86			70-130	Pass	
TRH >C10-C16	%	109			70-130	Pass	

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Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	117			70-130	Pass	
Acenaphthylene	%	116			70-130	Pass	
Anthracene	%	116			70-130	Pass	
Benz(a)anthracene	%	123			70-130	Pass	
Benzo(a)pyrene	%	97			70-130	Pass	
Benzo(b&j)fluoranthene	%	91			70-130	Pass	
Benzo(g.h.i)perylene	%	107			70-130	Pass	
Benzo(k)fluoranthene	%	101			70-130	Pass	
Chrysene	%	106			70-130	Pass	
Dibenz(a.h)anthracene	%	105			70-130	Pass	
Fluoranthene	%	122			70-130	Pass	
Fluorene	%	115			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	106			70-130	Pass	
Naphthalene	%	117			70-130	Pass	
Phenanthrene	%	117			70-130	Pass	
Pyrene	%	117			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	114			70-130	Pass	
4.4'-DDD	%	119			70-130	Pass	
4.4'-DDE	%	114			70-130	Pass	
4.4'-DDT	%	122			70-130	Pass	
a-BHC	%	110			70-130	Pass	
Aldrin	%	110			70-130	Pass	
b-BHC	%	118			70-130	Pass	
d-BHC	%	87			70-130	Pass	
Dieldrin	%	112			70-130	Pass	
Endosulfan I	%	107			70-130	Pass	
Endosulfan II	%	119			70-130	Pass	
Endosulfan sulphate	%	112			70-130	Pass	
Endrin	%	121			70-130	Pass	
Endrin aldehyde	%	97			70-130	Pass	
Endrin ketone	%	117			70-130	Pass	
g-BHC (Lindane)	%	114			70-130	Pass	
Heptachlor	%	121			70-130	Pass	
Heptachlor epoxide	%	113			70-130	Pass	
Methoxychlor	%	119			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls (PCB)							
Aroclor-1260	%	120			70-130	Pass	
LCS - % Recovery							
Total Organic Carbon	%	126			70-130	Pass	
LCS - % Recovery							
Nitrogens (speciated)							
Ammonia (as N)	%	102			70-130	Pass	
Nitrate (as N)	%	118			70-130	Pass	
Nitrite (as N)	%	102			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Antimony	%	105			70-130	Pass	
Arsenic	%	103			70-130	Pass	
Cadmium	%	110			70-130	Pass	

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Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Chromium			%	107			70-130	Pass	
Copper			%	109			70-130	Pass	
Lead			%	111			70-130	Pass	
Manganese			%	106			70-130	Pass	
Mercury			%	116			70-130	Pass	
Nickel			%	109			70-130	Pass	
Silver			%	107			70-130	Pass	
Zinc			%	86			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	S15-Fe18023	NCP	%	77			70-130	Pass	
TRH C10-C14	S15-Fe19857	NCP	%	96			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S15-Fe18023	NCP	%	91			70-130	Pass	
Toluene	S15-Fe18023	NCP	%	89			70-130	Pass	
Ethylbenzene	S15-Fe18023	NCP	%	88			70-130	Pass	
m&p-Xylenes	S15-Fe18023	NCP	%	86			70-130	Pass	
o-Xylene	S15-Fe18023	NCP	%	88			70-130	Pass	
Xylenes - Total	S15-Fe18023	NCP	%	87			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S15-Fe18023	NCP	%	98			70-130	Pass	
TRH C6-C10	S15-Fe18023	NCP	%	93			70-130	Pass	
TRH >C10-C16	S15-Fe19857	NCP	%	96			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S15-Ma00676	NCP	%	124			70-130	Pass	
Acenaphthylene	S15-Ma00676	NCP	%	126			70-130	Pass	
Anthracene	S15-Ma00676	NCP	%	121			70-130	Pass	
Benz(a)anthracene	S15-Ma00676	NCP	%	94			70-130	Pass	
Benzo(a)pyrene	S15-Ma00676	NCP	%	73			70-130	Pass	
Benzo(b&j)fluoranthene	S15-Ma00676	NCP	%	83			70-130	Pass	
Benzo(g.h.i)perylene	S15-Ma00676	NCP	%	101			70-130	Pass	
Benzo(k)fluoranthene	S15-Ma00676	NCP	%	67			70-130	Fail	Q08
Chrysene	S15-Ma00676	NCP	%	73			70-130	Pass	
Dibenz(a.h)anthracene	S15-Ma00676	NCP	%	125			70-130	Pass	
Fluoranthene	S15-Ma00676	NCP	%	70			70-130	Pass	
Fluorene	S15-Ma00676	NCP	%	122			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S15-Ma00676	NCP	%	96			70-130	Pass	
Naphthalene	S15-Ma00676	NCP	%	123			70-130	Pass	
Phenanthrene	S15-Ma00676	NCP	%	94			70-130	Pass	
Pyrene	S15-Ma00676	NCP	%	69			70-130	Fail	Q08
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	S15-Fe20127	NCP	%	108			70-130	Pass	
4.4'-DDD	S15-Fe20127	NCP	%	116			70-130	Pass	
4.4'-DDE	S15-Fe20127	NCP	%	105			70-130	Pass	
4.4'-DDT	S15-Fe20127	NCP	%	86			70-130	Pass	
a-BHC	S15-Fe20127	NCP	%	109			70-130	Pass	
Aldrin	S15-Fe20127	NCP	%	105			70-130	Pass	
b-BHC	S15-Fe20127	NCP	%	111			70-130	Pass	
d-BHC	S15-Fe20127	NCP	%	92			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Dieldrin	S15-Fe20127	NCP	%	105			70-130	Pass	
Endosulfan I	S15-Fe20127	NCP	%	102			70-130	Pass	
Endosulfan II	S15-Fe20127	NCP	%	104			70-130	Pass	
Endosulfan sulphate	S15-Fe20127	NCP	%	98			70-130	Pass	
Endrin	S15-Fe20127	NCP	%	106			70-130	Pass	
Endrin aldehyde	S15-Fe20127	NCP	%	93			70-130	Pass	
Endrin ketone	S15-Fe20127	NCP	%	105			70-130	Pass	
g-BHC (Lindane)	S15-Fe20127	NCP	%	109			70-130	Pass	
Heptachlor	S15-Fe20127	NCP	%	112			70-130	Pass	
Heptachlor epoxide	S15-Fe20127	NCP	%	106			70-130	Pass	
Methoxychlor	S15-Fe20127	NCP	%	93			70-130	Pass	
Toxaphene	S15-Fe15616	NCP	%	110			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls (PCB)				Result 1					
Aroclor-1260	B15-Fe17766	CP	%	120			70-130	Pass	
Spike - % Recovery									
Nitrogens (speciated)				Result 1					
Nitrate (as N)	B15-Fe17766	CP	%	87			70-130	Pass	
Nitrite (as N)	B15-Fe17766	CP	%	99			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Antimony	S15-Fe20640	NCP	%	105			70-130	Pass	
Arsenic	S15-Fe20640	NCP	%	84			70-130	Pass	
Cadmium	S15-Fe20640	NCP	%	81			70-130	Pass	
Chromium	S15-Fe20640	NCP	%	85			70-130	Pass	
Copper	S15-Fe20640	NCP	%	45			70-130	Fail	Q08
Lead	S15-Fe20640	NCP	%	107			70-130	Pass	
Manganese	S15-Fe19857	NCP	%	94			70-130	Pass	
Mercury	S15-Fe20640	NCP	%	83			70-130	Pass	
Nickel	S15-Fe20640	NCP	%	55			70-130	Fail	Q08
Zinc	S15-Fe20640	NCP	%	42			70-130	Fail	Q08
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	B15-Fe17766	CP	ug/kg	< 20000	< 20000	<1	30%	Pass	
TRH C10-C14	B15-Fe17766	CP	ug/kg	< 20000	< 20000	<1	30%	Pass	
TRH C15-C28	B15-Fe17766	CP	ug/kg	< 50000	< 50000	<1	30%	Pass	
TRH C29-C36	B15-Fe17766	CP	ug/kg	< 50000	< 50000	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	B15-Fe17766	CP	ug/kg	< 100	< 100	<1	30%	Pass	
Toluene	B15-Fe17766	CP	ug/kg	< 100	< 100	<1	30%	Pass	
Ethylbenzene	B15-Fe17766	CP	ug/kg	< 100	< 100	<1	30%	Pass	
m&p-Xylenes	B15-Fe17766	CP	ug/kg	< 200	< 200	<1	30%	Pass	
o-Xylene	B15-Fe17766	CP	ug/kg	< 100	< 100	<1	30%	Pass	
Xylenes - Total	B15-Fe17766	CP	ug/kg	< 300	< 300	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	B15-Fe17766	CP	ug/kg	< 500	< 500	<1	30%	Pass	
TRH C6-C10	S15-Fe18022	NCP	ug/kg	< 20000	< 20000	<1	30%	Pass	
TRH C6-C10 less BTEX (F1)	S15-Fe18022	NCP	ug/kg	< 20000	< 20000	<1	30%	Pass	
TRH >C10-C16	B15-Fe17766	CP	ug/kg	< 50000	< 50000	<1	30%	Pass	
TRH >C16-C34	B15-Fe17766	CP	ug/kg	< 100000	< 100000	<1	30%	Pass	
TRH >C34-C40	B15-Fe17766	CP	ug/kg	< 100000	< 100000	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S15-Ma00685	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
Acenaphthylene	S15-Ma00685	NCP	ug/kg	900	800	1.0	30%	Pass	
Anthracene	S15-Ma00685	NCP	ug/kg	1500	1600	6.0	30%	Pass	
Benz(a)anthracene	S15-Ma00685	NCP	ug/kg	3900	4000	3.0	30%	Pass	
Benzo(a)pyrene	S15-Ma00685	NCP	ug/kg	3000	3100	6.0	30%	Pass	
Benzo(b&j)fluoranthene	S15-Ma00685	NCP	ug/kg	2900	2600	9.0	30%	Pass	
Benzo(g.h.i)perylene	S15-Ma00685	NCP	ug/kg	2200	2500	12	30%	Pass	
Benzo(k)fluoranthene	S15-Ma00685	NCP	ug/kg	2700	3000	12	30%	Pass	
Chrysene	S15-Ma00685	NCP	ug/kg	2300	2400	5.0	30%	Pass	
Dibenz(a.h)anthracene	S15-Ma00685	NCP	ug/kg	600	600	<1	30%	Pass	
Fluoranthene	S15-Ma00685	NCP	ug/kg	7000	7300	5.0	30%	Pass	
Fluorene	S15-Ma00685	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S15-Ma00685	NCP	ug/kg	1800	1900	9.0	30%	Pass	
Naphthalene	S15-Ma00685	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
Phenanthrene	S15-Ma00685	NCP	ug/kg	3600	3700	3.0	30%	Pass	
Pyrene	S15-Ma00685	NCP	ug/kg	6700	7000	5.0	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	B15-Fe17766	CP	ug/kg	< 5	< 100	<1	30%	Pass	
4.4'-DDD	B15-Fe17766	CP	ug/kg	< 1	< 50	<1	30%	Pass	
4.4'-DDE	B15-Fe17766	CP	ug/kg	< 1	< 50	<1	30%	Pass	
4.4'-DDT	B15-Fe17766	CP	ug/kg	< 1	< 50	<1	30%	Pass	
a-BHC	B15-Fe17766	CP	ug/kg	< 1	< 50	<1	30%	Pass	
Aldrin	B15-Fe17766	CP	ug/kg	< 1	< 50	<1	30%	Pass	
b-BHC	B15-Fe17766	CP	ug/kg	< 1	< 50	<1	30%	Pass	
d-BHC	B15-Fe17766	CP	ug/kg	< 1	< 50	<1	30%	Pass	
Dieldrin	B15-Fe17766	CP	ug/kg	< 1	< 50	<1	30%	Pass	
Endosulfan I	B15-Fe17766	CP	ug/kg	< 1	< 50	<1	30%	Pass	
Endosulfan II	B15-Fe17766	CP	ug/kg	< 1	< 50	<1	30%	Pass	
Endosulfan sulphate	B15-Fe17766	CP	ug/kg	< 1	< 50	<1	30%	Pass	
Endrin	B15-Fe17766	CP	ug/kg	< 1	< 50	<1	30%	Pass	
Endrin aldehyde	B15-Fe17766	CP	ug/kg	< 1	< 50	<1	30%	Pass	
Endrin ketone	B15-Fe17766	CP	ug/kg	< 1	< 50	<1	30%	Pass	
g-BHC (Lindane)	B15-Fe17766	CP	ug/kg	< 1	< 50	<1	30%	Pass	
Heptachlor	B15-Fe17766	CP	ug/kg	< 1	< 50	<1	30%	Pass	
Heptachlor epoxide	B15-Fe17766	CP	ug/kg	< 1	< 50	<1	30%	Pass	
Hexachlorobenzene	B15-Fe17766	CP	ug/kg	8	< 50	<1	30%	Pass	
Methoxychlor	B15-Fe17766	CP	ug/kg	< 1	< 200	<1	30%	Pass	
Toxaphene	B15-Fe17766	CP	ug/kg	< 5	< 1000	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls (PCB)				Result 1	Result 2	RPD			
Aroclor-1016	B15-Fe17766	CP	ug/kg	< 5	< 500	<1	30%	Pass	
Aroclor-1232	B15-Fe17766	CP	ug/kg	< 5	< 500	<1	30%	Pass	
Aroclor-1242	B15-Fe17766	CP	ug/kg	< 5	< 500	<1	30%	Pass	
Aroclor-1248	B15-Fe17766	CP	ug/kg	< 5	< 500	<1	30%	Pass	
Aroclor-1254	B15-Fe17766	CP	ug/kg	< 5	< 500	<1	30%	Pass	
Aroclor-1260	B15-Fe17766	CP	ug/kg	< 5	< 500	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Total Organic Carbon	M15-Fe18517	NCP	mg/kg	23000	23000	1.0	30%	Pass	
% Moisture	B15-Fe17766	CP	%	21	20	7.0	30%	Pass	

Duplicate									
Nitrogens (speciated)				Result 1	Result 2	RPD			
Ammonia (as N)	B15-Fe17766	CP	mg/kg	0.7	0.7	5.0	30%	Pass	
Nitrate (as N)	B15-Fe17766	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nitrite (as N)	B15-Fe17766	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Antimony	B15-Fe17766	CP	mg/kg	< 0.5	< 10	<1	30%	Pass	
Arsenic	S15-Fe17245	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Cadmium	S15-Fe20175	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S15-Fe17245	NCP	mg/kg	9.3	8.8	6.0	30%	Pass	
Copper	S15-Fe17245	NCP	mg/kg	< 5	5.3	12	30%	Pass	
Lead	B15-Fe17766	CP	mg/kg	3.0	< 5	3.0	30%	Pass	
Manganese	B15-Fe17766	CP	mg/kg	790	600	28	30%	Pass	
Mercury	S15-Fe17245	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Nickel	S15-Fe17245	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Silver	B15-Fe17766	CP	mg/kg	< 0.1	< 5	<1	30%	Pass	

DRAFT

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q08	The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference

Authorised By

Mark Rodriquez	Analytical Services Manager
Bob Symons	Senior Analyst-Inorganic (NSW)
Emily Rosenberg	Senior Analyst-Metal (VIC)
Huong Le	Senior Analyst-Inorganic (VIC)
Ivan Taylor	Senior Analyst-Metal (NSW)
Ryan Hamilton	Senior Analyst-Organic (NSW)
Ryan Hamilton	Senior Analyst-Volatile (NSW)

Glenn Jackson
National Laboratory Manager

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Uncertainty data is available on request

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DRAFT

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Eurofins GfA Lab Service GmbH · Neuländer Kamp 1 a · D-21079 Hamburg

Eurofins Environment Testing Australia Pty Ltd
attn. Results
2-5 Kingston Town Close
P.O. Box 276
Vic 3166 Oakleigh
AUSTRALIEN

Person in charge Dr. D. Stegemann
ASM Dr. D. Stegemann

Report date 17.03.2015

Analytical report AR-15-GF-008487-01

Sample Code 710-2015-04678001

Reference	DUP 5 B
Sample sender	Mr. Onur Mehmet
Reception date time	03.03.2015
Transport by	DHL
Client Purchase order nr.	B15_02048436
Purchase order date	25.02.2015
Client sample code	B15-Fe17766
Packaging	glass bottle with screw closure
Number of containers	1
Reception temperature	room temperature
End analysis	17.03.2015

Test results

CYP07 dry matter (°) (#)
Method EC 152/2009, , produce dry matter of original sample

dry residue	78.5	%

CY031 Organotin ~ 8 compounds ~ soil, sludge, sediment (°) (#)
Method Internal method, GLS OC 600, LRMS

Monobutyltin (MBT)	< 0.635	µg/kg dw
Monobutyltin (MBT) - Sn	< 0.428	µg/kg dw
Dibutyltin (DBT)	< 0.635	µg/kg dw
Dibutyltin (DBT) - Sn	< 0.323	µg/kg dw
Tributyltin (TBT)	< 0.635	µg/kg dw
Tributyltin (TBT) - Sn	< 0.260	µg/kg dw
Tetrabutyltin (TTBT)	< 0.635	µg/kg dw
Tetrabutyltin (TTBT) - Sn	< 0.217	µg/kg dw
Monooctyltin (MOT)	< 0.635	µg/kg dw
Monooctyltin (MOT) - Sn	< 0.325	µg/kg dw

The results of examination refer exclusively to the checked samples.
Duplicates - even in parts - must be authorized by the test laboratory in written form.
Eurofins GfA Lab Service GmbH · Neuländer Kamp 1 a · D-21079 Hamburg
Headquarters: Eurofins GfA Lab Service GmbH – Neuländer Kamp 1a D-21079 Hamburg
HRB 115907 AG Hamburg
General Managers: Dr. Christian Temme
VAT No.: DE 275912372
Nord/LB ● Bank code: 250 500 00 ● Account No.: 199878695 ● SWIFT-BIC: NOLADE2HXXX
IBAN: DE37 2505 0000 0199 8786 95

Our General Terms & Conditions, available upon request and online at
http://www.eurofins.de/lebensmittel/kontakt/avb.aspx, shall apply.

Durch die DAP Deutsches Akkreditierungssystem Prüfwesen GmbH akkreditiertes Prüflaboratorium
DIN EN ISO/IEC 17025
Die Akkreditierung gilt für die in der Urkunde aufgeführten Prüfverfahren

Analytical report AR-15-GF-008487-01

Sample Code 710-2015-04678001

Dioctyltin (DOT)	< 0.635	µg/kg dw
Dioctyltin (DOT) - Sn	< 0.218	µg/kg dw
Triphenyltin (TPhT)	< 0.635	µg/kg dw
Triphenyltin (TPhT) - Sn	< 0.215	µg/kg dw
Tricyclohexyltin (TCHT)	< 1.27	µg/kg dw
Tricyclohexyltin (TCHT) - Sn	< 0.409	µg/kg dw

(°) = The test was performed at the laboratory site: Am Neuländer Gewerbepark 4
(#) = Eurofins GfA Lab Service Gmbh (Hamburg) is accredited for this test.

< - Concentration below the indicated limit of quantification (LOQ)

This electronically generated test report has been checked and approved. It is also valid without signature.

Hanna Joerss
(Analytical Services Manager)

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eurofins | mgt

☐ **Sydney**
Unit F3 - 6 Building F, 16 Mars Road, Lane Cove
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☑ **Brisbane**
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Phone: +617 3902 4600
Email: EnviroSampleQLD@eurofins.com.au

☐ **Melbourne**
2 Kingston Town Close, Oakleigh, VIC 3166
Phone: +613 8564 5000 Fax: +613 8564 5090
Email: EnviroSampleVic@eurofins.com.au

CHAIN OF CUSTODY RECORD

CLIENT DETAILS

Page 1 of 1

Company Name : Aurecon	Contact Name: Sally Leyland	Purchase Order :	COC Number :
Office Address : Level 14, 32 Turbot Street, Brisbane QLD 4000	Project Manager : Sally Leyland	PROJECT Number : 245852-400	Eurofins | mgt quote ID : #150127AUR
	Email for results : sally.leyland@aurecongroup.com	PROJECT Name : GPC Geochemcial investigation	Data output format:

Special Directions & Comments :

Eurofins | mgt DI water batch number:

Analytes

	Sample ID	Date	Matrix	M8 (metals) + PAHs	B14 (OCP, OPP) + Herbicides	B1 (TRH/BTEX)	Asbestos	PCB	Dioxins	R21 (Soil Classification)	E. coli & total coliforms	Radioactivity (gross alpha and beta)	TRH (C6-C10)/BTEX	HOLD	Aurecon Suite 1
1	Dup 6B	23/02/2015	Soil												1

Some common holding times (with correct preservation).
For further information contact the lab

Waters		Soils	
BTEX, MAH, VOC	14 days	BTEX, MAH, VOC	14 days
TRH, PAH, Phenols, Pesticides	7 days	TRH, PAH, Phenols, Pesticides	14 days
Heavy Metals	6 months	Heavy Metals	6 months
Mercury, CrVI	28 days	Mercury, CrVI	28 days
Microbiological testing	24 hours	Microbiological testing	72 hours
BOD, Nitrate, Nitrite, Total N	2 days	Anions	28 days
Solids - TSS, TDS etc	7 days	SPOCAS, pH Field and FOX, CrS	24 hours
Ferrous iron	7 days	ASLP, TCLP	7 days

Containers:

1LP	250P	125P	1LA	40mL vial	125mL A	Jar
						1

Sample comments:

Laboratory Staff

Relinquished By:	Received By: ARNALD RUTKOWIND
Date & Time::	Date & Time: 26/2/15 9:00
Signature:	Signature: [signature]

Turn around time

1 DAY ☐ 2 DAY ☐ 3 DAY ☐
5 DAY ☑ 10 DAY ☐ Other:

Method Of Shipment

☑ Courier
☐ Hand Delivered
☐ Postal
Courier Consignment # :

Temperature on arrival: 12.6°c

Report number: 448774

QS3009_R1 Issue Date: 24/02/15 Page 1 of 1

Parimal
26/02
11:05 am

E	CN	HD	# CON NOTES	POST CODE
AP	CB			MASS

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com.au web : www.eurofins.com.au

Melbourne
3-5 Kingston Town Close
Oakleigh Vic 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Sample Receipt Advice

Company name:	**Aurecon Australia (BRIS) Pty Ltd**
Contact name:	Sally Leyland
Project name:	GPC GEOCHEMICAL INVESTIGATION
Project ID:	245852-400
COC number:	Not provided
Turn around time:	5 Day
Date/Time received:	Feb 26, 2015 9:00 AM
Eurofins | mgt reference:	**448774**

Sample information

☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.

☑ All samples have been received as described on the above COC.

☑ COC has been completed correctly.

☑ Attempt to chill was evident.

☑ Appropriately preserved sample containers have been used.

☑ All samples were received in good condition.

☑ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.

☑ Appropriate sample containers have been used.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Notes

Organotins conducted at Eurofins Germany on 10 day TAT

Contact notes

If you have any questions with respect to these samples please contact:

Mark Rodriquez on Phone : (+61) 8 8947 1557 or by e.mail: MarkRodriquez@eurofins.com.au

Results will be delivered electronically via e.mail to Sally Leyland - Sally.Leyland@aurecongroup.com.

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com.au web : www.eurofins.com.au

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NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Company Name: Aurecon Australia (BRIS) Pty Ltd
Address: Level 14, 32 Turbot St
Brisbane
QLD 4001

Project Name: GPC GEOCHEMICAL INVESTIGATION
Project ID: 245852-400

Order No.:
Report #: 448774
Phone: 07 3173 8000
Fax: +61 7 3173 8001

Received: Feb 26, 2015 9:00 AM
Due: Mar 5, 2015
Priority: 5 Day
Contact Name: Sally Leyland

Eurofins | mgt Client Manager: Mark Rodriquez

Sample Detail					Antimony	Manganese	Organotins (Suite of 8)	Phosphorus	Silver	Total Organic Carbon	Polycyclic Aromatic Hydrocarbons	Metals M8	Eurofins | mgt Suite 13	Nitrogens (speciated)	Eurofins | mgt Suite 1	Moisture Set
Laboratory where analysis is conducted																
Melbourne Laboratory - NATA Site # 1254 & 14271					X	X		X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217																
Brisbane Laboratory - NATA Site # 20794																
External Laboratory							X									
Sample ID	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**												
DUP 6B	Feb 23, 2015		Sediment (Trace)	B15-Fe19551	X	X	X	X	X	X	X	X	X	X	X	X

Certificate of Analysis

Aurecon Australia (BRIS) Pty Ltd
Level 14, 32 Turbot St
Brisbane
QLD 4001

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025.
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention: **Sally Leyland**

Report **448774-S**
Project name GPC GEOCHEMICAL INVESTIGATION
Project ID 245852-400
Received Date Feb 26, 2015

Client Sample ID			**DUP 6B**
Sample Matrix			**Sediment (Trace)**
Eurofins | mgt Sample No.			**B15-Fe19551**
Date Sampled			**Feb 23, 2015**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons - 1999 NEPM Fractions			
TRH C6-C9	20000	ug/kg	< 20000
TRH C10-C14	50000	ug/kg	< 50000
TRH C15-C28	50000	ug/kg	< 50000
TRH C29-C36	50000	ug/kg	< 50000
TRH C10-36 (Total)	10000	ug/kg	< 50000
BTEX			
Benzene	100	ug/kg	< 100
Toluene	100	ug/kg	< 100
Ethylbenzene	100	ug/kg	< 100
m&p-Xylenes	200	ug/kg	< 200
o-Xylene	100	ug/kg	< 100
Xylenes - Total	50	ug/kg	< 50
4-Bromofluorobenzene (surr.)	1	%	118
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene[N02]	500	ug/kg	< 500
TRH C6-C10	20000	ug/kg	< 20000
TRH C6-C10 less BTEX (F1)[N04]	20000	ug/kg	< 20000
TRH >C10-C16	50000	ug/kg	< 50000
TRH >C10-C16 less Naphthalene (F2)[N01]	50000	ug/kg	< 50000
TRH >C16-C34	100000	ug/kg	< 100000
TRH >C34-C40	100000	ug/kg	< 100000
Polycyclic Aromatic Hydrocarbons			
Benzo(a)pyrene TEQ (lower bound) *	1	ug/kg	< 1
Benzo(a)pyrene TEQ (medium bound) *	1	ug/kg	1
Benzo(a)pyrene TEQ (upper bound) *	1	ug/kg	2
Acenaphthene	1	ug/kg	< 1
Acenaphthylene	1	ug/kg	< 1
Anthracene	1	ug/kg	< 1
Benz(a)anthracene	1	ug/kg	< 1
Benzo(a)pyrene	1	ug/kg	< 1
Benzo(b&j)fluoranthene[N07]	1	ug/kg	< 1
Benzo(g.h.i)perylene	1	ug/kg	< 1
Benzo(k)fluoranthene	1	ug/kg	< 1
Chrysene	1	ug/kg	< 1

Client Sample ID			DUP 6B
Sample Matrix			Sediment (Trace)
Eurofins | mgt Sample No.			B15-Fe19551
Date Sampled			Feb 23, 2015
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons			
Dibenz(a.h)anthracene	1	ug/kg	< 1
Fluoranthene	1	ug/kg	< 1
Fluorene	1	ug/kg	< 1
Indeno(1.2.3-cd)pyrene	1	ug/kg	< 1
Naphthalene	1	ug/kg	< 1
Phenanthrene	1	ug/kg	< 1
Pyrene	1	ug/kg	< 1
Total PAH*	1	ug/kg	< 1
2-Fluorobiphenyl (surr.)	1	%	95
p-Terphenyl-d14 (surr.)	1	%	113
Organochlorine Pesticides			
Chlordanes - Total	5	ug/kg	< 5
4.4'-DDD	1	ug/kg	< 1
4.4'-DDE	1	ug/kg	< 1
4.4'-DDT	1	ug/kg	< 1
a-BHC	1	ug/kg	< 1
Aldrin	1	ug/kg	< 1
b-BHC	1	ug/kg	< 1
d-BHC	1	ug/kg	< 1
Dieldrin	1	ug/kg	< 1
Endosulfan I	1	ug/kg	< 1
Endosulfan II	1	ug/kg	< 1
Endosulfan sulphate	1	ug/kg	< 1
Endrin	1	ug/kg	< 1
Endrin aldehyde	1	ug/kg	< 1
Endrin ketone	1	ug/kg	< 1
g-BHC (Lindane)	1	ug/kg	< 1
Heptachlor	1	ug/kg	< 1
Heptachlor epoxide	1	ug/kg	< 1
Hexachlorobenzene	1	ug/kg	< 1
Methoxychlor	1	ug/kg	< 1
Toxaphene	5	ug/kg	< 5
Dibutylchlorendate (surr.)	1	%	133
Tetrachloro-m-xylene (surr.)	1	%	111
Polychlorinated Biphenyls			
Aroclor-1016	5	ug/kg	< 5
Aroclor-1221	5	ug/kg	< 5
Aroclor-1232	5	ug/kg	< 5
Aroclor-1242	5	ug/kg	< 5
Aroclor-1248	5	ug/kg	< 5
Aroclor-1254	5	ug/kg	< 5
Aroclor-1260	5	ug/kg	< 5
Total PCB*	5	ug/kg	< 5
Dibutylchlorendate (surr.)	1	%	133
Tetrachloro-m-xylene (surr.)	1	%	111

Client Sample ID			DUP 6B
Sample Matrix			**Sediment (Trace)**
Eurofins | mgt Sample No.			**B15-Fe19551**
Date Sampled			**Feb 23, 2015**
Test/Reference	LOR	Unit	
Total Organic Carbon	50	mg/kg	700
Phosphorus	5	mg/kg	270
Organotins (Suite of 8)			see attached
% Moisture	0.1	%	23
Nitrogens (speciated)			
Ammonia (as N)	0.1	mg/kg	3.8
Nitrate (as N)	0.1	mg/kg	0.4
Nitrite (as N)	0.1	mg/kg	0.2
Organic Nitrogen (as N)	0.1	mg/kg	150
Total Kjeldahl Nitrogen (as N)	0.1	mg/kg	150
Total Nitrogen (as N)	0.1	mg/kg	150
Heavy Metals			
Comments			G01
Antimony	0.5	mg/kg	< 20
Arsenic	1	mg/kg	6.3
Cadmium	0.1	mg/kg	< 0.8
Chromium	1	mg/kg	21
Copper	1	mg/kg	24
Lead	1	mg/kg	< 10
Manganese	10	mg/kg	180
Mercury	0.01	mg/kg	0.02
Nickel	1	mg/kg	< 10
Silver	0.1	mg/kg	< 10
Zinc	1	mg/kg	40

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Eurofins | mgt Suite 1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Feb 27, 2015	14 Day
- Method: TRH C6-C36 - LTM-ORG-2010			
BTEX	Melbourne	Feb 27, 2015	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Feb 27, 2015	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Polycyclic Aromatic Hydrocarbons	Melbourne	Feb 27, 2015	14 Day
- Method: USEPA 8270 Polycyclic Aromatic Hydrocarbons			
Total Organic Carbon	Melbourne	Mar 05, 2015	28 Day
- Method: APHA 5310B Total Organic Carbon			
Phosphorus	Melbourne	Mar 13, 2015	180 Day
- Method: USEPA 6010			
Nitrogens (speciated)			
Ammonia (as N)	Melbourne	Feb 27, 2015	7 Day
- Method: APHA 4500-NH3 Ammonia Nitrogen by FIA			
Nitrate (as N)	Melbourne	Feb 27, 2015	28 Day
- Method: APHA 4500-NO3 Nitrate Nitrogen by FIA			
Nitrite (as N)	Melbourne	Feb 27, 2015	28 Day
- Method: APHA 4500-NO2 Nitrite Nitrogen by FIA			
Organic Nitrogen (as N)	Melbourne	Feb 27, 2015	7 Day
- Method: APHA 4500 Organic Nitrogen (N)			
Total Kjeldahl Nitrogen (as N)	Melbourne	Feb 27, 2015	28 Day
- Method: APHA 4500 TKN			
Heavy Metals	Melbourne	Feb 27, 2015	180 Day
- Method: USEPA 6010/6020 Heavy Metals			
Metals M8	Melbourne	Feb 27, 2015	28 Day
- Method: USEPA 6010/6020 Heavy Metals & USEPA 7470/71 Mercury			
Eurofins | mgt Suite 13			
Organochlorine Pesticides	Melbourne	Feb 27, 2015	14 Day
- Method: USEPA 8081 Organochlorine Pesticides			
Polychlorinated Biphenyls	Melbourne	Feb 27, 2015	28 Day
- Method: USEPA 8082 Polychlorinated Biphenyls			
% Moisture	Melbourne	Feb 26, 2015	14 Day
- Method: LTM-GEN-7080 Moisture			

Eurofins | mgt Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
4. Results are uncorrected for matrix spikes or surrogate recoveries.
5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

****NOTE:** pH duplicates are reported as a range NOT as RPD

UNITS

mg/kg: milligrams per Kilogram

ug/l: micrograms per litre

ppb: Parts per billion

org/100ml: Organisms per 100 millilitres

MPN/100mL: Most Probable Number of organisms per 100 millilitres

mg/l: milligrams per litre

ppm: Parts per million

%: Percentage

NTU: Nephelometric Turbidity Units

TERMS

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery
CRM	Certified Reference Material - reported as percent recovery
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands. In the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
Batch Duplicate	A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.
Batch SPIKE	Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
ASLP	Australian Standard Leaching Procedure (AS4439.3)
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within
TEQ	Toxic Equivalency Quotient

QC - ACCEPTANCE CRITERIA

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries : Recoveries must lie between 50-150% - Phenols 20-130%.

QC DATA GENERAL COMMENTS

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxophene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	ug/kg	< 20000			20000	Pass	
TRH C10-C14	ug/kg	< 50000			50000	Pass	
TRH C15-C28	ug/kg	< 50000			50000	Pass	
TRH C29-C36	ug/kg	< 50000			50000	Pass	
Method Blank							
BTEX							
Benzene	ug/kg	< 100			100	Pass	
Toluene	ug/kg	< 100			100	Pass	
Ethylbenzene	ug/kg	< 100			100	Pass	
m&p-Xylenes	ug/kg	< 200			200	Pass	
o-Xylene	ug/kg	< 100			100	Pass	
Xylenes - Total	ug/kg	< 50			50	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	ug/kg	< 500			500	Pass	
TRH C6-C10	ug/kg	< 20000			20000	Pass	
TRH C6-C10 less BTEX (F1)	ug/kg	< 20000			20000	Pass	
TRH >C10-C16	ug/kg	< 50000			50000	Pass	
TRH >C16-C34	ug/kg	< 100000			100000	Pass	
TRH >C34-C40	ug/kg	< 100000			100000	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	ug/kg	< 1			1	Pass	
Acenaphthylene	ug/kg	< 1			1	Pass	
Anthracene	ug/kg	< 1			1	Pass	
Benz(a)anthracene	ug/kg	< 1			1	Pass	
Benzo(a)pyrene	ug/kg	< 1			1	Pass	
Benzo(b&j)fluoranthene	ug/kg	< 1			1	Pass	
Benzo(g.h.i)perylene	ug/kg	< 1			1	Pass	
Benzo(k)fluoranthene	ug/kg	< 1			1	Pass	
Chrysene	ug/kg	< 1			1	Pass	
Dibenz(a.h)anthracene	ug/kg	< 1			1	Pass	
Fluoranthene	ug/kg	< 1			1	Pass	
Fluorene	ug/kg	< 1			1	Pass	
Indeno(1.2.3-cd)pyrene	ug/kg	< 1			1	Pass	
Naphthalene	ug/kg	< 1			1	Pass	
Phenanthrene	ug/kg	< 1			1	Pass	
Pyrene	ug/kg	< 1			1	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	ug/kg	< 5			5	Pass	
4.4'-DDD	ug/kg	< 1			1	Pass	
4.4'-DDE	ug/kg	< 1			1	Pass	
4.4'-DDT	ug/kg	< 1			1	Pass	
a-BHC	ug/kg	< 1			1	Pass	
Aldrin	ug/kg	< 1			1	Pass	
b-BHC	ug/kg	< 1			1	Pass	
d-BHC	ug/kg	< 1			1	Pass	
Dieldrin	ug/kg	< 1			1	Pass	
Endosulfan I	ug/kg	< 1			1	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endosulfan II	ug/kg	< 1			1	Pass	
Endosulfan sulphate	ug/kg	< 1			1	Pass	
Endrin	ug/kg	< 1			1	Pass	
Endrin aldehyde	ug/kg	< 1			1	Pass	
Endrin ketone	ug/kg	< 1			1	Pass	
g-BHC (Lindane)	ug/kg	< 1			1	Pass	
Heptachlor	ug/kg	< 1			1	Pass	
Heptachlor epoxide	ug/kg	< 1			1	Pass	
Hexachlorobenzene	ug/kg	< 1			1	Pass	
Methoxychlor	ug/kg	< 1			1	Pass	
Toxaphene	ug/kg	< 5			5	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	ug/kg	< 5			5	Pass	
Aroclor-1221	ug/kg	< 5			5	Pass	
Aroclor-1232	ug/kg	< 5			5	Pass	
Aroclor-1242	ug/kg	< 5			5	Pass	
Aroclor-1248	ug/kg	< 5			5	Pass	
Aroclor-1254	ug/kg	< 5			5	Pass	
Aroclor-1260	ug/kg	< 5			5	Pass	
Total PCB*	ug/kg	< 5			5	Pass	
Method Blank							
Total Organic Carbon	mg/kg	< 50			50	Pass	
Method Blank							
Heavy Metals							
Antimony	mg/kg	< 0.5			0.5	Pass	
Arsenic	mg/kg	< 1			1	Pass	
Cadmium	mg/kg	< 0.1			0.1	Pass	
Chromium	mg/kg	< 1			1	Pass	
Copper	mg/kg	< 1			1	Pass	
Lead	mg/kg	< 1			1	Pass	
Manganese	mg/kg	< 10			10	Pass	
Mercury	mg/kg	< 0.01			0.01	Pass	
Nickel	mg/kg	< 1			1	Pass	
Silver	mg/kg	< 0.1			0.1	Pass	
Zinc	mg/kg	< 1			1	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	104			70-130	Pass	
TRH C10-C14	%	101			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	112			70-130	Pass	
Toluene	%	116			70-130	Pass	
Ethylbenzene	%	123			70-130	Pass	
m&p-Xylenes	%	124			70-130	Pass	
Xylenes - Total	%	124			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	96			75-125	Pass	
TRH C6-C10	%	93			70-130	Pass	
TRH >C10-C16	%	101			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Acenaphthene	%	116			70-130	Pass	
Acenaphthylene	%	114			70-130	Pass	
Anthracene	%	122			70-130	Pass	
Benz(a)anthracene	%	89			70-130	Pass	
Benzo(a)pyrene	%	102			70-130	Pass	
Benzo(b&j)fluoranthene	%	103			70-130	Pass	
Benzo(g.h.i)perylene	%	86			70-130	Pass	
Benzo(k)fluoranthene	%	99			70-130	Pass	
Chrysene	%	73			70-130	Pass	
Dibenz(a.h)anthracene	%	88			70-130	Pass	
Fluoranthene	%	122			70-130	Pass	
Fluorene	%	121			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	91			70-130	Pass	
Phenanthrene	%	126			70-130	Pass	
Pyrene	%	116			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
4.4'-DDD	%	92			70-130	Pass	
4.4'-DDE	%	83			70-130	Pass	
4.4'-DDT	%	76			70-130	Pass	
a-BHC	%	105			70-130	Pass	
Aldrin	%	87			70-130	Pass	
b-BHC	%	104			70-130	Pass	
d-BHC	%	78			70-130	Pass	
Dieldrin	%	86			70-130	Pass	
Endosulfan I	%	103			70-130	Pass	
Endosulfan II	%	86			70-130	Pass	
Endosulfan sulphate	%	82			70-130	Pass	
Endrin	%	79			70-130	Pass	
Endrin aldehyde	%	81			70-130	Pass	
Endrin ketone	%	85			70-130	Pass	
g-BHC (Lindane)	%	94			70-130	Pass	
Heptachlor	%	78			70-130	Pass	
Heptachlor epoxide	%	84			70-130	Pass	
Hexachlorobenzene	%	77			70-130	Pass	
Methoxychlor	%	71			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	124			70-130	Pass	
LCS - % Recovery							
Total Organic Carbon	%	111			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Antimony	%	89			80-120	Pass	
Arsenic	%	83			80-120	Pass	
Cadmium	%	103			80-120	Pass	
Chromium	%	108			80-120	Pass	
Copper	%	109			80-120	Pass	
Lead	%	108			80-120	Pass	
Manganese	%	109			80-120	Pass	
Mercury	%	109			75-125	Pass	
Nickel	%	108			80-120	Pass	
Silver	%	106			80-120	Pass	
Zinc	%	106			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	M15-Fe20292	NCP	%	110			70-130	Pass	
TRH C10-C14	M15-Fe19548	NCP	%	89			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M15-Fe20292	NCP	%	113			70-130	Pass	
Toluene	M15-Fe20292	NCP	%	121			70-130	Pass	
Ethylbenzene	M15-Fe20292	NCP	%	124			70-130	Pass	
m&p-Xylenes	M15-Fe20292	NCP	%	123			70-130	Pass	
o-Xylene	M15-Fe20292	NCP	%	124			70-130	Pass	
Xylenes - Total	M15-Fe20292	NCP	%	124			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH C6-C10	M15-Fe20292	NCP	%	98			70-130	Pass	
TRH >C10-C16	M15-Fe19548	NCP	%	89			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M15-Fe19548	NCP	%	82			70-130	Pass	
Acenaphthylene	M15-Fe19548	NCP	%	88			70-130	Pass	
Anthracene	M15-Fe19548	NCP	%	79			70-130	Pass	
Benz(a)anthracene	M15-Fe19548	NCP	%	117			70-130	Pass	
Benzo(a)pyrene	M15-Fe19548	NCP	%	96			70-130	Pass	
Benzo(b&j)fluoranthene	M15-Fe19548	NCP	%	100			70-130	Pass	
Benzo(g.h.i)perylene	M15-Fe19548	NCP	%	90			70-130	Pass	
Benzo(k)fluoranthene	M15-Fe19548	NCP	%	83			70-130	Pass	
Chrysene	M15-Fe19548	NCP	%	92			70-130	Pass	
Dibenz(a.h)anthracene	M15-Fe19548	NCP	%	85			70-130	Pass	
Fluoranthene	M15-Fe19548	NCP	%	124			70-130	Pass	
Fluorene	M15-Fe19548	NCP	%	88			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M15-Fe19548	NCP	%	94			70-130	Pass	
Phenanthrene	M15-Fe19548	NCP	%	98			70-130	Pass	
Pyrene	M15-Fe19548	NCP	%	120			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
4.4'-DDD	M15-Fe20843	NCP	%	103			70-130	Pass	
4.4'-DDE	M15-Fe20843	NCP	%	99			70-130	Pass	
4.4'-DDT	M15-Fe20843	NCP	%	81			70-130	Pass	
a-BHC	M15-Fe20843	NCP	%	103			70-130	Pass	
Aldrin	M15-Fe20843	NCP	%	94			70-130	Pass	
b-BHC	M15-Fe20843	NCP	%	107			70-130	Pass	
d-BHC	M15-Fe20843	NCP	%	88			70-130	Pass	
Dieldrin	M15-Fe20843	NCP	%	101			70-130	Pass	
Endosulfan I	M15-Fe20843	NCP	%	108			70-130	Pass	
Endosulfan II	M15-Fe20843	NCP	%	91			70-130	Pass	
Endosulfan sulphate	M15-Fe20843	NCP	%	90			70-130	Pass	
Endrin	M15-Fe20843	NCP	%	93			70-130	Pass	
Endrin aldehyde	M15-Fe20843	NCP	%	82			70-130	Pass	
Endrin ketone	M15-Fe20843	NCP	%	90			70-130	Pass	
g-BHC (Lindane)	M15-Fe20843	NCP	%	106			70-130	Pass	
Heptachlor	M15-Fe20843	NCP	%	86			70-130	Pass	
Heptachlor epoxide	M15-Fe20843	NCP	%	90			70-130	Pass	
Hexachlorobenzene	M15-Fe20843	NCP	%	80			70-130	Pass	
Methoxychlor	M15-Fe20843	NCP	%	80			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1260	M15-Ma01442	NCP	%	77			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Antimony	M15-Ma01258	NCP	%	82			70-130	Pass	
Arsenic	M15-Fe20213	NCP	%	78			75-125	Pass	
Cadmium	M15-Fe20213	NCP	%	78			75-125	Pass	
Chromium	M15-Fe20213	NCP	%	79			75-125	Pass	
Copper	M15-Fe20213	NCP	%	93			75-125	Pass	
Lead	M15-Ma00440	NCP	%	84			75-125	Pass	
Manganese	M15-Fe21031	NCP	%	90			75-125	Pass	
Mercury	M15-Fe19754	NCP	%	107			70-130	Pass	
Nickel	M15-Ma00440	NCP	%	79			75-125	Pass	
Silver	M15-Fe20213	NCP	%	89			75-125	Pass	
Zinc	M15-Fe21031	NCP	%	93			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	M15-Fe19395	NCP	ug/kg	< 20000	< 20000	<1	30%	Pass	
TRH C10-C14	M15-Ma02431	NCP	ug/kg	< 20000	< 20000	<1	30%	Pass	
TRH C15-C28	M15-Ma02431	NCP	ug/kg	< 50000	< 50000	<1	30%	Pass	
TRH C29-C36	M15-Ma02431	NCP	ug/kg	< 50000	< 50000	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M15-Fe19395	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Toluene	M15-Fe19395	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Ethylbenzene	M15-Fe19395	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
m&p-Xylenes	M15-Fe19395	NCP	ug/kg	< 200	< 200	<1	30%	Pass	
o-Xylene	M15-Fe19395	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Xylenes - Total	M15-Fe19395	NCP	ug/kg	< 300	< 300	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M15-Fe19395	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
TRH C6-C10	M15-Fe19395	NCP	ug/kg	< 20000	< 20000	<1	30%	Pass	
TRH C6-C10 less BTEX (F1)	M15-Fe19395	NCP	ug/kg	< 20000	< 20000	<1	30%	Pass	
TRH >C10-C16	M15-Ma02431	NCP	ug/kg	< 50000	< 50000	<1	30%	Pass	
TRH >C16-C34	M15-Ma02431	NCP	ug/kg	< 100000	< 100000	<1	30%	Pass	
TRH >C34-C40	M15-Ma02431	NCP	ug/kg	< 100000	< 100000	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	B15-Fe19551	CP	ug/kg	< 5	< 5	<1	30%	Pass	
4.4'-DDD	B15-Fe19551	CP	ug/kg	< 1	< 1	<1	30%	Pass	
4.4'-DDE	B15-Fe19551	CP	ug/kg	< 1	< 1	<1	30%	Pass	
4.4'-DDT	B15-Fe19551	CP	ug/kg	< 1	< 1	<1	30%	Pass	
a-BHC	B15-Fe19551	CP	ug/kg	< 1	< 1	<1	30%	Pass	
Aldrin	B15-Fe19551	CP	ug/kg	< 1	< 1	<1	30%	Pass	
b-BHC	B15-Fe19551	CP	ug/kg	< 1	< 1	<1	30%	Pass	
d-BHC	B15-Fe19551	CP	ug/kg	< 1	< 1	<1	30%	Pass	
Dieldrin	B15-Fe19551	CP	ug/kg	< 1	< 1	<1	30%	Pass	
Endosulfan I	B15-Fe19551	CP	ug/kg	< 1	< 1	<1	30%	Pass	
Endosulfan II	B15-Fe19551	CP	ug/kg	< 1	< 1	<1	30%	Pass	
Endosulfan sulphate	B15-Fe19551	CP	ug/kg	< 1	< 1	<1	30%	Pass	
Endrin	B15-Fe19551	CP	ug/kg	< 1	< 1	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Endrin aldehyde	B15-Fe19551	CP	ug/kg	< 1	< 1	<1	30%	Pass	
Endrin ketone	B15-Fe19551	CP	ug/kg	< 1	< 1	<1	30%	Pass	
g-BHC (Lindane)	B15-Fe19551	CP	ug/kg	< 1	< 1	<1	30%	Pass	
Heptachlor	B15-Fe19551	CP	ug/kg	< 1	< 1	<1	30%	Pass	
Heptachlor epoxide	B15-Fe19551	CP	ug/kg	< 1	< 1	<1	30%	Pass	
Hexachlorobenzene	B15-Fe19551	CP	ug/kg	< 1	< 1	<1	30%	Pass	
Methoxychlor	B15-Fe19551	CP	ug/kg	< 1	< 1	<1	30%	Pass	
Toxaphene	B15-Fe19551	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	B15-Fe19551	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Aroclor-1221	B15-Fe19551	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Aroclor-1232	B15-Fe19551	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Aroclor-1242	B15-Fe19551	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Aroclor-1248	B15-Fe19551	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Aroclor-1254	B15-Fe19551	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Aroclor-1260	B15-Fe19551	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Total PCB*	B15-Fe19551	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Total Organic Carbon	M15-Fe18857	NCP	mg/kg	48000	46000	4.0	30%	Pass	
Duplicate									
Nitrogens (speciated)				Result 1	Result 2	RPD			
Total Kjeldahl Nitrogen (as N)	M15-Fe18857	NCP	mg/kg	2400	2400	1.6	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Antimony	M15-Fe20212	NCP	mg/kg	< 10	< 10	<1	30%	Pass	
Arsenic	M15-Fe20212	NCP	mg/kg	5.2	3.8	31	30%	Fail	Q15
Cadmium	M15-Fe20212	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M15-Fe20212	NCP	mg/kg	30	28	8.0	30%	Pass	
Copper	M15-Fe20212	NCP	mg/kg	41	33	23	30%	Pass	
Lead	M15-Fe20212	NCP	mg/kg	46	33	34	30%	Fail	Q15
Manganese	M15-Ma01442	NCP	mg/kg	23	25	6.0	30%	Pass	
Mercury	M15-Fe20176	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	M15-Fe20212	NCP	mg/kg	94	90	5.0	30%	Pass	
Silver	M15-Fe20212	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Zinc	M15-Fe20212	NCP	mg/kg	170	150	11	30%	Pass	

Comments

Organo tins: Eurofins GfA Lab Services GmbH, DAkkS Accreditation no. D-PL-14629-01-00, report number AR-15-GF-007206-01.

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
G01	The LORs have been raised due to matrix interference
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins | mgt's Acceptance Criteria as stipulated in SOP 05. Refer to Glossary Page of this report for further details

Authorised By

Mark Rodriquez	Analytical Services Manager
Carroll Lee	Senior Analyst-Organic (VIC)
Carroll Lee	Senior Analyst-Volatile (VIC)
Emily Rosenberg	Senior Analyst-Metal (VIC)
Huong Le	Senior Analyst-Inorganic (VIC)



Glenn Jackson

National Laboratory Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Uncertainty data is available on request

Eurofins | mgt shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins | mgt be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

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GERMANY

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Eurofins GfA Lab Service GmbH · Neuländer Kamp 1 a · D-21079 Hamburg

Eurofins Environment Testing Australia Pty Ltd
attn. Results
2-5 Kingston Town Close
P.O. Box 276
Vic 3166 Oakleigh
AUSTRALIEN

Person in charge Dr. D. Stegemann
ASM Dr. D. Stegemann

Report date 04.03.2015

Analytical report AR-15-GF-007206-01

Sample Code 710-2015-04571001

Reference	Soil DUP 6B
Sample sender	Mr. Onur Mehmet
Reception date time	02.03.2015
Transport by	Bote
Client Purchase order nr.	B15_023 448774
Purchase order date	26.02.2015
Client sample code	B15-Fe19551
Packaging	glass container with screw closure
Number of containers	1
Reception temperature	cooled
End analysis	04.03.2015

Test results

CYP07 dry matter (°) (#)
Method EC 152/2009, , produce dry matter of original sample

dry residue	79.1	%

CY031 Organotin ~ 8 compounds ~ soil, sludge, sediment (°) (#)
Method Internal method, GLS OC 600, LRMS

Monobutyltin (MBT)	< 0.620	µg/kg dw
Monobutyltin (MBT) - Sn	< 0.418	µg/kg dw
Dibutyltin (DBT)	< 0.620	µg/kg dw
Dibutyltin (DBT) - Sn	< 0.316	µg/kg dw
Tributyltin (TBT)	< 0.620	µg/kg dw
Tributyltin (TBT) - Sn	< 0.254	µg/kg dw
Tetrabutyltin (TTBT)	< 0.620	µg/kg dw
Tetrabutyltin (TTBT) - Sn	< 0.212	µg/kg dw
Monooctyltin (MOT)	< 0.620	µg/kg dw
Monooctyltin (MOT) - Sn	< 0.317	µg/kg dw

The results of examination refer exclusively to the checked samples.
Duplicates - even in parts - must be authorized by the test laboratory in written form.
Eurofins GfA Lab Service GmbH · Neuländer Kamp 1 a · D-21079 Hamburg
Headquarters: Eurofins GfA Lab Service GmbH – Neuländer Kamp 1a D-21079 Hamburg
HRB 115907 AG Hamburg
General Managers: Dr. Christian Temme
VAT No.: DE 275912372
Nord/LB ● Bank code: 250 500 00 ● Account No.: 199878695 ● SWIFT-BIC: NOLADE2HXXX
IBAN: DE37 2505 0000 0199 8786 95

Our General Terms & Conditions, available upon request and online at
http://www.eurofins.de/lebensmittel/kontakt/avb.aspx, shall apply.

Durch die DAP Deutsches Akkreditierungssystem Prüfwesen GmbH akkreditiertes Prüflaboratorium
DIN EN ISO/IEC 17025
Die Akkreditierung gilt für die in der Urkunde aufgeführten Prüfverfahren

Analytical report AR-15-GF-007206-01
Sample Code 710-2015-04571001

Dioctyltin (DOT)	< 0.620	µg/kg dw
Dioctyltin (DOT) - Sn	< 0.213	µg/kg dw
Triphenyltin (TPhT)	< 0.620	µg/kg dw
Triphenyltin (TPhT) - Sn	< 0.210	µg/kg dw
Tricyclohexyltin (TCHT)	< 1.24	µg/kg dw
Tricyclohexyltin (TCHT) - Sn	< 0.400	µg/kg dw

(°) = The test was performed at the laboratory site: Am Neuländer Gewerbepark 4
(#) = Eurofins GfA Lab Service Gmbh (Hamburg) is accredited for this test.

< - Concentration below the indicated limit of quantification (LOQ)

This electronically generated test report has been checked and approved. It is also valid without signature.

Stephanie Schilling
(Analytical Services Manager)

The results of examination refer exclusively to the checked samples.
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Eurofins GfA Lab Service GmbH · Neuländer Kamp 1 a · D-21079 Hamburg
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DIN EN ISO/IEC 17025

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eurofins | mgt

☐ Sydney
Unit F3 - 6 Building F, 16 Mars Road, Lane Cove
Phone: +612 9900 8400
Email: EnviroSampleNSW@eurofins.com.au

☑ Brisbane
Unit 1-21 Smallwood Place, Murrarie
Phone: +617 3902 4600
Email: EnviroSampleQLD@eurofins.com.au

☐ Melbourne
2 Kingston Town Close, Oakleigh, VIC 3166
Phone: +613 8564 5000 Fax: +613 8564 5090
Email: EnviroSampleVic@eurofins.com.au

CHAIN OF CUSTODY RECORD

CLIENT DETAILS

Company Name : Aurecon	Contact Name: Sally Leyland	Purchase Order :	COC Number :
Office Address : Level 14, 32 Turbot Street, Brisbane QLD 4000	Project Manager : Sally Leyland	PROJECT Number : 245852-400	Eurofins | mgt quote ID : #150127AUR
	Email for results : sally.leyland@aurecongroup.com	PROJECT Name : GPC Geochemcial investigation	Data output format:

Special Directions & Comments :

Eurofins | mgt DI water batch number:

	Sample ID	Date	Matrix	M8 (metals) + PAHs	B14 (OCP, OPP) + Herbicides	B1 (TRH/BTEX)	Asbestos	PCB	Dioxins	R21 (Soil Classification)	E. coli & total coliforms	Radioactivity (gross alpha and beta)	TRH (C6-C10)/BTEX	HOLD	Aurecon Suite 1											
1	Dup 7B	25/02/2015	Soil												1											

Some common holding times (with correct preservation). For further information contact the lab

Waters		Soils	
BTEX, MAH, VOC	14 days	BTEX, MAH, VOC	14 days
TRH, PAH, Phenols, Pesticides	7 days	TRH, PAH, Phenols, Pesticides	14 days
Heavy Metals	6 months	Heavy Metals	6 months
Mercury, CrVI	28 days	Mercury, CrVI	28 days
Microbiological testing	24 hours	Microbiological testing	72 hours
BOD, Nitrate, Nitrite, Total N	2 days	Anions	28 days
Solids - TSS, TDS etc	7 days	SPOCAS, pH Field and FOX, CrS	24 hours
Ferrous iron	7 days	ASLP, TCLP	7 days

Containers:

1LP	250P	125P	1LA	40mL vial	125mL A	Jar
						1

Sample comments:

Laboratory Staff

Relinquished By:

Date & Time::

Signature:

Received By: R. Gao

Date & Time: 27-2-15

Signature:

Turn around time

1 DAY ☐ 2 DAY ☐ 3 DAY ☐

5 DAY ☑ 10 DAY ☐ Other:

Method Of Shipment

☐ Courier
☐ Hand Delivered
☐ Postal

Courier Consignment # :

Temperature on arrival:

Report number: 448938

Received
27/02
11:20 am

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com.au web : www.eurofins.com.au

Melbourne
3-5 Kingston Town Close
Oakleigh Vic 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Sample Receipt Advice

Company name:	**Aurecon Australia (BRIS) Pty Ltd**
Contact name:	Sally Leyland
Project name:	GPC GEOCHEMICAL INVESTIGATION
Project ID:	245852-400
COC number:	Not provided
Turn around time:	5 Day
Date/Time received:	Feb 27, 2015
Eurofins | mgt reference:	**448938**

Sample information

☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.

☒ All samples have been received as described on the above COC.

☒ COC has been completed correctly.

☒ Attempt to chill was evident.

☒ Appropriately preserved sample containers have been used.

☒ All samples were received in good condition.

☑ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.

☒ Appropriate sample containers have been used.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Notes

Organotins conducted at Eurofins Germany on 10 day TAT

Contact notes

If you have any questions with respect to these samples please contact:

Mark Rodriquez on Phone : (+61) 8 8947 1557 or by e.mail: MarkRodriquez@eurofins.com.au

Results will be delivered electronically via e.mail to Sally Leyland - Sally.Leyland@aurecongroup.com.

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com.au web : www.eurofins.com.au

Melbourne
3-5 Kingston Town Close
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NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Company Name: Aurecon Australia (BRIS) Pty Ltd
Address: Level 14, 32 Turbot St
Brisbane
QLD 4001

Project Name: GPC GEOCHEMICAL INVESTIGATION
Project ID: 245852-400

Order No.:
Report #: 448938
Phone: 07 3173 8000
Fax: +61 7 3173 8001

Received: Feb 27, 2015 12:00 AM
Due: Mar 6, 2015
Priority: 5 Day
Contact Name: Sally Leyland

Eurofins | mgt Client Manager: Mark Rodriquez

Sample Detail					Antimony	Manganese	Organotins (Suite of 8)	Phosphorus	Silver	Total Organic Carbon	Polycyclic Aromatic Hydrocarbons	Metals M8	Eurofins | mgt Suite 13	Nitrogens (speciated)	Eurofins | mgt Suite 1	Moisture Set
Laboratory where analysis is conducted																
Melbourne Laboratory - NATA Site # 1254 & 14271					X	X		X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217																
Brisbane Laboratory - NATA Site # 20794																
External Laboratory							X									
Sample ID	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**												
DUP 7B	Feb 25, 2015		Sediment (Trace)	B15-Fe20483	X	X	X	X	X	X	X	X	X	X	X	X

eurofins | mgt

Certificate of Analysis

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025.
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Aurecon Australia (BRIS) Pty Ltd
Level 14, 32 Turbot St
Brisbane
QLD 4001

Attention: **Sally Leyland**

Report **448938-S**
Project name GPC GEOCHEMICAL INVESTIGATION
Project ID 245852-400
Received Date Feb 27, 2015

Client Sample ID			**DUP 7B**
Sample Matrix			**Sediment (Trace)**
Eurofins | mgt Sample No.			**B15-Fe20483**
Date Sampled			**Feb 25, 2015**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons - 1999 NEPM Fractions			
TRH C6-C9	20000	ug/kg	< 20000
TRH C10-C14	50000	ug/kg	< 50000
TRH C15-C28	50000	ug/kg	< 50000
TRH C29-C36	50000	ug/kg	< 50000
TRH C10-36 (Total)	10000	ug/kg	< 50000
BTEX			
Benzene	100	ug/kg	< 100
Toluene	100	ug/kg	< 100
Ethylbenzene	100	ug/kg	< 100
m&p-Xylenes	200	ug/kg	< 200
o-Xylene	100	ug/kg	< 100
Xylenes - Total	50	ug/kg	< 50
4-Bromofluorobenzene (surr.)	1	%	94
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene[N02]	500	ug/kg	< 500
TRH C6-C10	20000	ug/kg	< 20000
TRH C6-C10 less BTEX (F1)[N04]	20000	ug/kg	< 20000
TRH >C10-C16	50000	ug/kg	< 50000
TRH >C10-C16 less Naphthalene (F2)[N01]	50000	ug/kg	< 50000
TRH >C16-C34	100000	ug/kg	< 100000
TRH >C34-C40	100000	ug/kg	< 100000
Polycyclic Aromatic Hydrocarbons			
Benzo(a)pyrene TEQ (lower bound) *	1	ug/kg	< 1
Benzo(a)pyrene TEQ (medium bound) *	1	ug/kg	1
Benzo(a)pyrene TEQ (upper bound) *	1	ug/kg	2
Acenaphthene	1	ug/kg	< 1
Acenaphthylene	1	ug/kg	< 1
Anthracene	1	ug/kg	< 1
Benz(a)anthracene	1	ug/kg	< 1
Benzo(a)pyrene	1	ug/kg	< 1
Benzo(b&j)fluoranthene[N07]	1	ug/kg	< 1
Benzo(g.h.i)perylene	1	ug/kg	< 1
Benzo(k)fluoranthene	1	ug/kg	< 1
Chrysene	1	ug/kg	< 1

Client Sample ID			DUP 7B
Sample Matrix			Sediment (Trace)
Eurofins | mgt Sample No.			B15-Fe20483
Date Sampled			Feb 25, 2015
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons			
Dibenz(a.h)anthracene	1	ug/kg	< 1
Fluoranthene	1	ug/kg	< 1
Fluorene	1	ug/kg	< 1
Indeno(1.2.3-cd)pyrene	1	ug/kg	< 1
Naphthalene	1	ug/kg	< 1
Phenanthrene	1	ug/kg	< 1
Pyrene	1	ug/kg	< 1
Total PAH*	1	ug/kg	< 1
2-Fluorobiphenyl (surr.)	1	%	55
p-Terphenyl-d14 (surr.)	1	%	67
Organochlorine Pesticides			
Chlordanes - Total	5	ug/kg	< 5
4.4'-DDD	1	ug/kg	< 1
4.4'-DDE	1	ug/kg	< 1
4.4'-DDT	1	ug/kg	< 1
a-BHC	1	ug/kg	< 1
Aldrin	1	ug/kg	< 1
b-BHC	1	ug/kg	< 1
d-BHC	1	ug/kg	< 1
Dieldrin	1	ug/kg	< 1
Endosulfan I	1	ug/kg	< 1
Endosulfan II	1	ug/kg	< 1
Endosulfan sulphate	1	ug/kg	< 1
Endrin	1	ug/kg	< 1
Endrin aldehyde	1	ug/kg	< 1
Endrin ketone	1	ug/kg	< 1
g-BHC (Lindane)	1	ug/kg	< 1
Heptachlor	1	ug/kg	< 1
Heptachlor epoxide	1	ug/kg	< 1
Hexachlorobenzene	1	ug/kg	< 1
Methoxychlor	1	ug/kg	< 1
Toxaphene	5	ug/kg	< 5
Dibutylchlorendate (surr.)	1	%	97
Tetrachloro-m-xylene (surr.)	1	%	87
Polychlorinated Biphenyls			
Aroclor-1016	5	ug/kg	< 5
Aroclor-1221	5	ug/kg	< 5
Aroclor-1232	5	ug/kg	< 5
Aroclor-1242	5	ug/kg	< 5
Aroclor-1248	5	ug/kg	< 5
Aroclor-1254	5	ug/kg	< 5
Aroclor-1260	5	ug/kg	< 5
Total PCB*	5	ug/kg	< 5
Dibutylchlorendate (surr.)	1	%	97
Tetrachloro-m-xylene (surr.)	1	%	87

Client Sample ID			DUP 7B
Sample Matrix			**Sediment (Trace)**
Eurofins | mgt Sample No.			**B15-Fe20483**
Date Sampled			**Feb 25, 2015**
Test/Reference	LOR	Unit	
Total Organic Carbon	50	mg/kg	5700
Phosphorus	5	mg/kg	160
Organotins (Suite of 8)			see attached
% Moisture	0.1	%	22
Nitrogens (speciated)			
Ammonia (as N)	0.1	mg/kg	4.7
Nitrate (as N)	0.1	mg/kg	0.6
Nitrite (as N)	0.1	mg/kg	0.2
Organic Nitrogen (as N)	0.1	mg/kg	18
Total Kjeldahl Nitrogen (as N)	0.1	mg/kg	23
Total Nitrogen (as N)	0.1	mg/kg	24
Heavy Metals			
Comments			G01
Antimony	0.5	mg/kg	< 20
Arsenic	1	mg/kg	5.9
Cadmium	0.1	mg/kg	< 0.1
Chromium	1	mg/kg	23
Copper	1	mg/kg	25
Lead	1	mg/kg	< 10
Manganese	10	mg/kg	260
Mercury	0.01	mg/kg	0.01
Nickel	1	mg/kg	< 10
Silver	0.1	mg/kg	< 10
Zinc	1	mg/kg	44

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Eurofins | mgt Suite 1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Mar 02, 2015	14 Day
- Method: TRH C6-C36 - LTM-ORG-2010			
BTEX	Melbourne	Mar 02, 2015	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Mar 02, 2015	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Polycyclic Aromatic Hydrocarbons	Melbourne	Mar 02, 2015	14 Day
- Method: USEPA 8270 Polycyclic Aromatic Hydrocarbons			
Total Organic Carbon	Melbourne	Mar 03, 2015	28 Day
- Method: APHA 5310B Total Organic Carbon			
Phosphorus	Melbourne	Mar 13, 2015	180 Day
- Method: USEPA 6010			
Nitrogens (speciated)			
Ammonia (as N)	Melbourne	Mar 03, 2015	7 Day
- Method: APHA 4500-NH3 Ammonia Nitrogen by FIA			
Nitrate (as N)	Melbourne	Mar 03, 2015	28 Day
- Method: APHA 4500-NO3 Nitrate Nitrogen by FIA			
Nitrite (as N)	Melbourne	Mar 03, 2015	28 Day
- Method: APHA 4500-NO2 Nitrite Nitrogen by FIA			
Organic Nitrogen (as N)	Melbourne	Mar 03, 2015	7 Day
- Method: APHA 4500 Organic Nitrogen (N)			
Total Kjeldahl Nitrogen (as N)	Melbourne	Mar 03, 2015	28 Day
- Method: APHA 4500 TKN			
Heavy Metals	Melbourne	Mar 02, 2015	180 Day
- Method: USEPA 6010/6020 Heavy Metals			
Metals M8	Melbourne	Mar 02, 2015	28 Day
- Method: USEPA 6010/6020 Heavy Metals & USEPA 7470/71 Mercury			
Eurofins | mgt Suite 13			
Organochlorine Pesticides	Melbourne	Mar 02, 2015	14 Day
- Method: USEPA 8081 Organochlorine Pesticides			
Polychlorinated Biphenyls	Melbourne	Mar 02, 2015	28 Day
- Method: USEPA 8082 Polychlorinated Biphenyls			
% Moisture	Melbourne	Feb 27, 2015	14 Day
- Method: LTM-GEN-7080 Moisture			

Eurofins | mgt Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
4. Results are uncorrected for matrix spikes or surrogate recoveries.
5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

****NOTE:** pH duplicates are reported as a range NOT as RPD

UNITS

mg/kg: milligrams per Kilogram

ug/l: micrograms per litre

ppb: Parts per billion

org/100ml: Organisms per 100 millilitres

MPN/100mL: Most Probable Number of organisms per 100 millilitres

mg/l: milligrams per litre

ppm: Parts per million

%: Percentage

NTU: Nephelometric Turbidity Units

TERMS

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery
CRM	Certified Reference Material - reported as percent recovery
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands. In the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
Batch Duplicate	A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.
Batch SPIKE	Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
ASLP	Australian Standard Leaching Procedure (AS4439.3)
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within
TEQ	Toxic Equivalency Quotient

QC - ACCEPTANCE CRITERIA

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries : Recoveries must lie between 50-150% - Phenols 20-130%.

QC DATA GENERAL COMMENTS

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxophene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	ug/kg	< 20000			20000	Pass	
TRH C10-C14	ug/kg	< 50000			50000	Pass	
TRH C15-C28	ug/kg	< 50000			50000	Pass	
TRH C29-C36	ug/kg	< 50000			50000	Pass	
Method Blank							
BTEX							
Benzene	ug/kg	< 100			100	Pass	
Toluene	ug/kg	< 100			100	Pass	
Ethylbenzene	ug/kg	< 100			100	Pass	
m&p-Xylenes	ug/kg	< 200			200	Pass	
o-Xylene	ug/kg	< 100			100	Pass	
Xylenes - Total	ug/kg	< 50			50	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	ug/kg	< 500			500	Pass	
TRH C6-C10	ug/kg	< 20000			20000	Pass	
TRH C6-C10 less BTEX (F1)	ug/kg	< 20000			20000	Pass	
TRH >C10-C16	ug/kg	< 50000			50000	Pass	
TRH >C16-C34	ug/kg	< 100000			100000	Pass	
TRH >C34-C40	ug/kg	< 100000			100000	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	ug/kg	< 1			1	Pass	
Acenaphthylene	ug/kg	< 1			1	Pass	
Anthracene	ug/kg	< 1			1	Pass	
Benz(a)anthracene	ug/kg	< 1			1	Pass	
Benzo(a)pyrene	ug/kg	< 1			1	Pass	
Benzo(b&j)fluoranthene	ug/kg	< 1			1	Pass	
Benzo(g.h.i)perylene	ug/kg	< 1			1	Pass	
Benzo(k)fluoranthene	ug/kg	< 1			1	Pass	
Chrysene	ug/kg	< 1			1	Pass	
Dibenz(a.h)anthracene	ug/kg	< 1			1	Pass	
Fluoranthene	ug/kg	< 1			1	Pass	
Fluorene	ug/kg	< 1			1	Pass	
Indeno(1.2.3-cd)pyrene	ug/kg	< 1			1	Pass	
Naphthalene	ug/kg	< 1			1	Pass	
Phenanthrene	ug/kg	< 1			1	Pass	
Pyrene	ug/kg	< 1			1	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	ug/kg	< 5			5	Pass	
4.4'-DDD	ug/kg	< 1			1	Pass	
4.4'-DDE	ug/kg	< 1			1	Pass	
4.4'-DDT	ug/kg	< 1			1	Pass	
a-BHC	ug/kg	< 1			1	Pass	
Aldrin	ug/kg	< 1			1	Pass	
b-BHC	ug/kg	< 1			1	Pass	
d-BHC	ug/kg	< 1			1	Pass	
Dieldrin	ug/kg	< 1			1	Pass	
Endosulfan I	ug/kg	< 1			1	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endosulfan II	ug/kg	< 1			1	Pass	
Endosulfan sulphate	ug/kg	< 1			1	Pass	
Endrin	ug/kg	< 1			1	Pass	
Endrin aldehyde	ug/kg	< 1			1	Pass	
Endrin ketone	ug/kg	< 1			1	Pass	
g-BHC (Lindane)	ug/kg	< 1			1	Pass	
Heptachlor	ug/kg	< 1			1	Pass	
Heptachlor epoxide	ug/kg	< 1			1	Pass	
Hexachlorobenzene	ug/kg	< 1			1	Pass	
Methoxychlor	ug/kg	< 1			1	Pass	
Toxaphene	ug/kg	< 5			5	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	ug/kg	< 5			5	Pass	
Aroclor-1221	ug/kg	< 5			5	Pass	
Aroclor-1232	ug/kg	< 5			5	Pass	
Aroclor-1242	ug/kg	< 5			5	Pass	
Aroclor-1248	ug/kg	< 5			5	Pass	
Aroclor-1254	ug/kg	< 5			5	Pass	
Aroclor-1260	ug/kg	< 5			5	Pass	
Total PCB*	ug/kg	< 5			5	Pass	
Method Blank							
Nitrogens (speciated)							
Ammonia (as N)	mg/kg	< 0.1			0.1	Pass	
Nitrate (as N)	mg/kg	< 0.1			0.1	Pass	
Nitrite (as N)	mg/kg	< 0.1			0.1	Pass	
Method Blank							
Heavy Metals							
Antimony	mg/kg	< 0.5			0.5	Pass	
Arsenic	mg/kg	< 1			1	Pass	
Cadmium	mg/kg	< 0.1			0.1	Pass	
Chromium	mg/kg	< 1			1	Pass	
Copper	mg/kg	< 1			1	Pass	
Lead	mg/kg	< 1			1	Pass	
Manganese	mg/kg	< 10			10	Pass	
Mercury	mg/kg	< 0.01			0.01	Pass	
Nickel	mg/kg	< 1			1	Pass	
Silver	mg/kg	< 0.1			0.1	Pass	
Zinc	mg/kg	< 1			1	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	97			70-130	Pass	
TRH C10-C14	%	101			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	97			70-130	Pass	
Toluene	%	81			70-130	Pass	
Ethylbenzene	%	88			70-130	Pass	
m&p-Xylenes	%	92			70-130	Pass	
Xylenes - Total	%	91			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	97			75-125	Pass	
TRH C6-C10	%	98			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH >C10-C16	%	101			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	116			70-130	Pass	
Acenaphthylene	%	114			70-130	Pass	
Anthracene	%	122			70-130	Pass	
Benz(a)anthracene	%	89			70-130	Pass	
Benzo(a)pyrene	%	102			70-130	Pass	
Benzo(b&j)fluoranthene	%	103			70-130	Pass	
Benzo(g.h.i)perylene	%	86			70-130	Pass	
Benzo(k)fluoranthene	%	99			70-130	Pass	
Chrysene	%	73			70-130	Pass	
Dibenz(a.h)anthracene	%	88			70-130	Pass	
Fluoranthene	%	122			70-130	Pass	
Fluorene	%	121			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	91			70-130	Pass	
Phenanthrene	%	126			70-130	Pass	
Pyrene	%	116			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
4.4'-DDD	%	92			70-130	Pass	
4.4'-DDE	%	83			70-130	Pass	
4.4'-DDT	%	76			70-130	Pass	
a-BHC	%	105			70-130	Pass	
Aldrin	%	87			70-130	Pass	
b-BHC	%	104			70-130	Pass	
d-BHC	%	78			70-130	Pass	
Dieldrin	%	86			70-130	Pass	
Endosulfan I	%	103			70-130	Pass	
Endosulfan II	%	86			70-130	Pass	
Endosulfan sulphate	%	82			70-130	Pass	
Endrin	%	79			70-130	Pass	
Endrin aldehyde	%	81			70-130	Pass	
Endrin ketone	%	85			70-130	Pass	
g-BHC (Lindane)	%	94			70-130	Pass	
Heptachlor	%	78			70-130	Pass	
Heptachlor epoxide	%	84			70-130	Pass	
Hexachlorobenzene	%	77			70-130	Pass	
Methoxychlor	%	71			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	124			70-130	Pass	
LCS - % Recovery							
Nitrogens (speciated)							
Ammonia (as N)	%	93			70-130	Pass	
Nitrate (as N)	%	98			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Antimony	%	86			80-120	Pass	
Arsenic	%	80			80-120	Pass	
Cadmium	%	99			80-120	Pass	
Chromium	%	103			80-120	Pass	
Copper	%	104			80-120	Pass	
Lead	%	104			80-120	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Manganese			%	106			80-120	Pass	
Mercury			%	91			75-125	Pass	
Nickel			%	106			80-120	Pass	
Silver			%	98			80-120	Pass	
Zinc			%	107			80-120	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	M15-Ma00110	NCP	%	90			70-130	Pass	
TRH C10-C14	M15-Fe19548	NCP	%	89			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M15-Ma00110	NCP	%	88			70-130	Pass	
Toluene	M15-Ma00110	NCP	%	76			70-130	Pass	
Ethylbenzene	M15-Ma00110	NCP	%	80			70-130	Pass	
m&p-Xylenes	M15-Ma00110	NCP	%	84			70-130	Pass	
o-Xylene	M15-Ma00110	NCP	%	77			70-130	Pass	
Xylenes - Total	M15-Ma00110	NCP	%	82			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M15-Ma00110	NCP	%	88			70-130	Pass	
TRH C6-C10	M15-Ma00110	NCP	%	92			70-130	Pass	
TRH >C10-C16	M15-Fe19548	NCP	%	89			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M15-Fe19548	NCP	%	82			70-130	Pass	
Acenaphthylene	M15-Fe19548	NCP	%	88			70-130	Pass	
Anthracene	M15-Fe19548	NCP	%	79			70-130	Pass	
Benz(a)anthracene	M15-Fe19548	NCP	%	117			70-130	Pass	
Benzo(a)pyrene	M15-Fe19548	NCP	%	96			70-130	Pass	
Benzo(b&j)fluoranthene	M15-Fe19548	NCP	%	100			70-130	Pass	
Benzo(g.h.i)perylene	M15-Fe19548	NCP	%	90			70-130	Pass	
Benzo(k)fluoranthene	M15-Fe19548	NCP	%	83			70-130	Pass	
Chrysene	M15-Fe19548	NCP	%	92			70-130	Pass	
Dibenz(a.h)anthracene	M15-Fe19548	NCP	%	85			70-130	Pass	
Fluoranthene	M15-Fe19548	NCP	%	124			70-130	Pass	
Fluorene	M15-Fe19548	NCP	%	88			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M15-Fe19548	NCP	%	94			70-130	Pass	
Phenanthrene	M15-Fe19548	NCP	%	98			70-130	Pass	
Pyrene	M15-Fe19548	NCP	%	120			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
4.4'-DDD	M15-Fe20843	NCP	%	103			70-130	Pass	
4.4'-DDE	M15-Fe20843	NCP	%	99			70-130	Pass	
4.4'-DDT	M15-Fe20843	NCP	%	81			70-130	Pass	
a-BHC	M15-Fe20843	NCP	%	103			70-130	Pass	
Aldrin	M15-Fe20843	NCP	%	94			70-130	Pass	
b-BHC	M15-Fe20843	NCP	%	107			70-130	Pass	
d-BHC	M15-Fe20843	NCP	%	88			70-130	Pass	
Dieldrin	M15-Fe20843	NCP	%	101			70-130	Pass	
Endosulfan I	M15-Fe20843	NCP	%	108			70-130	Pass	
Endosulfan II	M15-Fe20843	NCP	%	91			70-130	Pass	
Endosulfan sulphate	M15-Fe20843	NCP	%	90			70-130	Pass	
Endrin	M15-Fe20843	NCP	%	93			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endrin aldehyde	M15-Fe20843	NCP	%	82			70-130	Pass	
Endrin ketone	M15-Fe20843	NCP	%	90			70-130	Pass	
g-BHC (Lindane)	M15-Fe20843	NCP	%	106			70-130	Pass	
Heptachlor	M15-Fe20843	NCP	%	86			70-130	Pass	
Heptachlor epoxide	M15-Fe20843	NCP	%	90			70-130	Pass	
Hexachlorobenzene	M15-Fe20843	NCP	%	80			70-130	Pass	
Methoxychlor	M15-Fe20843	NCP	%	80			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1260	M15-Ma01442	NCP	%	77			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Antimony	M15-Ma01361	NCP	%	76			70-130	Pass	
Arsenic	M15-Ma02130	NCP	%	87			75-125	Pass	
Cadmium	M15-Ma01361	NCP	%	90			75-125	Pass	
Chromium	M15-Ma01361	NCP	%	88			75-125	Pass	
Copper	M15-Ma01361	NCP	%	93			75-125	Pass	
Lead	M15-Ma01361	NCP	%	89			75-125	Pass	
Manganese	M15-Ma02555	NCP	%	92			75-125	Pass	
Mercury	M15-Ma00982	NCP	%	100			70-130	Pass	
Nickel	M15-Ma01361	NCP	%	91			75-125	Pass	
Silver	M15-Ma01361	NCP	%	90			75-125	Pass	
Zinc	M15-Ma01361	NCP	%	95			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	M15-Fe19487	NCP	ug/kg	< 20000	< 20000	<1	30%	Pass	
TRH C10-C14	M15-Ma02431	NCP	ug/kg	< 20000	< 20000	<1	30%	Pass	
TRH C15-C28	M15-Ma02431	NCP	ug/kg	< 50000	< 50000	<1	30%	Pass	
TRH C29-C36	M15-Ma02431	NCP	ug/kg	< 50000	< 50000	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M15-Fe19487	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Toluene	M15-Fe19487	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Ethylbenzene	M15-Fe19487	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
m&p-Xylenes	M15-Fe19487	NCP	ug/kg	< 200	< 200	<1	30%	Pass	
o-Xylene	M15-Fe19487	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Xylenes - Total	M15-Fe19487	NCP	ug/kg	< 300	< 300	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M15-Fe19487	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
TRH C6-C10	M15-Fe19487	NCP	ug/kg	< 20000	< 20000	<1	30%	Pass	
TRH C6-C10 less BTEX (F1)	M15-Fe19487	NCP	ug/kg	< 20000	< 20000	<1	30%	Pass	
TRH >C10-C16	M15-Ma02431	NCP	ug/kg	< 50000	< 50000	<1	30%	Pass	
TRH >C16-C34	M15-Ma02431	NCP	ug/kg	< 100000	< 100000	<1	30%	Pass	
TRH >C34-C40	M15-Ma02431	NCP	ug/kg	< 100000	< 100000	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	B15-Fe20483	CP	ug/kg	< 5	< 5	<1	30%	Pass	
4.4'-DDD	B15-Fe20483	CP	ug/kg	< 1	< 1	<1	30%	Pass	
4.4'-DDE	B15-Fe20483	CP	ug/kg	< 1	< 1	<1	30%	Pass	
4.4'-DDT	B15-Fe20483	CP	ug/kg	< 1	< 1	<1	30%	Pass	
a-BHC	B15-Fe20483	CP	ug/kg	< 1	< 1	<1	30%	Pass	
Aldrin	B15-Fe20483	CP	ug/kg	< 1	< 1	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
b-BHC	B15-Fe20483	CP	ug/kg	< 1	< 1	<1	30%	Pass	
d-BHC	B15-Fe20483	CP	ug/kg	< 1	< 1	<1	30%	Pass	
Dieldrin	B15-Fe20483	CP	ug/kg	< 1	< 1	<1	30%	Pass	
Endosulfan I	B15-Fe20483	CP	ug/kg	< 1	< 1	<1	30%	Pass	
Endosulfan II	B15-Fe20483	CP	ug/kg	< 1	< 1	<1	30%	Pass	
Endosulfan sulphate	B15-Fe20483	CP	ug/kg	< 1	< 1	<1	30%	Pass	
Endrin	B15-Fe20483	CP	ug/kg	< 1	< 1	<1	30%	Pass	
Endrin aldehyde	B15-Fe20483	CP	ug/kg	< 1	< 1	<1	30%	Pass	
Endrin ketone	B15-Fe20483	CP	ug/kg	< 1	< 1	<1	30%	Pass	
g-BHC (Lindane)	B15-Fe20483	CP	ug/kg	< 1	< 1	<1	30%	Pass	
Heptachlor	B15-Fe20483	CP	ug/kg	< 1	< 1	<1	30%	Pass	
Heptachlor epoxide	B15-Fe20483	CP	ug/kg	< 1	< 1	<1	30%	Pass	
Hexachlorobenzene	B15-Fe20483	CP	ug/kg	< 1	< 1	<1	30%	Pass	
Methoxychlor	B15-Fe20483	CP	ug/kg	< 1	< 1	<1	30%	Pass	
Toxaphene	B15-Fe20483	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	B15-Fe20483	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Aroclor-1221	B15-Fe20483	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Aroclor-1232	B15-Fe20483	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Aroclor-1242	B15-Fe20483	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Aroclor-1248	B15-Fe20483	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Aroclor-1254	B15-Fe20483	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Aroclor-1260	B15-Fe20483	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Total PCB*	B15-Fe20483	CP	ug/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	M15-Ma01424	NCP	%	13	13	1.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Antimony	M15-Ma01361	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
Arsenic	M15-Ma01361	NCP	mg/kg	< 10	< 10	<1	30%	Pass	
Cadmium	M15-Ma01361	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Chromium	M15-Ma01361	NCP	mg/kg	< 25	< 25	<1	30%	Pass	
Copper	M15-Ma01361	NCP	mg/kg	36	35	3.0	30%	Pass	
Lead	M15-Ma01361	NCP	mg/kg	< 25	< 25	<1	30%	Pass	
Manganese	M15-Ma01361	NCP	mg/kg	230	220	4.0	30%	Pass	
Mercury	M15-Ma00982	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	M15-Ma01361	NCP	mg/kg	< 25	< 25	<1	30%	Pass	
Silver	M15-Ma01361	NCP	mg/kg	< 25	< 25	<1	30%	Pass	
Zinc	M15-Ma01361	NCP	mg/kg	44	42	4.0	30%	Pass	

Comments

Organo tins: Eurofins GfA Lab Services GmbH, DAkkS Accreditation no. D-PL-14629-01-00, report number AR-15-GF-007205-01.

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	No
Sample correctly preserved	No
Appropriate sample containers have been used	No
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
G01	The LORs have been raised due to matrix interference
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised By

Mark Rodriquez	Analytical Services Manager
Carroll Lee	Senior Analyst-Organic (VIC)
Carroll Lee	Senior Analyst-Volatile (VIC)
Emily Rosenberg	Senior Analyst-Metal (VIC)
Huong Le	Senior Analyst-Inorganic (VIC)



Glenn Jackson

National Laboratory Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Uncertainty data is available on request

Eurofins | mgt shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins | mgt be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

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Eurofins Environment Testing Australia Pty Ltd
attn. Results
2-5 Kingston Town Close
P.O. Box 276
Vic 3166 Oakleigh
AUSTRALIEN

Person in charge Dr. D. Stegemann
ASM Dr. D. Stegemann

Report date 04.03.2015

Analytical report AR-15-GF-007205-01

Sample Code 710-2015-04565001

Reference	Soil DUP 7B
	B15-Fe20483
Sample sender	Mr. Onur Mehmet
Reception date time	02.03.2015
Transport by	Bote
Client Purchase order nr.	B15_025 448938
Purchase order date	27.02.2015
Client sample code	B15-Fe20483
Packaging	glass bottle with screw closure
Number of containers	1
Reception temperature	cooled
End analysis	04.03.2015

Test results

CYP07 dry matter (°) (#)
Method EC 152/2009, , produce dry matter of original sample

dry residue	76.8	%

CY031 Organotin ~ 8 compounds ~ soil, sludge, sediment (°) (#)
Method Internal method, GLS OC 600, LRMS

Monobutyltin (MBT)	< 0.621	µg/kg dw
Monobutyltin (MBT) - Sn	< 0.419	µg/kg dw
Dibutyltin (DBT)	< 0.621	µg/kg dw
Dibutyltin (DBT) - Sn	< 0.316	µg/kg dw
Tributyltin (TBT)	< 0.621	µg/kg dw
Tributyltin (TBT) - Sn	< 0.254	µg/kg dw
Tetrabutyltin (TTBT)	< 0.621	µg/kg dw
Tetrabutyltin (TTBT) - Sn	< 0.212	µg/kg dw

The results of examination refer exclusively to the checked samples.
Duplicates - even in parts - must be authorized by the test laboratory in written form.
Eurofins GfA Lab Service GmbH · Neuländer Kamp 1 a · D-21079 Hamburg
Headquarters: Eurofins GfA Lab Service GmbH – Neuländer Kamp 1a D-21079 Hamburg
HRB 115907 AG Hamburg
General Managers: Dr. Christian Temme
VAT No.: DE 275912372
Nord/LB ● Bank code: 250 500 00 ● Account No.: 199878695 ● SWIFT-BIC: NOLADE2HXXX
IBAN: DE37 2505 0000 0199 8786 95

Our General Terms & Conditions, available upon request and online at
http://www.eurofins.de/lebensmittel/kontakt/avb.aspx, shall apply.

Durch die DAP Deutsches Akkreditierungssystem Prüfwesen GmbH akkreditiertes Prüflaboratorium
DIN EN ISO/IEC 17025
Die Akkreditierung gilt für die in der Urkunde aufgeführten Prüfverfahren

Analytical report AR-15-GF-007205-01

Sample Code 710-2015-04565001

Monooctyltin (MOT)	< 0.621	µg/kg dw
Monooctyltin (MOT) - Sn	< 0.318	µg/kg dw
Dioctyltin (DOT)	< 0.621	µg/kg dw
Dioctyltin (DOT) - Sn	< 0.213	µg/kg dw
Triphenyltin (TPhT)	< 0.621	µg/kg dw
Triphenyltin (TPhT) - Sn	< 0.210	µg/kg dw
Tricyclohexyltin (TCHT)	< 1.24	µg/kg dw
Tricyclohexyltin (TCHT) - Sn	< 0.400	µg/kg dw

(°) = The test was performed at the laboratory site: Am Neuländer Gewerbepark 4
(#) = Eurofins GfA Lab Service Gmbh (Hamburg) is accredited for this test.

< - Concentration below the indicated limit of quantification (LOQ)

This electronically generated test report has been checked and approved. It is also valid without signature.

Stephanie Schilling
(Analytical Services Manager)

The results of examination refer exclusively to the checked samples.
Duplicates - even in parts - must be authorized by the test laboratory in written form.
Eurofins GfA Lab Service GmbH · Neuländer Kamp 1 a · D-21079 Hamburg
Headquarters: Eurofins GfA Lab Service GmbH – Neuländer Kamp 1a D-21079 Hamburg
HRB 115907 AG Hamburg
General Managers: Dr. Christian Temme
VAT No.: DE 275912372
Nord/LB ● Bank code: 250 500 00 ● Account No.: 199878695 ● SWIFT-BIC: NOLADE2HXXX
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Durch die DAP Deutsches Akkreditierungssystem Prüfwesen GmbH akkreditiertes Prüflaboratorium

DIN EN ISO/IEC 17025

Die Akkreditierung gilt für die in der Urkunde aufgeführten Prüfverfahren

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☐ **Melbourne**
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Phone: +613 8564 5000 Fax: +613 8564 5090
Email: EnviroSampleVic@eurofins.com.au

CHAIN OF CUSTODY RECORD

CLIENT DETAILS

Company Name : Aurecon	Contact Name: Sally Leyland	Purchase Order :	COC Number :
Office Address : Level 14, 32 Turbot Street, Brisbane QLD 4000	Project Manager : Sally Leyland	PROJECT Number : 245852-400	Eurofins | mgt quote ID : #150127AUR
	Email for results : sally.leyland@aurecongroup.com	PROJECT Name : GPC Geochemcial investigation	Data output format:

Special Directions & Comments :

Eurofins | mgt DI water batch number:

	Sample ID	Date	Matrix	M8 (metals) + PAHs	B14 (OCP, OPP) + Herbicides	B1 (TRH/BTEX)	Asbestos	PCB	Dioxins	R21 (Soil Classification)	E. coli & total coliforms	Radioactivity (gross alpha and beta)	TRH (C6-C10)/BTEX	HOLD	Aurecon Suite 1
1	Dup 8B	26/02/2015	Soil												1

Some common holding times (with correct preservation). For further information contact the lab

Waters		Soils	
BTEX, MAH, VOC	14 days	BTEX, MAH, VOC	14 days
TRH, PAH, Phenols, Pesticides	7 days	TRH, PAH, Phenols, Pesticides	14 days
Heavy Metals	6 months	Heavy Metals	6 months
Mercury, CrVI	28 days	Mercury, CrVI	28 days
Microbiological testing	24 hours	Microbiological testing	72 hours
BOD, Nitrate, Nitrite, Total N	2 days	Anions	28 days
Solids - TSS, TDS etc	7 days	SPOCAS, pH Field and FOX, CrS	24 hours
Ferrous iron	7 days	ASLP, TCLP	7 days

Containers:

1LP	250P	125P	1LA	40mL vial	125mL A	Jar
						1

Sample comments:

Laboratory Staff

Relinquished By:

Date & Time::

Signature:

Received By: ADRIAN

Date & Time: 3/3/15 9am

Signature: A. Adrian

Turn around time

☐ 1 DAY ☐ 2 DAY ☐ 3 DAY ☐

☐ 5 DAY ☑ 10 DAY ☐ Other:

Method Of Shipment

☐ Courier
☐ Hand Delivered
☐ Postal

Courier Consignment # :

Temperature on arrival: 9.8°

Report number: 449230

Parkinal

03/03 11:00am Courier.

AT

Ice

11.2

12.8

12

12

9.8°

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com.au web : www.eurofins.com.au

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3-5 Kingston Town Close
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Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

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Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Sample Receipt Advice

Company name:	**Aurecon Australia (BRIS) Pty Ltd**
Contact name:	Sally Leyland
Project name:	GPC GEOCHEMICAL INVESTIGATION
Project ID:	245852-400
COC number:	Not provided
Turn around time:	5 Day
Date/Time received:	Mar 3, 2015 9:00 AM
Eurofins | mgt reference:	**449230**

Sample information

☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.

☑ All samples have been received as described on the above COC.

☑ COC has been completed correctly.

☑ Attempt to chill was evident.

☑ Appropriately preserved sample containers have been used.

☑ All samples were received in good condition.

☑ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.

☑ Appropriate sample containers have been used.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Notes

Organotins conducted at Eurofins Germany on 10 day TAT

Contact notes

If you have any questions with respect to these samples please contact:

Mark Rodriquez on Phone : (+61) 8 8947 1557 or by e.mail: MarkRodriquez@eurofins.com.au

Results will be delivered electronically via e.mail to Sally Leyland - Sally.Leyland@aurecongroup.com.

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com.au web : www.eurofins.com.au

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NATA # 1261 Site # 20794

Company Name: Aurecon Australia (BRIS) Pty Ltd
Address: Level 14, 32 Turbot St
Brisbane
QLD 4001

Project Name: GPC GEOCHEMICAL INVESTIGATION
Project ID: 245852-400

Order No.:
Report #: 449230
Phone: 07 3173 8000
Fax: +61 7 3173 8001

Received: Mar 3, 2015 9:00 AM
Due: Mar 10, 2015
Priority: 5 Day
Contact Name: Sally Leyland

Eurofins | mgt Client Manager: Mark Rodriquez

Sample Detail					Antimony	Manganese	Organotins (Suite of 8)	Phosphorus	Silver	Total Organic Carbon	Polycyclic Aromatic Hydrocarbons	Metals M8	Eurofins | mgt Suite 13	Nitrogens (speciated)	Eurofins | mgt Suite 1	Moisture Set
Laboratory where analysis is conducted																
Melbourne Laboratory - NATA Site # 1254 & 14271					X	X		X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217																
Brisbane Laboratory - NATA Site # 20794																
External Laboratory							X									
Sample ID	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**												
DUP 8B	Feb 26, 2015		Sediment (Trace)	B15-Ma00966	X	X	X	X	X	X	X	X	X	X	X	X

eurofins | mgt

Certificate of Analysis

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025.
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Aurecon Australia (BRIS) Pty Ltd
Level 14, 32 Turbot St
Brisbane
QLD 4001

Attention: **Sally Leyland**

Report **449230-S**
Project name GPC GEOCHEMICAL INVESTIGATION
Project ID 245852-400
Received Date Mar 03, 2015

Client Sample ID			**DUP 8B**
Sample Matrix			**Sediment (Trace)**
Eurofins | mgt Sample No.			**B15-Ma00966**
Date Sampled			**Feb 26, 2015**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons - 1999 NEPM Fractions			
TRH C6-C9	20000	ug/kg	< 20000
TRH C10-C14	50000	ug/kg	< 50000
TRH C15-C28	50000	ug/kg	< 50000
TRH C29-C36	50000	ug/kg	< 50000
TRH C10-36 (Total)	10000	ug/kg	< 50000
BTEX			
Benzene	100	ug/kg	< 100
Toluene	100	ug/kg	< 100
Ethylbenzene	100	ug/kg	< 100
m&p-Xylenes	200	ug/kg	< 200
o-Xylene	100	ug/kg	< 100
Xylenes - Total	50	ug/kg	< 50
4-Bromofluorobenzene (surr.)	1	%	78
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene[N02]	500	ug/kg	< 500
TRH C6-C10	20000	ug/kg	< 20000
TRH C6-C10 less BTEX (F1)[N04]	20000	ug/kg	< 20000
TRH >C10-C16	50000	ug/kg	< 50000
TRH >C10-C16 less Naphthalene (F2)[N01]	50000	ug/kg	< 50000
TRH >C16-C34	100000	ug/kg	< 100000
TRH >C34-C40	100000	ug/kg	< 100000
Polycyclic Aromatic Hydrocarbons			
Benzo(a)pyrene TEQ (lower bound) *	1	ug/kg	< 1
Benzo(a)pyrene TEQ (medium bound) *	1	ug/kg	1200
Benzo(a)pyrene TEQ (upper bound) *	1	ug/kg	2400
Acenaphthene	1	ug/kg	< 1
Acenaphthylene	1	ug/kg	< 1
Anthracene	1	ug/kg	< 1
Benz(a)anthracene	1	ug/kg	< 1
Benzo(a)pyrene	1	ug/kg	< 1
Benzo(b&j)fluoranthene[N07]	1	ug/kg	< 1
Benzo(g.h.i)perylene	1	ug/kg	< 1
Benzo(k)fluoranthene	1	ug/kg	< 1
Chrysene	1	ug/kg	< 1

Client Sample ID			DUP 8B
Sample Matrix			Sediment (Trace)
Eurofins | mgt Sample No.			B15-Ma00966
Date Sampled			Feb 26, 2015
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons			
Dibenz(a.h)anthracene	1	ug/kg	< 1
Fluoranthene	1	ug/kg	< 1
Fluorene	1	ug/kg	< 1
Indeno(1.2.3-cd)pyrene	1	ug/kg	< 1
Naphthalene	1	ug/kg	< 1
Phenanthrene	1	ug/kg	< 1
Pyrene	1	ug/kg	< 1
Total PAH*	1	ug/kg	< 1
2-Fluorobiphenyl (surr.)	1	%	75
p-Terphenyl-d14 (surr.)	1	%	97
Organochlorine Pesticides			
Chlordanes - Total	5	ug/kg	< 5
4.4'-DDD	1	ug/kg	< 1
4.4'-DDE	1	ug/kg	< 1
4.4'-DDT	1	ug/kg	< 1
a-BHC	1	ug/kg	< 1
Aldrin	1	ug/kg	< 1
b-BHC	1	ug/kg	< 1
d-BHC	1	ug/kg	< 1
Dieldrin	1	ug/kg	< 1
Endosulfan I	1	ug/kg	< 1
Endosulfan II	1	ug/kg	< 1
Endosulfan sulphate	1	ug/kg	< 1
Endrin	1	ug/kg	< 1
Endrin aldehyde	1	ug/kg	< 1
Endrin ketone	1	ug/kg	< 1
g-BHC (Lindane)	1	ug/kg	< 1
Heptachlor	1	ug/kg	< 1
Heptachlor epoxide	1	ug/kg	< 1
Hexachlorobenzene	1	ug/kg	< 1
Methoxychlor	1	ug/kg	< 1
Toxaphene	5	ug/kg	< 5
Dibutylchlorendate (surr.)	1	%	106
Tetrachloro-m-xylene (surr.)	1	%	109
Polychlorinated Biphenyls			
Aroclor-1016	5	ug/kg	< 5
Aroclor-1221	5	ug/kg	< 5
Aroclor-1232	5	ug/kg	< 5
Aroclor-1242	5	ug/kg	< 5
Aroclor-1248	5	ug/kg	< 5
Aroclor-1254	5	ug/kg	< 5
Aroclor-1260	5	ug/kg	< 5
Total PCB*	5	ug/kg	< 5
Dibutylchlorendate (surr.)	1	%	106
Tetrachloro-m-xylene (surr.)	1	%	109

Client Sample ID			DUP 8B
Sample Matrix			Sediment (Trace)
Eurofins | mgt Sample No.			B15-Ma00966
Date Sampled			Feb 26, 2015
Test/Reference	LOR	Unit	
Total Organic Carbon	50	mg/kg	5500
Phosphorus	5	mg/kg	890
Organotins (Suite of 8)			see attached
% Moisture	0.1	%	18
Nitrogens (speciated)			
Ammonia (as N)	0.1	mg/kg	1.6
Nitrate (as N)	0.1	mg/kg	0.4
Nitrite (as N)	0.1	mg/kg	0.2
Organic Nitrogen (as N)	0.1	mg/kg	310
Total Kjeldahl Nitrogen (as N)	0.1	mg/kg	310
Total Nitrogen (as N)	0.1	mg/kg	310
Heavy Metals			
Comments			G01
Antimony	0.5	mg/kg	< 50
Arsenic	1	mg/kg	22
Cadmium	0.1	mg/kg	< 2
Chromium	1	mg/kg	67
Copper	1	mg/kg	43
Lead	1	mg/kg	< 25
Manganese	10	mg/kg	680
Mercury	0.01	mg/kg	< 0.01
Nickel	1	mg/kg	< 25
Silver	0.1	mg/kg	< 25
Zinc	1	mg/kg	110

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Eurofins | mgt Suite 1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Mar 04, 2015	14 Day
- Method: TRH C6-C36 - LTM-ORG-2010			
BTEX	Melbourne	Mar 04, 2015	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Mar 04, 2015	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Polycyclic Aromatic Hydrocarbons	Melbourne	Mar 04, 2015	14 Day
- Method: USEPA 8270 Polycyclic Aromatic Hydrocarbons			
Total Organic Carbon	Melbourne	Mar 10, 2015	28 Day
- Method: APHA 5310B Total Organic Carbon			
Phosphorus	Melbourne	Mar 04, 2015	180 Day
- Method: USEPA 6010			
Nitrogens (speciated)			
Ammonia (as N)	Melbourne	Mar 04, 2015	7 Day
- Method: APHA 4500-NH3 Ammonia Nitrogen by FIA			
Nitrate (as N)	Melbourne	Mar 04, 2015	28 Day
- Method: APHA 4500-NO3 Nitrate Nitrogen by FIA			
Nitrite (as N)	Melbourne	Mar 04, 2015	28 Day
- Method: APHA 4500-NO2 Nitrite Nitrogen by FIA			
Organic Nitrogen (as N)	Melbourne	Mar 04, 2015	7 Day
- Method: APHA 4500 Organic Nitrogen (N)			
Total Kjeldahl Nitrogen (as N)	Melbourne	Mar 04, 2015	28 Day
- Method: APHA 4500 TKN			
Heavy Metals	Melbourne	Mar 04, 2015	180 Day
- Method: USEPA 6010/6020 Heavy Metals			
Metals M8	Melbourne	Mar 04, 2015	28 Day
- Method: USEPA 6010/6020 Heavy Metals & USEPA 7470/71 Mercury			
Eurofins | mgt Suite 13			
Organochlorine Pesticides	Melbourne	Mar 04, 2015	14 Day
- Method: USEPA 8081 Organochlorine Pesticides			
Polychlorinated Biphenyls	Melbourne	Mar 04, 2015	28 Day
- Method: USEPA 8082 Polychlorinated Biphenyls			
% Moisture	Melbourne	Mar 03, 2015	14 Day
- Method: LTM-GEN-7080 Moisture			

Eurofins | mgt Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
4. Results are uncorrected for matrix spikes or surrogate recoveries.
5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

****NOTE:** pH duplicates are reported as a range NOT as RPD

UNITS

mg/kg: milligrams per Kilogram

ug/l: micrograms per litre

ppb: Parts per billion

org/100ml: Organisms per 100 millilitres

MPN/100mL: Most Probable Number of organisms per 100 millilitres

mg/l: milligrams per litre

ppm: Parts per million

%: Percentage

NTU: Nephelometric Turbidity Units

TERMS

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery
CRM	Certified Reference Material - reported as percent recovery
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands. In the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
Batch Duplicate	A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.
Batch SPIKE	Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
ASLP	Australian Standard Leaching Procedure (AS4439.3)
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within
TEQ	Toxic Equivalency Quotient

QC - ACCEPTANCE CRITERIA

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries : Recoveries must lie between 50-150% - Phenols 20-130%.

QC DATA GENERAL COMMENTS

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxophene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	ug/kg	< 20000			20000	Pass	
TRH C10-C14	ug/kg	< 50000			50000	Pass	
TRH C15-C28	ug/kg	< 50000			50000	Pass	
TRH C29-C36	ug/kg	< 50000			50000	Pass	
Method Blank							
BTEX							
Benzene	ug/kg	< 100			100	Pass	
Toluene	ug/kg	< 100			100	Pass	
Ethylbenzene	ug/kg	< 100			100	Pass	
m&p-Xylenes	ug/kg	< 200			200	Pass	
o-Xylene	ug/kg	< 100			100	Pass	
Xylenes - Total	ug/kg	< 50			50	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	ug/kg	< 500			500	Pass	
TRH C6-C10	ug/kg	< 20000			20000	Pass	
TRH C6-C10 less BTEX (F1)	ug/kg	< 20000			20000	Pass	
TRH >C10-C16	ug/kg	< 50000			50000	Pass	
TRH >C16-C34	ug/kg	< 100000			100000	Pass	
TRH >C34-C40	ug/kg	< 100000			100000	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	ug/kg	< 1			1	Pass	
Acenaphthylene	ug/kg	< 1			1	Pass	
Anthracene	ug/kg	< 1			1	Pass	
Benz(a)anthracene	ug/kg	< 1			1	Pass	
Benzo(a)pyrene	ug/kg	< 1			1	Pass	
Benzo(b&j)fluoranthene	ug/kg	< 1			1	Pass	
Benzo(g.h.i)perylene	ug/kg	< 1			1	Pass	
Benzo(k)fluoranthene	ug/kg	< 1			1	Pass	
Chrysene	ug/kg	< 1			1	Pass	
Dibenz(a.h)anthracene	ug/kg	< 1			1	Pass	
Fluoranthene	ug/kg	< 1			1	Pass	
Fluorene	ug/kg	< 1			1	Pass	
Indeno(1.2.3-cd)pyrene	ug/kg	< 1			1	Pass	
Naphthalene	ug/kg	< 1			1	Pass	
Phenanthrene	ug/kg	< 1			1	Pass	
Pyrene	ug/kg	< 1			1	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	ug/kg	< 5			5	Pass	
4.4'-DDD	ug/kg	< 1			1	Pass	
4.4'-DDE	ug/kg	< 1			1	Pass	
4.4'-DDT	ug/kg	< 1			1	Pass	
a-BHC	ug/kg	< 1			1	Pass	
Aldrin	ug/kg	< 1			1	Pass	
b-BHC	ug/kg	< 1			1	Pass	
d-BHC	ug/kg	< 1			1	Pass	
Dieldrin	ug/kg	< 1			1	Pass	
Endosulfan I	ug/kg	< 1			1	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endosulfan II	ug/kg	< 1			1	Pass	
Endosulfan sulphate	ug/kg	< 1			1	Pass	
Endrin	ug/kg	< 1			1	Pass	
Endrin aldehyde	ug/kg	< 1			1	Pass	
Endrin ketone	ug/kg	< 1			1	Pass	
g-BHC (Lindane)	ug/kg	< 1			1	Pass	
Heptachlor	ug/kg	< 1			1	Pass	
Heptachlor epoxide	ug/kg	< 1			1	Pass	
Hexachlorobenzene	ug/kg	< 1			1	Pass	
Methoxychlor	ug/kg	< 1			1	Pass	
Toxaphene	ug/kg	< 5			5	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	ug/kg	< 5			5	Pass	
Aroclor-1221	ug/kg	< 5			5	Pass	
Aroclor-1232	ug/kg	< 5			5	Pass	
Aroclor-1242	ug/kg	< 5			5	Pass	
Aroclor-1248	ug/kg	< 5			5	Pass	
Aroclor-1254	ug/kg	< 5			5	Pass	
Aroclor-1260	ug/kg	< 5			5	Pass	
Total PCB*	ug/kg	< 5			5	Pass	
Method Blank							
Total Organic Carbon	mg/kg	< 50			50	Pass	
Method Blank							
Heavy Metals							
Antimony	mg/kg	< 0.5			0.5	Pass	
Arsenic	mg/kg	< 1			1	Pass	
Cadmium	mg/kg	< 0.1			0.1	Pass	
Chromium	mg/kg	< 1			1	Pass	
Copper	mg/kg	< 1			1	Pass	
Lead	mg/kg	< 1			1	Pass	
Manganese	mg/kg	< 10			10	Pass	
Mercury	mg/kg	< 0.01			0.01	Pass	
Nickel	mg/kg	< 1			1	Pass	
Silver	mg/kg	< 0.1			0.1	Pass	
Zinc	mg/kg	< 1			1	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	122			70-130	Pass	
TRH C10-C14	%	109			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	125			70-130	Pass	
Toluene	%	86			70-130	Pass	
Ethylbenzene	%	89			70-130	Pass	
m&p-Xylenes	%	91			70-130	Pass	
Xylenes - Total	%	91			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	100			75-125	Pass	
TRH C6-C10	%	124			70-130	Pass	
TRH >C10-C16	%	110			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
4.4'-DDD	%	109			70-130	Pass	
4.4'-DDE	%	114			70-130	Pass	
4.4'-DDT	%	99			70-130	Pass	
a-BHC	%	99			70-130	Pass	
Aldrin	%	107			70-130	Pass	
b-BHC	%	130			70-130	Pass	
d-BHC	%	103			70-130	Pass	
Dieldrin	%	115			70-130	Pass	
Endosulfan I	%	116			70-130	Pass	
Endosulfan II	%	93			70-130	Pass	
Endosulfan sulphate	%	107			70-130	Pass	
Endrin	%	110			70-130	Pass	
Endrin aldehyde	%	105			70-130	Pass	
Endrin ketone	%	105			70-130	Pass	
g-BHC (Lindane)	%	102			70-130	Pass	
Heptachlor	%	98			70-130	Pass	
Heptachlor epoxide	%	110			70-130	Pass	
Hexachlorobenzene	%	96			70-130	Pass	
Methoxychlor	%	90			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	86			70-130	Pass	
LCS - % Recovery							
Total Organic Carbon	%	111			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Antimony	%	82			80-120	Pass	
Arsenic	%	80			80-120	Pass	
Cadmium	%	99			80-120	Pass	
Chromium	%	103			80-120	Pass	
Copper	%	102			80-120	Pass	
Lead	%	104			80-120	Pass	
Manganese	%	106			80-120	Pass	
Mercury	%	106			75-125	Pass	
Nickel	%	104			80-120	Pass	
Silver	%	104			80-120	Pass	
Zinc	%	108			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	S15-Ma01322	NCP	%	102			70-130	Pass	
TRH C10-C14	M15-Ma03884	NCP	%	126			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S15-Ma01322	NCP	%	91			70-130	Pass	
Toluene	S15-Ma01322	NCP	%	85			70-130	Pass	
Ethylbenzene	S15-Ma01322	NCP	%	87			70-130	Pass	
m&p-Xylenes	S15-Ma01322	NCP	%	93			70-130	Pass	
o-Xylene	S15-Ma01322	NCP	%	91			70-130	Pass	
Xylenes - Total	S15-Ma01322	NCP	%	92			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S15-Ma01322	NCP	%	94			70-130	Pass	
TRH C6-C10	S15-Ma01322	NCP	%	109			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH >C10-C16	M15-Ma03884	NCP	%	128			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
4.4'-DDD	M15-Ma00013	NCP	%	105			70-130	Pass	
4.4'-DDE	M15-Ma00013	NCP	%	106			70-130	Pass	
4.4'-DDT	M15-Ma00013	NCP	%	102			70-130	Pass	
a-BHC	M15-Ma00013	NCP	%	96			70-130	Pass	
Aldrin	M15-Ma00013	NCP	%	102			70-130	Pass	
b-BHC	M15-Ma00013	NCP	%	125			70-130	Pass	
d-BHC	M15-Ma00013	NCP	%	100			70-130	Pass	
Dieldrin	M15-Ma00013	NCP	%	106			70-130	Pass	
Endosulfan I	M15-Ma00013	NCP	%	109			70-130	Pass	
Endosulfan II	M15-Ma00013	NCP	%	88			70-130	Pass	
Endosulfan sulphate	M15-Ma00013	NCP	%	100			70-130	Pass	
Endrin	M15-Ma00013	NCP	%	103			70-130	Pass	
Endrin aldehyde	M15-Ma00013	NCP	%	99			70-130	Pass	
Endrin ketone	M15-Ma00013	NCP	%	100			70-130	Pass	
g-BHC (Lindane)	M15-Ma00013	NCP	%	99			70-130	Pass	
Heptachlor	M15-Ma00013	NCP	%	99			70-130	Pass	
Heptachlor epoxide	M15-Ma00013	NCP	%	105			70-130	Pass	
Hexachlorobenzene	S15-Ma01322	NCP	%	116			70-130	Pass	
Methoxychlor	M15-Ma00013	NCP	%	99			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1260	B15-Ma01047	NCP	%	120			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Antimony	M15-Ma02591	NCP	%	83			70-130	Pass	
Arsenic	M15-Ma04039	NCP	%	76			75-125	Pass	
Cadmium	M15-Ma04039	NCP	%	96			75-125	Pass	
Chromium	M15-Ma04039	NCP	%	93			75-125	Pass	
Copper	M15-Ma04039	NCP	%	106			75-125	Pass	
Lead	M15-Ma04039	NCP	%	92			75-125	Pass	
Manganese	M15-Ma04039	NCP	%	91			75-125	Pass	
Mercury	M15-Ma03882	NCP	%	118			70-130	Pass	
Nickel	M15-Ma04039	NCP	%	92			75-125	Pass	
Silver	M15-Ma04039	NCP	%	93			75-125	Pass	
Zinc	M15-Ma04039	NCP	%	97			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	M15-Ma02508	NCP	ug/kg	< 20000	< 20000	<1	30%	Pass	
TRH C10-C14	M15-Ma03883	NCP	ug/kg	< 20000	< 20000	<1	30%	Pass	
TRH C15-C28	M15-Ma03883	NCP	ug/kg	< 50000	< 50000	<1	30%	Pass	
TRH C29-C36	M15-Ma03883	NCP	ug/kg	< 50000	< 50000	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M15-Ma02508	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Toluene	M15-Ma02508	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Ethylbenzene	M15-Ma02508	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
m&p-Xylenes	M15-Ma02508	NCP	ug/kg	< 200	< 200	<1	30%	Pass	
o-Xylene	M15-Ma02508	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Xylenes - Total	M15-Ma02508	NCP	ug/kg	< 300	< 300	<1	30%	Pass	

Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M15-Ma02508	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
TRH C6-C10	M15-Ma02508	NCP	ug/kg	< 20000	< 20000	<1	30%	Pass	
TRH C6-C10 less BTEX (F1)	M15-Ma02508	NCP	ug/kg	< 20000	< 20000	<1	30%	Pass	
TRH >C10-C16	M15-Ma03883	NCP	ug/kg	< 50000	< 50000	<1	30%	Pass	
TRH >C16-C34	M15-Ma03883	NCP	ug/kg	< 100000	< 100000	<1	30%	Pass	
TRH >C34-C40	M15-Ma03883	NCP	ug/kg	< 100000	< 100000	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M15-Ma00011	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
4.4'-DDD	M15-Ma00011	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
4.4'-DDE	M15-Ma00011	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
4.4'-DDT	M15-Ma00011	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
a-BHC	M15-Ma00011	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Aldrin	M15-Ma00011	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
b-BHC	M15-Ma00011	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
d-BHC	M15-Ma00011	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Dieldrin	M15-Ma00011	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endosulfan I	M15-Ma00011	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endosulfan II	M15-Ma00011	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endosulfan sulphate	M15-Ma00011	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endrin	M15-Ma00011	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endrin aldehyde	M15-Ma00011	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endrin ketone	M15-Ma00011	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
g-BHC (Lindane)	M15-Ma00011	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Heptachlor	M15-Ma00011	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Heptachlor epoxide	M15-Ma00011	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Hexachlorobenzene	S15-Ma01321	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Methoxychlor	M15-Ma00011	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Toxaphene	M15-Ma00011	NCP	ug/kg	< 1000	< 1000	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	B15-Ma01046	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1221	B15-Ma01046	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1232	B15-Ma01046	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1242	M15-Ma00011	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1248	B15-Ma01046	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1254	B15-Ma01046	NCP	ug/kg	300	300	23	30%	Pass	
Aroclor-1260	B15-Ma01046	NCP	ug/kg	200	200	16	30%	Pass	
Total PCB*	M15-Ma00011	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Total Organic Carbon	M15-Ma03712	NCP	mg/kg	1100	1400	25	30%	Pass	
Phosphorus	B15-Ma00966	CP	mg/kg	890	1000	13	30%	Pass	
% Moisture	M15-Ma02686	NCP	%	2.3	3.0	27	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Antimony	B15-Ma00966	CP	mg/kg	< 50	< 50	<1	30%	Pass	
Arsenic	B15-Ma00966	CP	mg/kg	22	20	12	30%	Pass	
Cadmium	B15-Ma00966	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Chromium	B15-Ma00966	CP	mg/kg	67	66	2.0	30%	Pass	
Copper	B15-Ma00966	CP	mg/kg	43	42	3.0	30%	Pass	
Lead	B15-Ma00966	CP	mg/kg	< 25	< 25	<1	30%	Pass	
Manganese	B15-Ma00966	CP	mg/kg	680	660	3.0	30%	Pass	
Mercury	B15-Ma00966	CP	mg/kg	< 0.01	0.02	86	30%	Fail	Q15

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Nickel	B15-Ma00966	CP	mg/kg	< 25	< 25	<1	30%	Pass	
Silver	B15-Ma00966	CP	mg/kg	< 25	< 25	<1	30%	Pass	
Zinc	B15-Ma00966	CP	mg/kg	110	100	7.0	30%	Pass	

Comments

Organo tins: Eurofins GfA Lab Services GmbH, DAkkS Accreditation no. D-PL-14629-01-00, report number AR-15-GF-008488-01.

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
G01	The LORs have been raised due to matrix interference
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins | mgt's Acceptance Criteria as stipulated in SOP 05. Refer to Glossary Page of this report for further details

Authorised By

Mark Rodriquez	Analytical Services Manager
Carroll Lee	Senior Analyst-Organic (VIC)
Carroll Lee	Senior Analyst-Volatile (VIC)
Emily Rosenberg	Senior Analyst-Metal (VIC)
Huong Le	Senior Analyst-Inorganic (VIC)



Glenn Jackson

National Laboratory Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Uncertainty data is available on request

Eurofins | mgt shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins | mgt be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

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GERMANY

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Eurofins GfA Lab Service GmbH · Neuländer Kamp 1 a · D-21079 Hamburg

Eurofins Environment Testing Australia Pty Ltd
attn. Results
2-5 Kingston Town Close
P.O. Box 276
Vic 3166 Oakleigh
AUSTRALIEN

Person in charge Dr. D. Stegemann
ASM Dr. D. Stegemann

Report date 17.03.2015

Analytical report AR-15-GF-008488-01

Sample Code 710-2015-04943001

Reference	Soil
Sample sender	Mr. Onur Mehmet
Reception date time	05.03.2015
Transport by	Bote
Client Purchase order nr.	B15-026 449230
Purchase order date	03.03.2015
Client sample code	B15-Ma00966
Packaging	glass with screw closure
Number of containers	1
Reception temperature	room temperature
End analysis	17.03.2015

Test results

CYP07 dry matter (°) (#)
Method EC 152/2009, , produce dry matter of original sample

dry residue	82.2	%

CY031 Organotin ~ 8 compounds ~ soil, sludge, sediment (°) (#)
Method Internal method, GLS OC 600, LRMS

Monobutyltin (MBT)	< 0.598	µg/kg dw
Monobutyltin (MBT) - Sn	< 0.404	µg/kg dw
Dibutyltin (DBT)	< 0.598	µg/kg dw
Dibutyltin (DBT) - Sn	< 0.305	µg/kg dw
Tributyltin (TBT)	< 0.598	µg/kg dw
Tributyltin (TBT) - Sn	< 0.245	µg/kg dw
Tetrabutyltin (TTBT)	< 0.598	µg/kg dw
Tetrabutyltin (TTBT) - Sn	< 0.204	µg/kg dw
Monooctyltin (MOT)	< 0.598	µg/kg dw
Monooctyltin (MOT) - Sn	< 0.306	µg/kg dw

The results of examination refer exclusively to the checked samples.
Duplicates - even in parts - must be authorized by the test laboratory in written form.
Eurofins GfA Lab Service GmbH · Neuländer Kamp 1 a · D-21079 Hamburg
Headquarters: Eurofins GfA Lab Service GmbH – Neuländer Kamp 1a D-21079 Hamburg
HRB 115907 AG Hamburg
General Managers: Dr. Christian Temme
VAT No.: DE 275912372
Nord/LB ● Bank code: 250 500 00 ● Account No.: 199878695 ● SWIFT-BIC: NOLADE2HXXX
IBAN: DE37 2505 0000 0199 8786 95

Our General Terms & Conditions, available upon request and online at
http://www.eurofins.de/lebensmittel/kontakt/avb.aspx, shall apply.

Durch die DAP Deutsches Akkreditierungssystem Prüfwesen GmbH akkreditiertes Prüflaboratorium
DIN EN ISO/IEC 17025
Die Akkreditierung gilt für die in der Urkunde aufgeführten Prüfverfahren

Analytical report AR-15-GF-008488-01

Sample Code 710-2015-04943001

Dioctyltin (DOT)	< 0.598	µg/kg dw
Dioctyltin (DOT) - Sn	< 0.206	µg/kg dw
Triphenyltin (TPhT)	< 0.598	µg/kg dw
Triphenyltin (TPhT) - Sn	< 0.203	µg/kg dw
Tricyclohexyltin (TCHT)	< 1.20	µg/kg dw
Tricyclohexyltin (TCHT) - Sn	< 0.386	µg/kg dw

(°) = The test was performed at the laboratory site: Am Neuländer Gewerbepark 4
(#) = Eurofins GfA Lab Service Gmbh (Hamburg) is accredited for this test.

< - Concentration below the indicated limit of quantification (LOQ)

This electronically generated test report has been checked and approved. It is also valid without signature.

Hanna Joerss
(Analytical Services Manager)

The results of examination refer exclusively to the checked samples.
Duplicates - even in parts - must be authorized by the test laboratory in written form.
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MGT

eurofins | mgt

☑ **Sydney**
Unit F3 - 6 Building F, 16 Mars Road, Lane Cove
Phone: +612 9900 8400
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☑ **Brisbane**
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☐ **Melbourne**
2 Kingston Town Close, Oakleigh, VIC 3166
Phone: +613 8564 5000 Fax: +613 8564 5090
Email: EnviroSampleVic@eurofins.com.au

CHAIN OF CUSTODY RECORD

CLIENT DETAILS

Company Name : Aurecon	Contact Name: Sally Leyland	Purchase Order :	COC Number :
Office Address : Level 14, 32 Turbot Street, Brisbane QLD 4000	Project Manager : Sally Leyland	PROJECT Number : 245852-400	Eurofins | mgt quote ID : #150127AUR
	Email for results : sally.leyland@aurecongroup.com	PROJECT Name : GPC Geochemcial investigation	Data output format:

Special Directions & Comments :

Eurofins | mgt DI water batch number:

	Sample ID	Date	Matrix	M8 (metals) + PAHs	B14 (OCP, OPP) + Herbicides	B1 (TRH/BTEX)	Asbestos	PCB	Dioxins	R21 (Soil Classification)	E. coli & total coliforms	Radioactivity (gross alpha and beta)	TRH (C6-C10)/BTEX	HOLD	Aurecon Suite 1
1	Dup 1B	3/02/2015	Soil												1

Some common holding times (with correct preservation). For further information contact the lab

Waters		Soils	
BTEX, MAH, VOC	14 days	BTEX, MAH, VOC	14 days
TRH, PAH, Phenols, Pesticides	7 days	TRH, PAH, Phenols, Pesticides	14 days
Heavy Metals	6 months	Heavy Metals	6 months
Mercury, CrVI	28 days	Mercury, CrVI	28 days
Microbiological testing	24 hours	Microbiological testing	72 hours
BOD, Nitrate, Nitrite, Total N	2 days	Anions	28 days
Solids - TSS, TDS etc	7 days	SPOCAS, pH Field and FOX, CrS	24 hours
Ferrous iron	7 days	ASLP, TCLP	7 days

Containers:

1LP	250P	125P	1LA	40mL vial	125mL A	Jar	

Sample comments:

Laboratory Staff

Relinquished By:	Received By:
Date & Time::	Date & Time:
Signature:	Signature:

Turn around time

1 DAY ☐ 2 DAY ☐ 3 DAY ☐

5 DAY ☑ 10 DAY ☐ Other:

Method Of Shipment

☐ Courier
☐ Hand Delivered
☐ Postal

Courier Consignment # :

Temperature on arrival: 14.5

Report number: 446735

06 FEB 2015 15:25

ANALYTICAL RATES

The following analysis prices are on a per sample basis, excluding GST and any associated fees that may apply.

Prices apply for the scope of laboratory testing requested and do not apply to secondary/QC samples unless agreed otherwise.

--- AURECON SUITE 1 ---

Analysis *3	*Sample Number*	*Price per Sample*	*Line Total*
Metals (Sb, As, Cd, Cr, Cu, Pb, Hg, Mn, Ni, Ag, Zn) – Marine Trace Level	7	$85.00	$595.00
Organotins (MBT, DBT, TBT) *2	7	$200.00	$1,400.00
Eurofins Suite: B1 *1 TRH/BTEXN	7	$45.00	$315.00
Poly Aromatic Hydrocarbons (PAH) – Trace Level	7	$75.00	$525.00
Eurofins Suite: B13 *1 PCB/OC Pesticides (*inc DDD, DDE, DDT, Dieldrin, Chlordane, Endrin)* – Trace Level	7	$63.00	$441.00
Total Organic Carbon (TOC)	7	$22.50	$157.50
Nitrogen's – speciated (Total N, Ammonia, Nitrite, Nitrate, NOx, TKN) – Trace Level	7	$33.80	$236.60
Phosphate – Total – Trace Level	7	$8.30	$58.10
Total Analysis Price excluding GST			$3,728.20

*1 Please reference Eurofins Suite codes on all COC's to ensure quoted price is applied.
*2 Analysis is subcontracted to Eurofins Gfa in Germany. Estimated turnaround time is 10 working days.
*3 Please refer to TEST SPECIFICATION over page for applicable reporting limits (LOR's) against the NAGD PQL.

--- AURECON SUITE 2 ---

Analysis	*Sample Number*	*Price per Sample*	*Line Total*
Particle Size Distribution (Sieve & Hydrometer) *4	7	$200.00	$1,400.00
Settleability (Settling Rate) *5	7	$110.00	$770.00
Total Analysis Price excluding GST			$2,170.00

*4 Analysis subcontracted to SESL Australia. Estimated turnaround time is 10 working days.

*5 Analysis subcontracted to SESL Australia and non NATA Accredited. Estimated turnaround time is 10 working days.

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com.au web : www.eurofins.com.au

Melbourne
3-5 Kingston Town Close
Oakleigh Vic 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
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16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Sample Receipt Advice

Company name:	**Aurecon Australia (BRIS) Pty Ltd**
Contact name:	Sally Leyland
Project name:	GPC GEOCHEMICAL INVESTIGATION 245852-400
COC number:	Not provided
Turn around time:	5 Day
Date/Time received:	Feb 6, 2015 3:25 PM
Eurofins | mgt reference:	**446735**

Sample information

☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.

☑ All samples have been received as described on the above COC.

☑ COC has been completed correctly.

☑ Attempt to chill was evident.

☑ Appropriately preserved sample containers have been used.

☑ All samples were received in good condition.

☑ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.

☑ Appropriate sample containers have been used.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Notes

Organotins conducted at Eurofins Germany on 10 day TAT

Contact notes

If you have any questions with respect to these samples please contact:

Mark Rodriquez on Phone : (+61) 8 8947 1557 or by e.mail: MarkRodriquez@eurofins.com.au

Results will be delivered electronically via e.mail to Sally Leyland - Sally.Leyland@aurecongroup.com.

eurofins | mgt

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com.au web : www.eurofins.com.au

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NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Company Name: Aurecon Australia (BRIS) Pty Ltd
Address: Level 14, 32 Turbot St
Brisbane
QLD 4001

Project Name: GPC GEOCHEMICAL INVESTIGATION 245852-400

Order No.:
Report #: 446735
Phone: 07 3173 8000
Fax: +61 7 3173 8001

Received: Feb 6, 2015 3:25 PM
Due: Feb 13, 2015
Priority: 5 Day
Contact Name: Sally Leyland

Eurofins | mgt Client Manager: Mark Rodriquez

Sample Detail					Antimony	Manganese	Organotins (Suite of 8)	Phosphorus	Silver	Total Organic Carbon	Polycyclic Aromatic Hydrocarbons	Metals M8	Eurofins | mgt Suite 13	Nitrogens (speciated)	Eurofins | mgt Suite 1	Moisture Set
Laboratory where analysis is conducted																
Melbourne Laboratory - NATA Site # 1254 & 14271					X	X		X	X	X	X	X	X		X	X
Sydney Laboratory - NATA Site # 18217														X		
Brisbane Laboratory - NATA Site # 20794																
External Laboratory							X									
Sample ID	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**												
DUP 1B	Feb 03, 2015		Soil	S15-Fe05237	X	X	X	X	X	X	X	X	X	X	X	X

eurofins | mgt

Certificate of Analysis

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025.
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Aurecon Australia (BRIS) Pty Ltd
Level 14, 32 Turbot St
Brisbane
QLD 4001

Attention: **Sally Leyland**

Report **446735-S**
Project name GPC GEOCHEMICAL INVESTIGATION 245852-400
Received Date Feb 06, 2015

Client Sample ID			**DUP 1B**
Sample Matrix			**Soil**
Eurofins | mgt Sample No.			**S15-Fe05237**
Date Sampled			**Feb 03, 2015**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons - 1999 NEPM Fractions			
TRH C6-C9	20000	ug/kg	< 20000
TRH C10-C14	20000	ug/kg	< 20000
TRH C15-C28	50000	ug/kg	87000
TRH C29-C36	50000	ug/kg	52000
TRH C10-36 (Total)	50000	ug/kg	140000
BTEX			
Benzene	100	ug/kg	< 100
Toluene	100	ug/kg	< 100
Ethylbenzene	100	ug/kg	< 100
m&p-Xylenes	200	ug/kg	< 200
o-Xylene	100	ug/kg	< 100
Xylenes - Total	300	ug/kg	< 300
4-Bromofluorobenzene (surr.)	1	%	56
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene[N02]	500	ug/kg	< 500
TRH C6-C10	20000	ug/kg	< 20000
TRH C6-C10 less BTEX (F1)[N04]	20000	ug/kg	< 20000
TRH >C10-C16	50000	ug/kg	57000
TRH >C10-C16 less Naphthalene (F2)[N01]	50000	ug/kg	57000
TRH >C16-C34	100000	ug/kg	< 100000
TRH >C34-C40	100000	ug/kg	< 100000
Polycyclic Aromatic Hydrocarbons			
Comments			G01
Benzo(a)pyrene TEQ (lower bound) *	1	ug/kg	16
Benzo(a)pyrene TEQ (medium bound) *	1	ug/kg	16
Benzo(a)pyrene TEQ (upper bound) *	1	ug/kg	16
Acenaphthene	1	ug/kg	< 2
Acenaphthylene	1	ug/kg	< 2
Anthracene	1	ug/kg	< 2
Benz(a)anthracene	1	ug/kg	8
Benzo(a)pyrene	1	ug/kg	5
Benzo(b&j)fluoranthene[N07]	1	ug/kg	6
Benzo(g.h.i)perylene	1	ug/kg	6
Benzo(k)fluoranthene	1	ug/kg	4
Chrysene	1	ug/kg	6
Dibenz(a.h)anthracene	1	ug/kg	8

Client Sample ID			DUP 1B
Sample Matrix			Soil
Eurofins | mgt Sample No.			S15-Fe05237
Date Sampled			Feb 03, 2015
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons			
Fluoranthene	1	ug/kg	8
Fluorene	1	ug/kg	< 2
Indeno(1.2.3-cd)pyrene	1	ug/kg	7
Naphthalene	1	ug/kg	< 2
Phenanthrene	1	ug/kg	8
Pyrene	1	ug/kg	8
Total PAH*	1	ug/kg	74
2-Fluorobiphenyl (surr.)	1	%	56
p-Terphenyl-d14 (surr.)	1	%	61
Organochlorine Pesticides			
Chlordanes - Total	5	ug/kg	< 5
4.4'-DDD	1	ug/kg	< 1
4.4'-DDE	1	ug/kg	< 1
4.4'-DDT	1	ug/kg	< 1
a-BHC	1	ug/kg	< 1
Aldrin	1	ug/kg	< 1
b-BHC	1	ug/kg	< 1
d-BHC	1	ug/kg	< 1
Dieldrin	1	ug/kg	< 1
Endosulfan I	1	ug/kg	< 1
Endosulfan II	1	ug/kg	< 1
Endosulfan sulphate	1	ug/kg	< 1
Endrin	1	ug/kg	< 1
Endrin aldehyde	1	ug/kg	< 1
Endrin ketone	1	ug/kg	< 1
g-BHC (Lindane)	1	ug/kg	< 1
Heptachlor	1	ug/kg	< 1
Heptachlor epoxide	1	ug/kg	< 1
Hexachlorobenzene	1	ug/kg	< 1
Methoxychlor	1	ug/kg	< 1
Toxaphene	1	ug/kg	< 1
Dibutylchlorendate (surr.)	1	%	60
Tetrachloro-m-xylene (surr.)	1	%	54
Polychlorinated Biphenyls			
Comments			G01
Aroclor-1016	5	ug/kg	< 6
Aroclor-1221	5	ug/kg	< 6
Aroclor-1232	5	ug/kg	< 6
Aroclor-1242	5	ug/kg	< 6
Aroclor-1248	5	ug/kg	< 6
Aroclor-1254	5	ug/kg	< 6
Aroclor-1260	5	ug/kg	< 6
Total PCB*	5	ug/kg	< 6
Dibutylchlorendate (surr.)	1	%	60
Tetrachloro-m-xylene (surr.)	1	%	54
Total Organic Carbon	50	mg/kg	18000
Phosphorus	5	mg/kg	430
Organotins (Suite of 8)			see attached
% Moisture	0.1	%	53

Client Sample ID			DUP 1B
Sample Matrix			**Soil**
Eurofins | mgt Sample No.			**S15-Fe05237**
Date Sampled			**Feb 03, 2015**
Test/Reference	LOR	Unit	
Nitrogens (speciated)			
Ammonia (as N)	0.1	mg/kg	16
Nitrate (as N)	0.1	mg/kg	0.8
Nitrite (as N)	0.1	mg/kg	0.4
Organic Nitrogen (as N)	10	mg/kg	1700
Total Kjeldahl Nitrogen (as N)	0.1	mg/kg	820
Total Nitrogen (as N)	0.1	mg/kg	820
Heavy Metals			
Antimony	0.5	mg/kg	< 0.5
Arsenic	1	mg/kg	14
Cadmium	0.1	mg/kg	< 0.1
Chromium	1	mg/kg	24
Copper	1	mg/kg	20
Lead	1	mg/kg	6.0
Manganese	10	mg/kg	310
Mercury	0.01	mg/kg	< 0.01
Nickel	1	mg/kg	8.7
Silver	0.1	mg/kg	0.1
Zinc	1	mg/kg	42

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Eurofins | mgt Suite 1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Feb 10, 2015	14 Day
- Method: TRH C6-C36 - LTM-ORG-2010			
BTEX	Melbourne	Feb 10, 2015	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Feb 10, 2015	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Polycyclic Aromatic Hydrocarbons	Melbourne	Feb 10, 2015	14 Day
- Method: USEPA 8270 Polycyclic Aromatic Hydrocarbons			
Total Organic Carbon	Melbourne	Feb 16, 2015	28 Day
- Method: APHA 5310B Total Organic Carbon			
Phosphorus	Melbourne	Feb 12, 2015	180 Day
- Method: USEPA 6010			
Nitrogens (speciated)			
Ammonia (as N)	Sydney	Feb 16, 2015	28 Day
- Method: E036/E050 Ammonia as N			
Nitrate (as N)	Sydney	Feb 16, 2015	28 Day
- Method: E037 /E051 Nitrate as N			
Nitrite (as N)	Sydney	Feb 16, 2015	28 Day
- Method: E037 /E051 Nitrite as N			
Organic Nitrogen (as N)	Sydney	Feb 16, 2015	7 Day
Total Kjeldahl Nitrogen (as N)	Sydney	Feb 16, 2015	28 Day
- Method: E039/E053 Unfiltered Total Kjeldahl Nitrogen as N			
Heavy Metals	Melbourne	Feb 10, 2015	180 Day
- Method: USEPA 6010/6020 Heavy Metals			
Metals M8	Melbourne	Feb 10, 2015	28 Day
- Method: USEPA 6010/6020 Heavy Metals & USEPA 7470/71 Mercury			
Eurofins | mgt Suite 13			
Organochlorine Pesticides	Melbourne	Feb 10, 2015	14 Day
- Method: USEPA 8081 Organochlorine Pesticides			
Polychlorinated Biphenyls	Melbourne	Feb 10, 2015	28 Day
- Method: USEPA 8082 Polychlorinated Biphenyls			
% Moisture	Melbourne	Feb 09, 2015	14 Day
- Method: LTM-GEN-7080 Moisture			

Eurofins | mgt Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
4. Results are uncorrected for matrix spikes or surrogate recoveries.
5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

****NOTE:** pH duplicates are reported as a range NOT as RPD

UNITS

mg/kg: milligrams per Kilogram

ug/l: micrograms per litre

ppb: Parts per billion

org/100ml: Organisms per 100 millilitres

MPN/100mL: Most Probable Number of organisms per 100 millilitres

mg/l: milligrams per litre

ppm: Parts per million

%: Percentage

NTU: Nephelometric Turbidity Units

TERMS

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery
CRM	Certified Reference Material - reported as percent recovery
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands. In the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
Batch Duplicate	A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.
Batch SPIKE	Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
ASLP	Australian Standard Leaching Procedure (AS4439.3)
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within
TEQ	Toxic Equivalency Quotient

QC - ACCEPTANCE CRITERIA

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries : Recoveries must lie between 50-150% - Phenols 20-130%.

QC DATA GENERAL COMMENTS

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxophene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	ug/kg	< 20000			20000	Pass	
TRH C10-C14	ug/kg	< 20000			20000	Pass	
TRH C15-C28	ug/kg	< 50000			50000	Pass	
TRH C29-C36	ug/kg	< 50000			50000	Pass	
Method Blank							
BTEX							
Benzene	ug/kg	< 100			100	Pass	
Toluene	ug/kg	< 100			100	Pass	
Ethylbenzene	ug/kg	< 100			100	Pass	
m&p-Xylenes	ug/kg	< 200			200	Pass	
o-Xylene	ug/kg	< 100			100	Pass	
Xylenes - Total	ug/kg	< 300			300	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	ug/kg	< 500			500	Pass	
TRH C6-C10	ug/kg	< 20000			20000	Pass	
TRH C6-C10 less BTEX (F1)	ug/kg	< 20000			20000	Pass	
TRH >C10-C16	ug/kg	< 50000			50000	Pass	
TRH >C16-C34	ug/kg	< 100000			100000	Pass	
TRH >C34-C40	ug/kg	< 100000			100000	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	ug/kg	< 5			5	Pass	
4.4'-DDD	ug/kg	< 1			1	Pass	
4.4'-DDE	ug/kg	< 1			1	Pass	
4.4'-DDT	ug/kg	< 1			1	Pass	
a-BHC	ug/kg	< 1			1	Pass	
Aldrin	ug/kg	< 1			1	Pass	
b-BHC	ug/kg	< 1			1	Pass	
d-BHC	ug/kg	< 1			1	Pass	
Dieldrin	ug/kg	< 1			1	Pass	
Endosulfan I	ug/kg	< 1			1	Pass	
Endosulfan II	ug/kg	< 1			1	Pass	
Endosulfan sulphate	ug/kg	< 1			1	Pass	
Endrin	ug/kg	< 1			1	Pass	
Endrin aldehyde	ug/kg	< 1			1	Pass	
Endrin ketone	ug/kg	< 1			1	Pass	
g-BHC (Lindane)	ug/kg	< 1			1	Pass	
Heptachlor	ug/kg	< 1			1	Pass	
Heptachlor epoxide	ug/kg	< 1			1	Pass	
Hexachlorobenzene	ug/kg	< 1			1	Pass	
Methoxychlor	ug/kg	< 1			1	Pass	
Toxaphene	ug/kg	< 1			1	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	ug/kg	< 5			5	Pass	
Aroclor-1221	ug/kg	< 5			5	Pass	
Aroclor-1232	ug/kg	< 5			5	Pass	
Aroclor-1242	ug/kg	< 5			5	Pass	
Aroclor-1248	ug/kg	< 5			5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Aroclor-1254	ug/kg	< 5			5	Pass	
Aroclor-1260	ug/kg	< 5			5	Pass	
Method Blank							
Total Organic Carbon	mg/kg	< 50			50	Pass	
Method Blank							
Heavy Metals							
Antimony	mg/kg	< 0.5			0.5	Pass	
Arsenic	mg/kg	< 1			1	Pass	
Cadmium	mg/kg	< 0.1			0.1	Pass	
Chromium	mg/kg	< 1			1	Pass	
Copper	mg/kg	< 1			1	Pass	
Lead	mg/kg	< 1			1	Pass	
Manganese	mg/kg	< 10			10	Pass	
Mercury	mg/kg	< 0.01			0.01	Pass	
Nickel	mg/kg	< 1			1	Pass	
Silver	mg/kg	< 0.1			0.1	Pass	
Zinc	mg/kg	< 1			1	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	84			70-130	Pass	
TRH C10-C14	%	96			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	89			70-130	Pass	
Toluene	%	77			70-130	Pass	
Ethylbenzene	%	79			70-130	Pass	
m&p-Xylenes	%	78			70-130	Pass	
Xylenes - Total	%	78			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	84			75-125	Pass	
TRH C6-C10	%	84			70-130	Pass	
TRH >C10-C16	%	96			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
4.4'-DDD	%	97			70-130	Pass	
4.4'-DDE	%	94			70-130	Pass	
4.4'-DDT	%	79			70-130	Pass	
a-BHC	%	96			70-130	Pass	
Aldrin	%	98			70-130	Pass	
b-BHC	%	115			70-130	Pass	
d-BHC	%	94			70-130	Pass	
Dieldrin	%	96			70-130	Pass	
Endosulfan I	%	96			70-130	Pass	
Endosulfan II	%	79			70-130	Pass	
Endosulfan sulphate	%	93			70-130	Pass	
Endrin	%	97			70-130	Pass	
Endrin aldehyde	%	90			70-130	Pass	
Endrin ketone	%	95			70-130	Pass	
g-BHC (Lindane)	%	99			70-130	Pass	
Heptachlor	%	99			70-130	Pass	
Heptachlor epoxide	%	98			70-130	Pass	
Hexachlorobenzene	%	94			70-130	Pass	
Methoxychlor	%	116			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	122			70-130	Pass	
LCS - % Recovery							
Total Organic Carbon	%	127			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Antimony	%	87			80-120	Pass	
Arsenic	%	81			80-120	Pass	
Cadmium	%	96			80-120	Pass	
Chromium	%	102			80-120	Pass	
Copper	%	102			80-120	Pass	
Lead	%	103			80-120	Pass	
Manganese	%	96			80-120	Pass	
Mercury	%	104			75-125	Pass	
Nickel	%	102			80-120	Pass	
Silver	%	101			80-120	Pass	
Zinc	%	95			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	M15-Fe04643	NCP	%	83			70-130	Pass	
TRH C10-C14	M15-Fe08308	NCP	%	89			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M15-Fe04643	NCP	%	81			70-130	Pass	
Toluene	M15-Fe04643	NCP	%	76			70-130	Pass	
Ethylbenzene	M15-Fe04643	NCP	%	82			70-130	Pass	
m&p-Xylenes	M15-Fe04643	NCP	%	79			70-130	Pass	
o-Xylene	M15-Fe04643	NCP	%	81			70-130	Pass	
Xylenes - Total	M15-Fe04643	NCP	%	79			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M15-Fe04643	NCP	%	90			70-130	Pass	
TRH C6-C10	M15-Fe04643	NCP	%	84			70-130	Pass	
TRH >C10-C16	M15-Fe08308	NCP	%	88			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
4.4'-DDD	M15-Fe06183	NCP	%	129			70-130	Pass	
4.4'-DDE	M15-Fe06183	NCP	%	107			70-130	Pass	
4.4'-DDT	M15-Fe06183	NCP	%	71			70-130	Pass	
a-BHC	M15-Fe06183	NCP	%	105			70-130	Pass	
Aldrin	M15-Fe06183	NCP	%	103			70-130	Pass	
b-BHC	M15-Fe06183	NCP	%	96			70-130	Pass	
d-BHC	M15-Fe06183	NCP	%	98			70-130	Pass	
Dieldrin	M15-Fe06183	NCP	%	104			70-130	Pass	
Endosulfan I	M15-Fe06183	NCP	%	101			70-130	Pass	
Endosulfan II	M15-Fe06183	NCP	%	78			70-130	Pass	
Endosulfan sulphate	M15-Fe06183	NCP	%	99			70-130	Pass	
Endrin	M15-Fe06183	NCP	%	112			70-130	Pass	
Endrin aldehyde	M15-Fe06183	NCP	%	99			70-130	Pass	
Endrin ketone	M15-Fe06183	NCP	%	91			70-130	Pass	
g-BHC (Lindane)	M15-Fe06183	NCP	%	107			70-130	Pass	
Heptachlor	M15-Fe06183	NCP	%	101			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Heptachlor epoxide	M15-Fe06183	NCP	%	104			70-130	Pass	
Hexachlorobenzene	M15-Fe06183	NCP	%	99			70-130	Pass	
Methoxychlor	M15-Fe06183	NCP	%	79			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1260	M15-Fe06183	NCP	%	83			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Antimony	S15-Fe05221	NCP	%	95			70-130	Pass	
Arsenic	S15-Fe05221	NCP	%	88			75-125	Pass	
Cadmium	M15-Fe06069	NCP	%	83			75-125	Pass	
Chromium	M15-Fe06069	NCP	%	82			75-125	Pass	
Copper	M15-Fe06069	NCP	%	99			75-125	Pass	
Lead	M15-Fe06069	NCP	%	77			75-125	Pass	
Manganese	S15-Fe05221	NCP	%	105			75-125	Pass	
Mercury	M15-Fe06183	NCP	%	104			70-130	Pass	
Nickel	M15-Fe06069	NCP	%	85			75-125	Pass	
Silver	M15-Fe06069	NCP	%	93			75-125	Pass	
Zinc	S15-Fe05012	NCP	%	80			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S15-Fe05237	CP	ug/kg	< 20000	< 20000	<1	30%	Pass	
TRH C10-C14	M15-Fe08307	NCP	ug/kg	< 20000	< 20000	<1	30%	Pass	
TRH C15-C28	M15-Fe08307	NCP	ug/kg	< 50000	< 50000	<1	30%	Pass	
TRH C29-C36	M15-Fe08307	NCP	ug/kg	< 50000	< 50000	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S15-Fe05237	CP	ug/kg	< 100	< 100	<1	30%	Pass	
Toluene	S15-Fe05237	CP	ug/kg	< 100	< 100	<1	30%	Pass	
Ethylbenzene	S15-Fe05237	CP	ug/kg	< 100	< 100	<1	30%	Pass	
m&p-Xylenes	S15-Fe05237	CP	ug/kg	< 200	< 200	<1	30%	Pass	
o-Xylene	S15-Fe05237	CP	ug/kg	< 100	< 100	<1	30%	Pass	
Xylenes - Total	S15-Fe05237	CP	ug/kg	< 300	< 300	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S15-Fe05237	CP	ug/kg	< 500	< 500	<1	30%	Pass	
TRH C6-C10	S15-Fe05237	CP	ug/kg	< 20000	< 20000	<1	30%	Pass	
TRH C6-C10 less BTEX (F1)	S15-Fe05237	CP	ug/kg	< 20000	< 20000	<1	30%	Pass	
TRH >C10-C16	M15-Fe08307	NCP	ug/kg	< 50000	< 50000	<1	30%	Pass	
TRH >C16-C34	M15-Fe08307	NCP	ug/kg	< 100000	< 100000	<1	30%	Pass	
TRH >C34-C40	M15-Fe08307	NCP	ug/kg	< 100000	< 100000	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M15-Fe06181	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
4.4'-DDD	M15-Fe06181	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
4.4'-DDE	M15-Fe06181	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
4.4'-DDT	M15-Fe06181	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
a-BHC	M15-Fe06181	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Aldrin	M15-Fe06181	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
b-BHC	M15-Fe06181	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
d-BHC	M15-Fe06181	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Dieldrin	M15-Fe06181	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endosulfan I	M15-Fe06181	NCP	ug/kg	< 50	< 50	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Endosulfan II	M15-Fe06181	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endosulfan sulphate	M15-Fe06181	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endrin	M15-Fe06181	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endrin aldehyde	M15-Fe06181	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endrin ketone	M15-Fe06181	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
g-BHC (Lindane)	M15-Fe06181	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Heptachlor	M15-Fe06181	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Heptachlor epoxide	M15-Fe06181	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Hexachlorobenzene	M15-Fe06181	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Methoxychlor	M15-Fe06181	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Toxaphene	M15-Fe06181	NCP	ug/kg	< 1000	< 1000	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	M15-Fe06181	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1221	M15-Fe06181	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1232	M15-Fe06181	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1242	M15-Fe06181	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1248	M15-Fe06181	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1254	M15-Fe06181	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1260	M15-Fe06181	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Total PCB*	M15-Fe06181	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Total Organic Carbon	M15-Fe05578	NCP	mg/kg	6000	5600	8.0	30%	Pass	
% Moisture	B15-Fe05321	NCP	%	8.1	7.7	5.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Antimony	M15-Fe06096	NCP	mg/kg	< 10	< 10	<1	30%	Pass	
Arsenic	M15-Fe06096	NCP	mg/kg	7.1	6.7	6.0	30%	Pass	
Cadmium	M15-Fe06096	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M15-Fe06096	NCP	mg/kg	30	30	<1	30%	Pass	
Copper	M15-Fe06096	NCP	mg/kg	13	8.6	38	30%	Fail	Q15
Lead	M15-Fe06096	NCP	mg/kg	20	22	13	30%	Pass	
Manganese	M15-Fe06096	NCP	mg/kg	140	110	21	30%	Pass	
Mercury	S15-Fe05221	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	M15-Fe06096	NCP	mg/kg	18	16	14	30%	Pass	
Silver	M15-Fe06096	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Zinc	M15-Fe06096	NCP	mg/kg	30	22	29	30%	Pass	

Comments

Organo tins: Eurofins GfA Lab Services GmbH, DAkkS Accreditation no. D-PL-14629-01-00, report number AR-15-GF-007203-01

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
G01	The LORs have been raised due to matrix interference
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins | mgt's Acceptance Criteria as stipulated in SOP 05. Refer to Glossary Page of this report for further details

Authorised By

Mark Rodriquez	Analytical Services Manager
Bob Symons	Senior Analyst-Inorganic (NSW)
Carroll Lee	Senior Analyst-Organic (VIC)
Carroll Lee	Senior Analyst-Volatile (VIC)
Emily Rosenberg	Senior Analyst-Metal (VIC)
Huong Le	Senior Analyst-Inorganic (VIC)



Glenn Jackson

National Laboratory Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Uncertainty data is available on request

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Eurofins GfA Lab Service GmbH · Neuländer Kamp 1 a · D-21079 Hamburg

Eurofins Environment Testing Australia Pty Ltd
attn. Results
2-5 Kingston Town Close
P.O. Box 276
Vic 3166 Oakleigh
AUSTRALIEN

Person in charge Dr. D. Stegemann
ASM Dr. D. Stegemann

Report date 04.03.2015

Analytical report AR-15-GF-007203-01

Sample Code 710-2015-04091001

Reference	Dup 1B
Sample sender	Mr. Onur Mehmet
Reception date time	24.02.2015
Transport by	DHL
Client Purchase order nr.	15-009-446596 (EU-GER).DOC
Purchase order date	20.02.2015
Client sample code	Fe05237
Packaging	plastic bag
Number of containers	1
Reception temperature	room temperature
End analysis	04.03.2015

Test results

CYP07 dry matter (°) (#)
Method EC 152/2009, , produce dry matter of original sample

dry residue	48.1	%

CY031 Organotin ~ 8 compounds ~ soil, sludge, sediment (°) (#)
Method Internal method, GLS OC 600, LRMS

Monobutyltin (MBT)	< 1.04	µg/kg dw
Monobutyltin (MBT) - Sn	< 0.700	µg/kg dw
Dibutyltin (DBT)	< 1.04	µg/kg dw
Dibutyltin (DBT) - Sn	< 0.528	µg/kg dw
Tributyltin (TBT)	< 1.04	µg/kg dw
Tributyltin (TBT) - Sn	< 0.424	µg/kg dw
Tetrabutyltin (TTBT)	< 1.04	µg/kg dw
Tetrabutyltin (TTBT) - Sn	< 0.354	µg/kg dw
Monooctyltin (MOT)	< 1.04	µg/kg dw
Monooctyltin (MOT) - Sn	< 0.531	µg/kg dw

The results of examination refer exclusively to the checked samples.
Duplicates - even in parts - must be authorized by the test laboratory in written form.
Eurofins GfA Lab Service GmbH · Neuländer Kamp 1 a · D-21079 Hamburg
Headquarters: Eurofins GfA Lab Service GmbH – Neuländer Kamp 1a D-21079 Hamburg
HRB 115907 AG Hamburg
General Managers: Dr. Christian Temme
VAT No.: DE 275912372
Nord/LB ● Bank code: 250 500 00 ● Account No.: 199878695 ● SWIFT-BIC: NOLADE2HXXX
IBAN: DE37 2505 0000 0199 8786 95

Our General Terms & Conditions, available upon request and online at
http://www.eurofins.de/lebensmittel/kontakt/avb.aspx, shall apply.

Durch die DAP Deutsches Akkreditierungssystem Prüfwesen GmbH akkreditiertes Prüflaboratorium
DIN EN ISO/IEC 17025
Die Akkreditierung gilt für die in der Urkunde aufgeführten Prüfverfahren

Analytical report AR-15-GF-007203-01

Sample Code 710-2015-04091001

Dioctyltin (DOT)	< 1.04	µg/kg dw
Dioctyltin (DOT) - Sn	< 0.356	µg/kg dw
Triphenyltin (TPhT)	< 1.04	µg/kg dw
Triphenyltin (TPhT) - Sn	< 0.352	µg/kg dw
Tricyclohexyltin (TCHT)	< 2.07	µg/kg dw
Tricyclohexyltin (TCHT) - Sn	< 0.668	µg/kg dw

(°) = The test was performed at the laboratory site: Am Neuländer Gewerbepark 4
(#) = Eurofins GfA Lab Service Gmbh (Hamburg) is accredited for this test.

< - Concentration below the indicated limit of quantification (LOQ)

This electronically generated test report has been checked and approved. It is also valid without signature.

Stephanie Schilling
(Analytical Services Manager)

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☑ **Brisbane**
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☐ **Melbourne**
2 Kingston Town Close, Oakleigh, VIC 3166
Phone: +613 8564 5000 Fax: +613 8564 5090
Email: EnviroSampleVic@eurofins.com.au

CHAIN OF CUSTODY RECORD

CLIENT DETAILS

Company Name : Aurecon	Contact Name: Sally Leyland	Purchase Order :	COC Number :
Office Address : Level 14, 32 Turbot Street, Brisbane QLD 4000	Project Manager : Sally Leyland	PROJECT Number : 245852-400	Eurofins | mgt quote ID : #150127AUR
	Email for results : sally.leyland@aurecongroup.com	PROJECT Name : GPC Geochemcial investigation	Data output format:

Special Directions & Comments :

Eurofins | mgt DI water batch number:

Analytes

	Sample ID	Date	Matrix	M8 (metals) + PAHs	B14 (OCP, OPP) + Herbicides	B1 (TRH/BTEX)	Asbestos	PCB	Dioxins	R21 (Soil Classification)	E. coli & total coliforms	Radioactivity (gross alpha and beta)	TRH (C6-C10)/BTEX	HOLD	Aurecon Suite 1
1	Duplicate 2B	4/02/2015	Soil												1

Some common holding times (with correct preservation). For further information contact the lab

Waters		Soils	
BTEX, MAH, VOC	14 days	BTEX, MAH, VOC	14 days
TRH, PAH, Phenols, Pesticides	7 days	TRH, PAH, Phenols, Pesticides	14 days
Heavy Metals	6 months	Heavy Metals	6 months
Mercury, CrVI	28 days	Mercury, CrVI	28 days
Microbiological testing	24 hours	Microbiological testing	72 hours
BOD, Nitrate, Nitrite, Total N	2 days	Anions	28 days
Solids - TSS, TDS etc	7 days	SPOCAS, pH Field and FOX, CrS	24 hours
Ferrous iron	7 days	ASLP, TCLP	7 days

Containers:

1LP	250P	125P	1LA	40mL vial	125mL A	Jar	

Sample comments:

Laboratory Staff

Relinquished By:

Date & Time::

Signature:

Received By: Anna Rutkowska

Date & Time: 06/02/15 8:30

Signature:

Turn around time

1 DAY ☐ 2 DAY ☐ 3 DAY ☐

5 DAY ☑ 10 DAY ☐ Other:

Method Of Shipment

☐ Courier
☐ Hand Delivered
☐ Postal

Courier Consignment # :

Temperature on arrival: 9°C

Report number: 446597

QS3009_R1 Issue Date: 05/02/15 Page 1 of 1

Received
06/02 11:30 am

ANALYTICAL RATES

The following analysis prices are on a per sample basis, excluding GST and any associated fees that may apply.

Prices apply for the scope of laboratory testing requested and do not apply to secondary/QC samples unless agreed otherwise.

--- AURECON SUITE 1 ---

Analysis[*3]	*Sample Number*	*Price per Sample*	*Line Total*
Metals (Sb, As, Cd, Cr, Cu, Pb, Hg, Mn, Ni, Ag, Zn) – Marine Trace Level	7	$85.00	$595.00
Organotins (MBT, DBT, TBT)[*2]	7	$200.00	$1,400.00
Eurofins Suite: B1[*1] TRH/BTEXN	7	$45.00	$315.00
Poly Aromatic Hydrocarbons (PAH) – Trace Level	7	$75.00	$525.00
Eurofins Suite: B13[*1] PCB/OC Pesticides (*inc DDD, DDE, DDT, Dieldrin, Chlordane, Endrin)* – Trace Level	7	$63.00	$441.00
Total Organic Carbon (TOC)	7	$22.50	$157.50
Nitrogen's – speciated (Total N, Ammonia, Nitrite, Nitrate, NOx, TKN) – Trace Level	7	$33.80	$236.60
Phosphate – Total – Trace Level	7	$8.30	$58.10
Total Analysis Price excluding GST			$3,728.20

*1 Please reference Eurofins Suite codes on all COC's to ensure quoted price is applied.

*2 Analysis is subcontracted to Eurofins Gfa in Germany. Estimated turnaround time is 10 working days.

*3 Please refer to TEST SPECIFICATION over page for applicable reporting limits (LOR's) against the NAGD PQL.

Paternal
06/02 11:30am
#446597

--- AURECON SUITE 2 ---

Analysis	*Sample Number*	*Price per Sample*	*Line Total*
Particle Size Distribution (Sieve & Hydrometer)[*4]	7	$200.00	$1,400.00
Settleability (Settling Rate)[*5]	7	$110.00	$770.00
Total Analysis Price excluding GST			$2,170.00

*4 Analysis subcontracted to SESL Australia. Estimated turnaround time is 10 working days.

*5 Analysis subcontracted to SESL Australia and non NATA Accredited. Estimated turnaround time is 10 working days.

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com.au web : www.eurofins.com.au

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Site # 1254 & 14271

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Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Sample Receipt Advice

Company name:	**Aurecon Australia (BRIS) Pty Ltd**
Contact name:	Sally Leyland
Project name:	GPC GEOCHEMICAL INVESTIGATION
Project ID:	245852-400
COC number:	Not provided
Turn around time:	5 Day
Date/Time received:	Feb 6, 2015 8:30 AM
Eurofins | mgt reference:	**446597**

Sample information

☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.

☑ All samples have been received as described on the above COC.

☑ COC has been completed correctly.

☑ Attempt to chill was evident.

☑ Appropriately preserved sample containers have been used.

☑ All samples were received in good condition.

☑ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.

☑ Appropriate sample containers have been used.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Contact notes

If you have any questions with respect to these samples please contact:

Mark Rodriquez on Phone : (+61) 8 8947 1557 or by e.mail: MarkRodriquez@eurofins.com.au

Results will be delivered electronically via e.mail to Sally Leyland - Sally.Leyland@aurecongroup.com.

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com.au web : www.eurofins.com.au

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Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Company Name: Aurecon Australia (BRIS) Pty Ltd
Address: Level 14, 32 Turbot St
Brisbane
QLD 4001

Project Name: GPC GEOCHEMICAL INVESTIGATION
Project ID: 245852-400

Order No.:
Report #: 446597
Phone: 07 3173 8000
Fax: +61 7 3173 8001

Received: Feb 6, 2015 8:30 AM
Due: Feb 13, 2015
Priority: 5 Day
Contact Name: Sally Leyland

Eurofins | mgt Client Manager: Mark Rodriquez

Sample Detail					Antimony	Arsenic	Cadmium	Chromium	Copper	Lead	Manganese	Mercury	Nickel	Organotins (Suite of 8)	Phosphorus	Silver	Total Organic Carbon	Zinc	Polycyclic Aromatic Hydrocarbons	Eurofins | mgt Suite 13	Nitrogens (speciated)	Eurofins | mgt Suite 1	Moisture Set
Laboratory where analysis is conducted																							
Melbourne Laboratory - NATA Site # 1254 & 14271					X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217																							
Brisbane Laboratory - NATA Site # 20794																							
External Laboratory														X									
Sample ID	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**																			
DUPLICATE 2B	Feb 04, 2015		Soil	B15-Fe04183	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

eurofins | mgt

Certificate of Analysis

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025.
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Aurecon Australia (BRIS) Pty Ltd
Level 14, 32 Turbot St
Brisbane
QLD 4001

Attention: **Sally Leyland**

Report **446597-S**
Project name GPC GEOCHEMICAL INVESTIGATION
Project ID 245852-400
Received Date Feb 06, 2015

Client Sample ID			**DUPLICATE 2B**
Sample Matrix			**Soil**
Eurofins | mgt Sample No.			**B15-Fe04183**
Date Sampled			**Feb 04, 2015**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons - 1999 NEPM Fractions			
TRH C6-C9	20000	ug/kg	< 20000
TRH C10-C14	20000	ug/kg	< 20000
TRH C15-C28	50000	ug/kg	< 50000
TRH C29-C36	50000	ug/kg	< 50000
TRH C10-36 (Total)	50000	ug/kg	< 50000
BTEX			
Benzene	100	ug/kg	< 100
Toluene	100	ug/kg	< 100
Ethylbenzene	100	ug/kg	< 100
m&p-Xylenes	200	ug/kg	< 200
o-Xylene	100	ug/kg	< 100
Xylenes - Total	300	ug/kg	< 300
4-Bromofluorobenzene (surr.)	1	%	61
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene[N02]	500	ug/kg	< 500
TRH C6-C10	20000	ug/kg	< 20000
TRH C6-C10 less BTEX (F1)[N04]	20000	ug/kg	< 20000
TRH >C10-C16	50000	ug/kg	< 50000
TRH >C10-C16 less Naphthalene (F2)[N01]	50000	ug/kg	< 50000
TRH >C16-C34	100000	ug/kg	< 100000
TRH >C34-C40	100000	ug/kg	< 100000
Polycyclic Aromatic Hydrocarbons			
Benzo(a)pyrene TEQ (lower bound) *	1	ug/kg	< 1
Benzo(a)pyrene TEQ (medium bound) *	1	ug/kg	1
Benzo(a)pyrene TEQ (upper bound) *	1	ug/kg	2
Acenaphthene	1	ug/kg	< 1
Acenaphthylene	1	ug/kg	< 1
Anthracene	1	ug/kg	< 1
Benz(a)anthracene	1	ug/kg	< 1
Benzo(a)pyrene	1	ug/kg	< 1
Benzo(b&j)fluoranthene[N07]	1	ug/kg	< 1
Benzo(g.h.i)perylene	1	ug/kg	< 1
Benzo(k)fluoranthene	1	ug/kg	< 1
Chrysene	1	ug/kg	< 1
Dibenz(a.h)anthracene	1	ug/kg	< 1

Client Sample ID			DUPLICATE 2B
Sample Matrix			**Soil**
Eurofins | mgt Sample No.			**B15-Fe04183**
Date Sampled			**Feb 04, 2015**
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons			
Fluoranthene	1	ug/kg	< 1
Fluorene	1	ug/kg	< 1
Indeno(1.2.3-cd)pyrene	1	ug/kg	< 1
Naphthalene	1	ug/kg	< 1
Phenanthrene	1	ug/kg	< 1
Pyrene	1	ug/kg	< 1
Total PAH*	1	ug/kg	< 1
2-Fluorobiphenyl (surr.)	1	%	51
p-Terphenyl-d14 (surr.)	1	%	60
Organochlorine Pesticides			
Chlordanes - Total	5	ug/kg	< 5
4.4'-DDD	1	ug/kg	< 1
4.4'-DDE	1	ug/kg	< 1
4.4'-DDT	1	ug/kg	< 1
a-BHC	1	ug/kg	< 1
Aldrin	1	ug/kg	< 1
b-BHC	1	ug/kg	< 1
d-BHC	1	ug/kg	< 1
Dieldrin	1	ug/kg	< 1
Endosulfan I	1	ug/kg	< 1
Endosulfan II	1	ug/kg	< 1
Endosulfan sulphate	1	ug/kg	< 1
Endrin	1	ug/kg	< 1
Endrin aldehyde	1	ug/kg	< 1
Endrin ketone	1	ug/kg	< 1
g-BHC (Lindane)	1	ug/kg	< 1
Heptachlor	1	ug/kg	< 1
Heptachlor epoxide	1	ug/kg	< 1
Hexachlorobenzene	1	ug/kg	< 1
Methoxychlor	1	ug/kg	< 1
Toxaphene	1	ug/kg	< 5
Dibutylchlorendate (surr.)	1	%	80
Tetrachloro-m-xylene (surr.)	1	%	79
Polychlorinated Biphenyls			
Aroclor-1016	5	ug/kg	< 5
Aroclor-1221	5	ug/kg	< 5
Aroclor-1232	5	ug/kg	< 5
Aroclor-1242	5	ug/kg	< 5
Aroclor-1248	5	ug/kg	< 5
Aroclor-1254	5	ug/kg	< 5
Aroclor-1260	5	ug/kg	< 5
Total PCB*	5	ug/kg	< 5
Dibutylchlorendate (surr.)	1	%	80
Tetrachloro-m-xylene (surr.)	1	%	79
Total Organic Carbon	50	mg/kg	8000
Phosphorus	5	mg/kg	210
Organotins (Suite of 8)			see attached
% Moisture	0.1	%	24

Client Sample ID			DUPLICATE 2B
Sample Matrix			**Soil**
Eurofins | mgt Sample No.			**B15-Fe04183**
Date Sampled			**Feb 04, 2015**
Test/Reference	LOR	Unit	
Nitrogens (speciated)			
Ammonia (as N)	0.1	mg/kg	6.4
Nitrate (as N)	0.1	mg/kg	0.3
Nitrite (as N)	0.1	mg/kg	< 0.1
Organic Nitrogen (as N)	5	mg/kg	82
Total Kjeldahl Nitrogen (as N)	0.1	mg/kg	88
Total Nitrogen (as N)	0.1	mg/kg	88
Heavy Metals			
Antimony	10	mg/kg	< 10
Arsenic	2	mg/kg	12
Cadmium	0.4	mg/kg	< 0.4
Chromium	5	mg/kg	8.1
Copper	5	mg/kg	< 5
Lead	5	mg/kg	14
Manganese	5	mg/kg	570
Mercury	0.1	mg/kg	< 0.1
Nickel	5	mg/kg	< 5
Silver	5	mg/kg	< 5
Zinc	5	mg/kg	12

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Eurofins | mgt Suite 1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Feb 09, 2015	14 Day
- Method: TRH C6-C36 - LTM-ORG-2010			
BTEX	Melbourne	Feb 09, 2015	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Feb 09, 2015	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Polycyclic Aromatic Hydrocarbons	Melbourne	Feb 09, 2015	14 Day
- Method: USEPA 8270 Polycyclic Aromatic Hydrocarbons			
Total Organic Carbon	Melbourne	Feb 10, 2015	28 Day
- Method: APHA 5310B Total Organic Carbon			
Phosphorus	Melbourne	Feb 16, 2015	180 Day
- Method: USEPA 6010			
Nitrogens (speciated)			
Ammonia (as N)	Melbourne	Feb 09, 2015	7 Day
- Method: APHA 4500-NH3 Ammonia Nitrogen by FIA			
Nitrate (as N)	Melbourne	Feb 09, 2015	28 Day
- Method: APHA 4500-NO3 Nitrate Nitrogen by FIA			
Nitrite (as N)	Melbourne	Feb 09, 2015	28 Day
- Method: APHA 4500-NO2 Nitrite Nitrogen by FIA			
Organic Nitrogen (as N)	Melbourne	Feb 09, 2015	7 Day
- Method: APHA 4500 Organic Nitrogen (N)			
Total Kjeldahl Nitrogen (as N)	Melbourne	Feb 09, 2015	28 Day
- Method: APHA 4500 TKN			
Heavy Metals	Melbourne	Feb 09, 2015	180 Day
- Method: USEPA 6010/6020 Heavy Metals			
Eurofins | mgt Suite 13			
Organochlorine Pesticides	Melbourne	Feb 09, 2015	14 Day
- Method: USEPA 8081 Organochlorine Pesticides			
Polychlorinated Biphenyls	Melbourne	Feb 09, 2015	28 Day
- Method: USEPA 8082 Polychlorinated Biphenyls			
% Moisture	Melbourne	Feb 06, 2015	14 Day
- Method: LTM-GEN-7080 Moisture			

Eurofins | mgt Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
4. Results are uncorrected for matrix spikes or surrogate recoveries.
5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

****NOTE:** pH duplicates are reported as a range NOT as RPD

UNITS

mg/kg: milligrams per Kilogram

ug/l: micrograms per litre

ppb: Parts per billion

org/100ml: Organisms per 100 millilitres

MPN/100mL: Most Probable Number of organisms per 100 millilitres

mg/l: milligrams per litre

ppm: Parts per million

%: Percentage

NTU: Nephelometric Turbidity Units

TERMS

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery
CRM	Certified Reference Material - reported as percent recovery
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands. In the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
Batch Duplicate	A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.
Batch SPIKE	Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
ASLP	Australian Standard Leaching Procedure (AS4439.3)
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within
TEQ	Toxic Equivalency Quotient

QC - ACCEPTANCE CRITERIA

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries : Recoveries must lie between 50-150% - Phenols 20-130%.

QC DATA GENERAL COMMENTS

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxophene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	ug/kg	< 20000			20000	Pass	
TRH C10-C14	ug/kg	< 20000			20000	Pass	
TRH C15-C28	ug/kg	< 50000			50000	Pass	
TRH C29-C36	ug/kg	< 50000			50000	Pass	
Method Blank							
BTEX							
Benzene	ug/kg	< 100			100	Pass	
Toluene	ug/kg	< 100			100	Pass	
Ethylbenzene	ug/kg	< 100			100	Pass	
m&p-Xylenes	ug/kg	< 200			200	Pass	
o-Xylene	ug/kg	< 100			100	Pass	
Xylenes - Total	ug/kg	< 300			300	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	ug/kg	< 500			500	Pass	
TRH C6-C10	ug/kg	< 20000			20000	Pass	
TRH C6-C10 less BTEX (F1)	ug/kg	< 20000			20000	Pass	
TRH >C10-C16	ug/kg	< 50000			50000	Pass	
TRH >C16-C34	ug/kg	< 100000			100000	Pass	
TRH >C34-C40	ug/kg	< 100000			100000	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	ug/kg	< 1			1	Pass	
Acenaphthylene	ug/kg	< 1			1	Pass	
Anthracene	ug/kg	< 1			1	Pass	
Benz(a)anthracene	ug/kg	< 1			1	Pass	
Benzo(a)pyrene	ug/kg	< 1			1	Pass	
Benzo(b&j)fluoranthene	ug/kg	< 1			1	Pass	
Benzo(g.h.i)perylene	ug/kg	< 1			1	Pass	
Benzo(k)fluoranthene	ug/kg	< 1			1	Pass	
Chrysene	ug/kg	< 1			1	Pass	
Dibenz(a.h)anthracene	ug/kg	< 1			1	Pass	
Fluoranthene	ug/kg	< 1			1	Pass	
Fluorene	ug/kg	< 1			1	Pass	
Indeno(1.2.3-cd)pyrene	ug/kg	< 1			1	Pass	
Naphthalene	ug/kg	< 1			1	Pass	
Phenanthrene	ug/kg	< 1			1	Pass	
Pyrene	ug/kg	< 1			1	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	ug/kg	< 5			5	Pass	
4.4'-DDD	ug/kg	< 1			1	Pass	
4.4'-DDE	ug/kg	< 1			1	Pass	
4.4'-DDT	ug/kg	< 1			1	Pass	
a-BHC	ug/kg	< 1			1	Pass	
Aldrin	ug/kg	< 1			1	Pass	
b-BHC	ug/kg	< 1			1	Pass	
d-BHC	ug/kg	< 1			1	Pass	
Dieldrin	ug/kg	< 1			1	Pass	
Endosulfan I	ug/kg	< 1			1	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endosulfan II	ug/kg	< 1			1	Pass	
Endosulfan sulphate	ug/kg	< 1			1	Pass	
Endrin	ug/kg	< 1			1	Pass	
Endrin aldehyde	ug/kg	< 1			1	Pass	
Endrin ketone	ug/kg	< 1			1	Pass	
g-BHC (Lindane)	ug/kg	< 1			1	Pass	
Heptachlor	ug/kg	< 1			1	Pass	
Heptachlor epoxide	ug/kg	< 1			1	Pass	
Hexachlorobenzene	ug/kg	< 1			1	Pass	
Methoxychlor	ug/kg	< 1			1	Pass	
Toxaphene	ug/kg	< 1			1	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	ug/kg	< 5			5	Pass	
Aroclor-1221	ug/kg	< 5			5	Pass	
Aroclor-1232	ug/kg	< 5			5	Pass	
Aroclor-1242	ug/kg	< 5			5	Pass	
Aroclor-1248	ug/kg	< 5			5	Pass	
Aroclor-1254	ug/kg	< 5			5	Pass	
Aroclor-1260	ug/kg	< 5			5	Pass	
Method Blank							
Nitrogens (speciated)							
Ammonia (as N)	mg/kg	< 0.1			0.1	Pass	
Nitrate (as N)	mg/kg	< 0.1			0.1	Pass	
Nitrite (as N)	mg/kg	< 0.1			0.1	Pass	
Method Blank							
Heavy Metals							
Antimony	mg/kg	< 10			10	Pass	
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Silver	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	89			70-130	Pass	
TRH C10-C14	%	117			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	113			70-130	Pass	
Toluene	%	78			70-130	Pass	
Ethylbenzene	%	83			70-130	Pass	
m&p-Xylenes	%	81			70-130	Pass	
Xylenes - Total	%	81			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	97			75-125	Pass	
TRH C6-C10	%	89			70-130	Pass	
TRH >C10-C16	%	110			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	94			70-130	Pass	
Acenaphthylene	%	93			70-130	Pass	
Anthracene	%	93			70-130	Pass	
Benz(a)anthracene	%	91			70-130	Pass	
Benzo(a)pyrene	%	97			70-130	Pass	
Benzo(b&j)fluoranthene	%	85			70-130	Pass	
Benzo(g.h.i)perylene	%	92			70-130	Pass	
Benzo(k)fluoranthene	%	85			70-130	Pass	
Chrysene	%	90			70-130	Pass	
Dibenz(a.h)anthracene	%	97			70-130	Pass	
Fluoranthene	%	91			70-130	Pass	
Fluorene	%	95			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	95			70-130	Pass	
Naphthalene	%	95			70-130	Pass	
Phenanthrene	%	94			70-130	Pass	
Pyrene	%	91			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
4.4'-DDD	%	125			70-130	Pass	
4.4'-DDE	%	120			70-130	Pass	
4.4'-DDT	%	112			70-130	Pass	
a-BHC	%	122			70-130	Pass	
Aldrin	%	122			70-130	Pass	
b-BHC	%	126			70-130	Pass	
d-BHC	%	118			70-130	Pass	
Dieldrin	%	123			70-130	Pass	
Endosulfan I	%	117			70-130	Pass	
Endosulfan II	%	121			70-130	Pass	
Endosulfan sulphate	%	117			70-130	Pass	
Endrin	%	126			70-130	Pass	
Endrin aldehyde	%	108			70-130	Pass	
Endrin ketone	%	123			70-130	Pass	
g-BHC (Lindane)	%	122			70-130	Pass	
Heptachlor	%	120			70-130	Pass	
Heptachlor epoxide	%	123			70-130	Pass	
Hexachlorobenzene	%	108			70-130	Pass	
Methoxychlor	%	115			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	72			70-130	Pass	
LCS - % Recovery							
Nitrogens (speciated)							
Ammonia (as N)	%	106			70-130	Pass	
Nitrate (as N)	%	101			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Antimony	%	91			80-120	Pass	
Arsenic	%	82			80-120	Pass	
Cadmium	%	103			80-120	Pass	
Chromium	%	107			80-120	Pass	
Copper	%	112			80-120	Pass	
Lead	%	104			80-120	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Manganese			%	96			80-120	Pass	
Mercury			%	107			75-125	Pass	
Nickel			%	106			80-120	Pass	
Silver			%	112			80-120	Pass	
Zinc			%	99			80-120	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	M15-Fe03715	NCP	%	87			70-130	Pass	
TRH C10-C14	M15-Fe04586	NCP	%	117			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M15-Fe03715	NCP	%	77			70-130	Pass	
Toluene	M15-Fe03715	NCP	%	90			70-130	Pass	
Ethylbenzene	M15-Fe03715	NCP	%	95			70-130	Pass	
m&p-Xylenes	M15-Fe03715	NCP	%	96			70-130	Pass	
o-Xylene	M15-Fe03715	NCP	%	94			70-130	Pass	
Xylenes - Total	M15-Fe03715	NCP	%	95			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M15-Fe03715	NCP	%	95			70-130	Pass	
TRH C6-C10	M15-Fe03715	NCP	%	90			70-130	Pass	
TRH >C10-C16	M15-Fe04586	NCP	%	109			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	B15-Fe04183	CP	%	105			70-130	Pass	
Acenaphthylene	B15-Fe04183	CP	%	105			70-130	Pass	
Anthracene	B15-Fe04183	CP	%	110			70-130	Pass	
Benz(a)anthracene	B15-Fe04183	CP	%	107			70-130	Pass	
Benzo(a)pyrene	B15-Fe04183	CP	%	109			70-130	Pass	
Benzo(b&j)fluoranthene	B15-Fe04183	CP	%	100			70-130	Pass	
Benzo(g.h.i)perylene	B15-Fe04183	CP	%	108			70-130	Pass	
Benzo(k)fluoranthene	B15-Fe04183	CP	%	111			70-130	Pass	
Chrysene	B15-Fe04183	CP	%	101			70-130	Pass	
Dibenz(a.h)anthracene	B15-Fe04183	CP	%	114			70-130	Pass	
Fluoranthene	B15-Fe04183	CP	%	105			70-130	Pass	
Fluorene	B15-Fe04183	CP	%	108			70-130	Pass	
Indeno(1.2.3-cd)pyrene	B15-Fe04183	CP	%	115			70-130	Pass	
Naphthalene	B15-Fe04183	CP	%	104			70-130	Pass	
Phenanthrene	B15-Fe04183	CP	%	107			70-130	Pass	
Pyrene	B15-Fe04183	CP	%	103			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
4.4'-DDD	M15-Fe14358	NCP	%	108			70-130	Pass	
4.4'-DDE	M15-Fe14358	NCP	%	109			70-130	Pass	
4.4'-DDT	M15-Fe14358	NCP	%	127			70-130	Pass	
a-BHC	M15-Fe14358	NCP	%	102			70-130	Pass	
Aldrin	M15-Fe14358	NCP	%	102			70-130	Pass	
b-BHC	M15-Fe14358	NCP	%	129			70-130	Pass	
d-BHC	M15-Fe14358	NCP	%	107			70-130	Pass	
Dieldrin	M15-Fe14358	NCP	%	102			70-130	Pass	
Endosulfan I	M15-Fe14358	NCP	%	99			70-130	Pass	
Endosulfan II	M15-Fe14358	NCP	%	104			70-130	Pass	
Endosulfan sulphate	M15-Fe14358	NCP	%	101			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endrin	M15-Fe14358	NCP	%	114			70-130	Pass	
Endrin aldehyde	M15-Fe14358	NCP	%	111			70-130	Pass	
Endrin ketone	M15-Fe14358	NCP	%	101			70-130	Pass	
g-BHC (Lindane)	M15-Fe14358	NCP	%	104			70-130	Pass	
Heptachlor	M15-Fe14358	NCP	%	114			70-130	Pass	
Heptachlor epoxide	M15-Fe14358	NCP	%	100			70-130	Pass	
Hexachlorobenzene	M15-Fe14358	NCP	%	104			70-130	Pass	
Methoxychlor	M15-Fe14358	NCP	%	122			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1260	M15-Fe11939	NCP	%	118			70-130	Pass	
Spike - % Recovery									
Nitrogens (speciated)				Result 1					
Ammonia (as N)	M15-Fe04657	NCP	%	81			70-130	Pass	
Nitrate (as N)	M15-Fe04657	NCP	%	93			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Antimony	M15-Fe04694	NCP	%	79			70-130	Pass	
Arsenic	M15-Fe05094	NCP	%	81			75-125	Pass	
Cadmium	M15-Fe04694	NCP	%	87			75-125	Pass	
Chromium	M15-Fe04694	NCP	%	82			75-125	Pass	
Copper	M15-Fe04694	NCP	%	101			75-125	Pass	
Lead	M15-Fe04694	NCP	%	82			75-125	Pass	
Manganese	S15-Fe05221	NCP	%	105			75-125	Pass	
Mercury	M15-Fe05094	NCP	%	98			70-130	Pass	
Nickel	M15-Fe05094	NCP	%	98			75-125	Pass	
Silver	M15-Fe04694	NCP	%	108			75-125	Pass	
Zinc	M15-Fe04694	NCP	%	84			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	B15-Fe04183	CP	ug/kg	< 20000	< 20000	<1	30%	Pass	
TRH C10-C14	M15-Fe04667	NCP	ug/kg	< 20000	< 20000	<1	30%	Pass	
TRH C15-C28	M15-Fe04667	NCP	ug/kg	< 50000	< 50000	<1	30%	Pass	
TRH C29-C36	M15-Fe04667	NCP	ug/kg	110000	96000	18	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	B15-Fe04183	CP	ug/kg	< 100	< 100	<1	30%	Pass	
Toluene	B15-Fe04183	CP	ug/kg	< 100	< 100	<1	30%	Pass	
Ethylbenzene	B15-Fe04183	CP	ug/kg	< 100	< 100	<1	30%	Pass	
m&p-Xylenes	B15-Fe04183	CP	ug/kg	< 200	< 200	<1	30%	Pass	
o-Xylene	B15-Fe04183	CP	ug/kg	< 100	< 100	<1	30%	Pass	
Xylenes - Total	B15-Fe04183	CP	ug/kg	< 300	< 300	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	B15-Fe04183	CP	ug/kg	< 500	< 500	<1	30%	Pass	
TRH C6-C10	M15-Fe04237	NCP	ug/kg	< 20000	< 20000	<1	30%	Pass	
TRH C6-C10 less BTEX (F1)	M15-Fe04237	NCP	ug/kg	< 20000	< 20000	<1	30%	Pass	
TRH >C10-C16	M15-Fe04667	NCP	ug/kg	< 50000	< 50000	<1	30%	Pass	
TRH >C16-C34	M15-Fe04667	NCP	ug/kg	110000	< 100000	19	30%	Pass	
TRH >C34-C40	M15-Fe04667	NCP	ug/kg	< 100000	< 100000	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M15-Fe04654	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
Acenaphthylene	M15-Fe04654	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
Anthracene	M15-Fe04654	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
Benz(a)anthracene	M15-Fe04654	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
Benzo(a)pyrene	M15-Fe04654	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
Benzo(b&j)fluoranthene	M15-Fe04654	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
Benzo(g.h.i)perylene	M15-Fe04654	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
Benzo(k)fluoranthene	M15-Fe04654	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
Chrysene	M15-Fe04654	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
Dibenz(a.h)anthracene	M15-Fe04654	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
Fluoranthene	M15-Fe04654	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
Fluorene	M15-Fe04654	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M15-Fe04654	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
Naphthalene	M15-Fe04654	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
Phenanthrene	M15-Fe04654	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
Pyrene	M15-Fe04654	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M15-Fe13963	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
4.4'-DDD	M15-Fe13963	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
4.4'-DDE	M15-Fe13963	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
4.4'-DDT	M15-Fe13963	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
a-BHC	M15-Fe13963	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Aldrin	M15-Fe13963	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
b-BHC	M15-Fe13963	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
d-BHC	M15-Fe13963	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Dieldrin	M15-Fe13963	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endosulfan I	M15-Fe13963	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endosulfan II	M15-Fe13963	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endosulfan sulphate	M15-Fe13963	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endrin	M15-Fe13963	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endrin aldehyde	M15-Fe13963	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endrin ketone	M15-Fe13963	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
g-BHC (Lindane)	M15-Fe13963	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Heptachlor	M15-Fe13963	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Heptachlor epoxide	M15-Fe13963	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Hexachlorobenzene	M15-Fe13963	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Methoxychlor	M15-Fe13963	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Toxaphene	M15-Fe13963	NCP	ug/kg	< 1000	< 1000	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	M15-Fe13963	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1221	M15-Fe13963	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1232	M15-Fe13963	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1242	M15-Fe13963	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1248	M15-Fe13963	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1254	M15-Fe13963	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1260	M15-Fe13963	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Total PCB*	M15-Fe13963	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S15-Fe04153	NCP	%	47	48	3.0	30%	Pass	

Duplicate									
Nitrogens (speciated)				Result 1	Result 2	RPD			
Ammonia (as N)	M15-Fe04646	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Nitrate (as N)	M15-Fe05874	NCP	mg/kg	13	12	7.0	30%	Pass	
Nitrite (as N)	M15-Fe05874	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Antimony	B15-Fe04183	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Arsenic	B15-Fe04183	CP	mg/kg	12	14	10	30%	Pass	
Cadmium	B15-Fe04183	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	B15-Fe04183	CP	mg/kg	8.1	8.6	6.0	30%	Pass	
Copper	B15-Fe04183	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Lead	B15-Fe04183	CP	mg/kg	14	5.7	85	30%	Fail	Q15
Manganese	B15-Fe04183	CP	mg/kg	570	570	1.0	30%	Pass	
Mercury	B15-Fe04183	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	B15-Fe04183	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Silver	B15-Fe04183	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Zinc	B15-Fe04183	CP	mg/kg	12	15	24	30%	Pass	

Comments

Organotin: Eurofins GfA, DAkkS accreditation no. D-PL-14629-01-00, report reference AR-15-GF-005714-01. Please see attached.

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins | mgt's Acceptance Criteria as stipulated in SOP 05. Refer to Glossary Page of this report for further details

Authorised By

Mark Rodriquez	Analytical Services Manager
Carroll Lee	Senior Analyst-Organic (VIC)
Carroll Lee	Senior Analyst-Volatile (VIC)
Emily Rosenberg	Senior Analyst-Metal (VIC)
Huong Le	Senior Analyst-Inorganic (VIC)



Glenn Jackson

National Laboratory Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Uncertainty data is available on request

Eurofins | mgt shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins | mgt be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

eurofins | mgt

Certificate of Analysis

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025.
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Aurecon Australia (BRIS) Pty Ltd
Level 14, 32 Turbot St
Brisbane
QLD 4001

Attention: **Sally Leyland**

Report **446597-S-V2**
Project name GPC GEOCHEMICAL INVESTIGATION
Project ID 245852-400
Received Date Feb 06, 2015

Client Sample ID			**DUPLICATE 2B**
Sample Matrix			**Soil**
Eurofins | mgt Sample No.			**B15-Fe04183**
Date Sampled			**Feb 04, 2015**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons - 1999 NEPM Fractions			
TRH C6-C9	20000	ug/kg	< 20000
TRH C10-C14	20000	ug/kg	< 20000
TRH C15-C28	50000	ug/kg	< 50000
TRH C29-C36	50000	ug/kg	< 50000
TRH C10-36 (Total)	50000	ug/kg	< 50000
BTEX			
Benzene	100	ug/kg	< 100
Toluene	100	ug/kg	< 100
Ethylbenzene	100	ug/kg	< 100
m&p-Xylenes	200	ug/kg	< 200
o-Xylene	100	ug/kg	< 100
Xylenes - Total	300	ug/kg	< 300
4-Bromofluorobenzene (surr.)	1	%	61
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene[N02]	500	ug/kg	< 500
TRH C6-C10	20000	ug/kg	< 20000
TRH C6-C10 less BTEX (F1)[N04]	20000	ug/kg	< 20000
TRH >C10-C16	50000	ug/kg	< 50000
TRH >C10-C16 less Naphthalene (F2)[N01]	50000	ug/kg	< 50000
TRH >C16-C34	100000	ug/kg	< 100000
TRH >C34-C40	100000	ug/kg	< 100000
Polycyclic Aromatic Hydrocarbons			
Benzo(a)pyrene TEQ (lower bound) *	1	ug/kg	< 1
Benzo(a)pyrene TEQ (medium bound) *	1	ug/kg	1
Benzo(a)pyrene TEQ (upper bound) *	1	ug/kg	2
Acenaphthene	1	ug/kg	< 1
Acenaphthylene	1	ug/kg	< 1
Anthracene	1	ug/kg	< 1
Benz(a)anthracene	1	ug/kg	< 1
Benzo(a)pyrene	1	ug/kg	< 1
Benzo(b&j)fluoranthene[N07]	1	ug/kg	< 1
Benzo(g.h.i)perylene	1	ug/kg	< 1
Benzo(k)fluoranthene	1	ug/kg	< 1
Chrysene	1	ug/kg	< 1
Dibenz(a.h)anthracene	1	ug/kg	< 1

Client Sample ID			DUPLICATE 2B
Sample Matrix			**Soil**
Eurofins | mgt Sample No.			**B15-Fe04183**
Date Sampled			**Feb 04, 2015**
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons			
Fluoranthene	1	ug/kg	< 1
Fluorene	1	ug/kg	< 1
Indeno(1.2.3-cd)pyrene	1	ug/kg	< 1
Naphthalene	1	ug/kg	< 1
Phenanthrene	1	ug/kg	< 1
Pyrene	1	ug/kg	< 1
Total PAH*	1	ug/kg	< 1
2-Fluorobiphenyl (surr.)	1	%	51
p-Terphenyl-d14 (surr.)	1	%	60
Organochlorine Pesticides			
Chlordanes - Total	5	ug/kg	< 5
4.4'-DDD	1	ug/kg	< 1
4.4'-DDE	1	ug/kg	< 1
4.4'-DDT	1	ug/kg	< 1
a-BHC	1	ug/kg	< 1
Aldrin	1	ug/kg	< 1
b-BHC	1	ug/kg	< 1
d-BHC	1	ug/kg	< 1
Dieldrin	1	ug/kg	< 1
Endosulfan I	1	ug/kg	< 1
Endosulfan II	1	ug/kg	< 1
Endosulfan sulphate	1	ug/kg	< 1
Endrin	1	ug/kg	< 1
Endrin aldehyde	1	ug/kg	< 1
Endrin ketone	1	ug/kg	< 1
g-BHC (Lindane)	1	ug/kg	< 1
Heptachlor	1	ug/kg	< 1
Heptachlor epoxide	1	ug/kg	< 1
Hexachlorobenzene	1	ug/kg	< 1
Methoxychlor	1	ug/kg	< 1
Toxaphene	1	ug/kg	< 5
Dibutylchlorendate (surr.)	1	%	80
Tetrachloro-m-xylene (surr.)	1	%	79
Polychlorinated Biphenyls			
Aroclor-1016	5	ug/kg	< 5
Aroclor-1221	5	ug/kg	< 5
Aroclor-1232	5	ug/kg	< 5
Aroclor-1242	5	ug/kg	< 5
Aroclor-1248	5	ug/kg	< 5
Aroclor-1254	5	ug/kg	< 5
Aroclor-1260	5	ug/kg	< 5
Total PCB*	5	ug/kg	< 5
Dibutylchlorendate (surr.)	1	%	80
Tetrachloro-m-xylene (surr.)	1	%	79
Total Organic Carbon	50	mg/kg	8000
Phosphorus	5	mg/kg	210
Organotins (Suite of 8)			see attached
% Moisture	0.1	%	24

Client Sample ID			DUPLICATE 2B
Sample Matrix			**Soil**
Eurofins | mgt Sample No.			**B15-Fe04183**
Date Sampled			**Feb 04, 2015**
Test/Reference	LOR	Unit	
Nitrogens (speciated)			
Ammonia (as N)	0.1	mg/kg	6.4
Nitrate (as N)	0.1	mg/kg	0.3
Nitrite (as N)	0.1	mg/kg	< 0.1
Organic Nitrogen (as N)	5	mg/kg	82
Total Kjeldahl Nitrogen (as N)	0.1	mg/kg	88
Total Nitrogen (as N)	0.1	mg/kg	88
Heavy Metals			
Antimony	0.5	mg/kg	0.7
Arsenic	1	mg/kg	12
Cadmium	0.1	mg/kg	< 0.1
Chromium	1	mg/kg	8.1
Copper	1	mg/kg	2.8
Lead	1	mg/kg	14
Manganese	10	mg/kg	570
Mercury	0.01	mg/kg	0.01
Nickel	1	mg/kg	2.4
Silver	0.1	mg/kg	< 0.1
Zinc	1	mg/kg	12

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Eurofins | mgt Suite 1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Feb 09, 2015	14 Day
- Method: TRH C6-C36 - LTM-ORG-2010			
BTEX	Melbourne	Feb 09, 2015	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Feb 09, 2015	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Polycyclic Aromatic Hydrocarbons	Melbourne	Feb 09, 2015	14 Day
- Method: USEPA 8270 Polycyclic Aromatic Hydrocarbons			
Total Organic Carbon	Melbourne	Feb 10, 2015	28 Day
- Method: APHA 5310B Total Organic Carbon			
Phosphorus	Melbourne	Feb 16, 2015	180 Day
- Method: USEPA 6010			
Nitrogens (speciated)			
Ammonia (as N)	Melbourne	Feb 09, 2015	7 Day
- Method: APHA 4500-NH3 Ammonia Nitrogen by FIA			
Nitrate (as N)	Melbourne	Feb 09, 2015	28 Day
- Method: APHA 4500-NO3 Nitrate Nitrogen by FIA			
Nitrite (as N)	Melbourne	Feb 09, 2015	28 Day
- Method: APHA 4500-NO2 Nitrite Nitrogen by FIA			
Organic Nitrogen (as N)	Melbourne	Feb 09, 2015	7 Day
- Method: APHA 4500 Organic Nitrogen (N)			
Total Kjeldahl Nitrogen (as N)	Melbourne	Feb 09, 2015	28 Day
- Method: APHA 4500 TKN			
Heavy Metals	Melbourne	Feb 09, 2015	180 Day
- Method: USEPA 6010/6020 Heavy Metals			
Eurofins | mgt Suite 13			
Organochlorine Pesticides	Melbourne	Feb 09, 2015	14 Day
- Method: USEPA 8081 Organochlorine Pesticides			
Polychlorinated Biphenyls	Melbourne	Feb 09, 2015	28 Day
- Method: USEPA 8082 Polychlorinated Biphenyls			
% Moisture	Melbourne	Feb 06, 2015	14 Day
- Method: LTM-GEN-7080 Moisture			

Eurofins | mgt Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
4. Results are uncorrected for matrix spikes or surrogate recoveries.
5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

****NOTE:** pH duplicates are reported as a range NOT as RPD

UNITS

mg/kg: milligrams per Kilogram

ug/l: micrograms per litre

ppb: Parts per billion

org/100ml: Organisms per 100 millilitres

MPN/100mL: Most Probable Number of organisms per 100 millilitres

mg/l: milligrams per litre

ppm: Parts per million

%: Percentage

NTU: Nephelometric Turbidity Units

TERMS

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery
CRM	Certified Reference Material - reported as percent recovery
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands. In the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
Batch Duplicate	A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.
Batch SPIKE	Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
ASLP	Australian Standard Leaching Procedure (AS4439.3)
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within
TEQ	Toxic Equivalency Quotient

QC - ACCEPTANCE CRITERIA

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries : Recoveries must lie between 50-150% - Phenols 20-130%.

QC DATA GENERAL COMMENTS

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxophene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	ug/kg	< 20000			20000	Pass	
TRH C10-C14	ug/kg	< 20000			20000	Pass	
TRH C15-C28	ug/kg	< 50000			50000	Pass	
TRH C29-C36	ug/kg	< 50000			50000	Pass	
Method Blank							
BTEX							
Benzene	ug/kg	< 100			100	Pass	
Toluene	ug/kg	< 100			100	Pass	
Ethylbenzene	ug/kg	< 100			100	Pass	
m&p-Xylenes	ug/kg	< 200			200	Pass	
o-Xylene	ug/kg	< 100			100	Pass	
Xylenes - Total	ug/kg	< 300			300	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	ug/kg	< 500			500	Pass	
TRH C6-C10	ug/kg	< 20000			20000	Pass	
TRH C6-C10 less BTEX (F1)	ug/kg	< 20000			20000	Pass	
TRH >C10-C16	ug/kg	< 50000			50000	Pass	
TRH >C16-C34	ug/kg	< 100000			100000	Pass	
TRH >C34-C40	ug/kg	< 100000			100000	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	ug/kg	< 1			1	Pass	
Acenaphthylene	ug/kg	< 1			1	Pass	
Anthracene	ug/kg	< 1			1	Pass	
Benz(a)anthracene	ug/kg	< 1			1	Pass	
Benzo(a)pyrene	ug/kg	< 1			1	Pass	
Benzo(b&j)fluoranthene	ug/kg	< 1			1	Pass	
Benzo(g.h.i)perylene	ug/kg	< 1			1	Pass	
Benzo(k)fluoranthene	ug/kg	< 1			1	Pass	
Chrysene	ug/kg	< 1			1	Pass	
Dibenz(a.h)anthracene	ug/kg	< 1			1	Pass	
Fluoranthene	ug/kg	< 1			1	Pass	
Fluorene	ug/kg	< 1			1	Pass	
Indeno(1.2.3-cd)pyrene	ug/kg	< 1			1	Pass	
Naphthalene	ug/kg	< 1			1	Pass	
Phenanthrene	ug/kg	< 1			1	Pass	
Pyrene	ug/kg	< 1			1	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	ug/kg	< 5			5	Pass	
4.4'-DDD	ug/kg	< 1			1	Pass	
4.4'-DDE	ug/kg	< 1			1	Pass	
4.4'-DDT	ug/kg	< 1			1	Pass	
a-BHC	ug/kg	< 1			1	Pass	
Aldrin	ug/kg	< 1			1	Pass	
b-BHC	ug/kg	< 1			1	Pass	
d-BHC	ug/kg	< 1			1	Pass	
Dieldrin	ug/kg	< 1			1	Pass	
Endosulfan I	ug/kg	< 1			1	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endosulfan II	ug/kg	< 1			1	Pass	
Endosulfan sulphate	ug/kg	< 1			1	Pass	
Endrin	ug/kg	< 1			1	Pass	
Endrin aldehyde	ug/kg	< 1			1	Pass	
Endrin ketone	ug/kg	< 1			1	Pass	
g-BHC (Lindane)	ug/kg	< 1			1	Pass	
Heptachlor	ug/kg	< 1			1	Pass	
Heptachlor epoxide	ug/kg	< 1			1	Pass	
Hexachlorobenzene	ug/kg	< 1			1	Pass	
Methoxychlor	ug/kg	< 1			1	Pass	
Toxaphene	ug/kg	< 1			1	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	ug/kg	< 5			5	Pass	
Aroclor-1221	ug/kg	< 5			5	Pass	
Aroclor-1232	ug/kg	< 5			5	Pass	
Aroclor-1242	ug/kg	< 5			5	Pass	
Aroclor-1248	ug/kg	< 5			5	Pass	
Aroclor-1254	ug/kg	< 5			5	Pass	
Aroclor-1260	ug/kg	< 5			5	Pass	
Method Blank							
Nitrogens (speciated)							
Ammonia (as N)	mg/kg	< 0.1			0.1	Pass	
Nitrate (as N)	mg/kg	< 0.1			0.1	Pass	
Nitrite (as N)	mg/kg	< 0.1			0.1	Pass	
Method Blank							
Heavy Metals							
Antimony	mg/kg	< 0.5			0.5	Pass	
Arsenic	mg/kg	< 1			1	Pass	
Cadmium	mg/kg	< 0.1			0.1	Pass	
Chromium	mg/kg	< 1			1	Pass	
Copper	mg/kg	< 1			1	Pass	
Lead	mg/kg	< 1			1	Pass	
Manganese	mg/kg	< 10			10	Pass	
Mercury	mg/kg	< 0.01			0.01	Pass	
Nickel	mg/kg	< 1			1	Pass	
Silver	mg/kg	< 0.1			0.1	Pass	
Zinc	mg/kg	< 1			1	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	89			70-130	Pass	
TRH C10-C14	%	117			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	113			70-130	Pass	
Toluene	%	78			70-130	Pass	
Ethylbenzene	%	83			70-130	Pass	
m&p-Xylenes	%	81			70-130	Pass	
Xylenes - Total	%	81			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	97			75-125	Pass	
TRH C6-C10	%	89			70-130	Pass	
TRH >C10-C16	%	110			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	94			70-130	Pass	
Acenaphthylene	%	93			70-130	Pass	
Anthracene	%	93			70-130	Pass	
Benz(a)anthracene	%	91			70-130	Pass	
Benzo(a)pyrene	%	97			70-130	Pass	
Benzo(b&j)fluoranthene	%	85			70-130	Pass	
Benzo(g.h.i)perylene	%	92			70-130	Pass	
Benzo(k)fluoranthene	%	85			70-130	Pass	
Chrysene	%	90			70-130	Pass	
Dibenz(a.h)anthracene	%	97			70-130	Pass	
Fluoranthene	%	91			70-130	Pass	
Fluorene	%	95			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	95			70-130	Pass	
Naphthalene	%	95			70-130	Pass	
Phenanthrene	%	94			70-130	Pass	
Pyrene	%	91			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
4.4'-DDD	%	125			70-130	Pass	
4.4'-DDE	%	120			70-130	Pass	
4.4'-DDT	%	112			70-130	Pass	
a-BHC	%	122			70-130	Pass	
Aldrin	%	122			70-130	Pass	
b-BHC	%	126			70-130	Pass	
d-BHC	%	118			70-130	Pass	
Dieldrin	%	123			70-130	Pass	
Endosulfan I	%	117			70-130	Pass	
Endosulfan II	%	121			70-130	Pass	
Endosulfan sulphate	%	117			70-130	Pass	
Endrin	%	126			70-130	Pass	
Endrin aldehyde	%	108			70-130	Pass	
Endrin ketone	%	123			70-130	Pass	
g-BHC (Lindane)	%	122			70-130	Pass	
Heptachlor	%	120			70-130	Pass	
Heptachlor epoxide	%	123			70-130	Pass	
Hexachlorobenzene	%	108			70-130	Pass	
Methoxychlor	%	115			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	72			70-130	Pass	
LCS - % Recovery							
Nitrogens (speciated)							
Ammonia (as N)	%	106			70-130	Pass	
Nitrate (as N)	%	101			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Antimony	%	91			80-120	Pass	
Arsenic	%	82			80-120	Pass	
Cadmium	%	103			80-120	Pass	
Chromium	%	107			80-120	Pass	
Copper	%	112			80-120	Pass	
Lead	%	104			80-120	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Manganese			%	96			80-120	Pass	
Mercury			%	107			75-125	Pass	
Nickel			%	106			80-120	Pass	
Silver			%	112			80-120	Pass	
Zinc			%	99			80-120	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	M15-Fe03715	NCP	%	87			70-130	Pass	
TRH C10-C14	M15-Fe04586	NCP	%	117			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M15-Fe03715	NCP	%	77			70-130	Pass	
Toluene	M15-Fe03715	NCP	%	90			70-130	Pass	
Ethylbenzene	M15-Fe03715	NCP	%	95			70-130	Pass	
m&p-Xylenes	M15-Fe03715	NCP	%	96			70-130	Pass	
o-Xylene	M15-Fe03715	NCP	%	94			70-130	Pass	
Xylenes - Total	M15-Fe03715	NCP	%	95			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M15-Fe03715	NCP	%	95			70-130	Pass	
TRH C6-C10	M15-Fe03715	NCP	%	90			70-130	Pass	
TRH >C10-C16	M15-Fe04586	NCP	%	109			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	B15-Fe04183	CP	%	105			70-130	Pass	
Acenaphthylene	B15-Fe04183	CP	%	105			70-130	Pass	
Anthracene	B15-Fe04183	CP	%	110			70-130	Pass	
Benz(a)anthracene	B15-Fe04183	CP	%	107			70-130	Pass	
Benzo(a)pyrene	B15-Fe04183	CP	%	109			70-130	Pass	
Benzo(b&j)fluoranthene	B15-Fe04183	CP	%	100			70-130	Pass	
Benzo(g.h.i)perylene	B15-Fe04183	CP	%	108			70-130	Pass	
Benzo(k)fluoranthene	B15-Fe04183	CP	%	111			70-130	Pass	
Chrysene	B15-Fe04183	CP	%	101			70-130	Pass	
Dibenz(a.h)anthracene	B15-Fe04183	CP	%	114			70-130	Pass	
Fluoranthene	B15-Fe04183	CP	%	105			70-130	Pass	
Fluorene	B15-Fe04183	CP	%	108			70-130	Pass	
Indeno(1.2.3-cd)pyrene	B15-Fe04183	CP	%	115			70-130	Pass	
Naphthalene	B15-Fe04183	CP	%	104			70-130	Pass	
Phenanthrene	B15-Fe04183	CP	%	107			70-130	Pass	
Pyrene	B15-Fe04183	CP	%	103			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
4.4'-DDD	M15-Fe14358	NCP	%	108			70-130	Pass	
4.4'-DDE	M15-Fe14358	NCP	%	109			70-130	Pass	
4.4'-DDT	M15-Fe14358	NCP	%	127			70-130	Pass	
a-BHC	M15-Fe14358	NCP	%	102			70-130	Pass	
Aldrin	M15-Fe14358	NCP	%	102			70-130	Pass	
b-BHC	M15-Fe14358	NCP	%	129			70-130	Pass	
d-BHC	M15-Fe14358	NCP	%	107			70-130	Pass	
Dieldrin	M15-Fe14358	NCP	%	102			70-130	Pass	
Endosulfan I	M15-Fe14358	NCP	%	99			70-130	Pass	
Endosulfan II	M15-Fe14358	NCP	%	104			70-130	Pass	
Endosulfan sulphate	M15-Fe14358	NCP	%	101			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endrin	M15-Fe14358	NCP	%	114			70-130	Pass	
Endrin aldehyde	M15-Fe14358	NCP	%	111			70-130	Pass	
Endrin ketone	M15-Fe14358	NCP	%	101			70-130	Pass	
g-BHC (Lindane)	M15-Fe14358	NCP	%	104			70-130	Pass	
Heptachlor	M15-Fe14358	NCP	%	114			70-130	Pass	
Heptachlor epoxide	M15-Fe14358	NCP	%	100			70-130	Pass	
Hexachlorobenzene	M15-Fe14358	NCP	%	104			70-130	Pass	
Methoxychlor	M15-Fe14358	NCP	%	122			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1260	M15-Fe11939	NCP	%	118			70-130	Pass	
Spike - % Recovery									
Nitrogens (speciated)				Result 1					
Ammonia (as N)	M15-Fe04657	NCP	%	81			70-130	Pass	
Nitrate (as N)	M15-Fe04657	NCP	%	93			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Antimony	M15-Fe04694	NCP	%	79			70-130	Pass	
Arsenic	M15-Fe05094	NCP	%	81			75-125	Pass	
Cadmium	M15-Fe04694	NCP	%	87			75-125	Pass	
Chromium	M15-Fe04694	NCP	%	82			75-125	Pass	
Copper	M15-Fe04694	NCP	%	101			75-125	Pass	
Lead	M15-Fe04694	NCP	%	82			75-125	Pass	
Manganese	S15-Fe05221	NCP	%	105			75-125	Pass	
Mercury	M15-Fe05094	NCP	%	98			70-130	Pass	
Nickel	M15-Fe05094	NCP	%	98			75-125	Pass	
Silver	M15-Fe04694	NCP	%	108			75-125	Pass	
Zinc	M15-Fe04694	NCP	%	84			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	B15-Fe04183	CP	ug/kg	< 20000	< 20000	<1	30%	Pass	
TRH C10-C14	M15-Fe04667	NCP	ug/kg	< 20000	< 20000	<1	30%	Pass	
TRH C15-C28	M15-Fe04667	NCP	ug/kg	< 50000	< 50000	<1	30%	Pass	
TRH C29-C36	M15-Fe04667	NCP	ug/kg	110000	96000	18	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	B15-Fe04183	CP	ug/kg	< 100	< 100	<1	30%	Pass	
Toluene	B15-Fe04183	CP	ug/kg	< 100	< 100	<1	30%	Pass	
Ethylbenzene	B15-Fe04183	CP	ug/kg	< 100	< 100	<1	30%	Pass	
m&p-Xylenes	B15-Fe04183	CP	ug/kg	< 200	< 200	<1	30%	Pass	
o-Xylene	B15-Fe04183	CP	ug/kg	< 100	< 100	<1	30%	Pass	
Xylenes - Total	B15-Fe04183	CP	ug/kg	< 300	< 300	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	B15-Fe04183	CP	ug/kg	< 500	< 500	<1	30%	Pass	
TRH C6-C10	M15-Fe04237	NCP	ug/kg	< 20000	< 20000	<1	30%	Pass	
TRH C6-C10 less BTEX (F1)	M15-Fe04237	NCP	ug/kg	< 20000	< 20000	<1	30%	Pass	
TRH >C10-C16	M15-Fe04667	NCP	ug/kg	< 50000	< 50000	<1	30%	Pass	
TRH >C16-C34	M15-Fe04667	NCP	ug/kg	110000	< 100000	19	30%	Pass	
TRH >C34-C40	M15-Fe04667	NCP	ug/kg	< 100000	< 100000	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M15-Fe04654	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
Acenaphthylene	M15-Fe04654	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
Anthracene	M15-Fe04654	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
Benz(a)anthracene	M15-Fe04654	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
Benzo(a)pyrene	M15-Fe04654	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
Benzo(b&j)fluoranthene	M15-Fe04654	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
Benzo(g.h.i)perylene	M15-Fe04654	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
Benzo(k)fluoranthene	M15-Fe04654	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
Chrysene	M15-Fe04654	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
Dibenz(a.h)anthracene	M15-Fe04654	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
Fluoranthene	M15-Fe04654	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
Fluorene	M15-Fe04654	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M15-Fe04654	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
Naphthalene	M15-Fe04654	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
Phenanthrene	M15-Fe04654	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
Pyrene	M15-Fe04654	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M15-Fe13963	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
4.4'-DDD	M15-Fe13963	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
4.4'-DDE	M15-Fe13963	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
4.4'-DDT	M15-Fe13963	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
a-BHC	M15-Fe13963	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Aldrin	M15-Fe13963	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
b-BHC	M15-Fe13963	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
d-BHC	M15-Fe13963	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Dieldrin	M15-Fe13963	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endosulfan I	M15-Fe13963	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endosulfan II	M15-Fe13963	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endosulfan sulphate	M15-Fe13963	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endrin	M15-Fe13963	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endrin aldehyde	M15-Fe13963	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endrin ketone	M15-Fe13963	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
g-BHC (Lindane)	M15-Fe13963	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Heptachlor	M15-Fe13963	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Heptachlor epoxide	M15-Fe13963	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Hexachlorobenzene	M15-Fe13963	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Methoxychlor	M15-Fe13963	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Toxaphene	M15-Fe13963	NCP	ug/kg	< 1000	< 1000	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	M15-Fe13963	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1221	M15-Fe13963	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1232	M15-Fe13963	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1242	M15-Fe13963	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1248	M15-Fe13963	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1254	M15-Fe13963	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1260	M15-Fe13963	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Total PCB*	M15-Fe13963	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S15-Fe04153	NCP	%	47	48	3.0	30%	Pass	

Duplicate									
Nitrogens (speciated)				Result 1	Result 2	RPD			
Ammonia (as N)	M15-Fe04646	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Nitrate (as N)	M15-Fe05874	NCP	mg/kg	13	12	7.0	30%	Pass	
Nitrite (as N)	M15-Fe05874	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Antimony	B15-Fe04183	CP	mg/kg	0.7	< 0.5	200	30%	Fail	Q15
Arsenic	B15-Fe04183	CP	mg/kg	12	14	10	30%	Pass	
Cadmium	B15-Fe04183	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Chromium	B15-Fe04183	CP	mg/kg	8.1	8.6	6.0	30%	Pass	
Copper	B15-Fe04183	CP	mg/kg	2.8	3.1	7.0	30%	Pass	
Lead	B15-Fe04183	CP	mg/kg	14	5.7	85	30%	Fail	Q15
Manganese	B15-Fe04183	CP	mg/kg	570	570	1.0	30%	Pass	
Mercury	B15-Fe04183	CP	mg/kg	0.01	0.01	<1	30%	Pass	
Nickel	B15-Fe04183	CP	mg/kg	2.4	2.6	5.0	30%	Pass	
Silver	B15-Fe04183	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Zinc	B15-Fe04183	CP	mg/kg	12	15	24	30%	Pass	

Comments

V2: Metals LOR's amended to trave level as per quote.

Organotin: Eurofins GfA, DAkkS accreditation no. D-PL-14629-01-00, report reference AR-15-GF-005714-01. Please see attached.

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins | mgt's Acceptance Criteria as stipulated in SOP 05. Refer to Glossary Page of this report for further details

Authorised By

Mark Rodriquez	Analytical Services Manager
Carroll Lee	Senior Analyst-Organic (VIC)
Carroll Lee	Senior Analyst-Volatile (VIC)
Emily Rosenberg	Senior Analyst-Metal (VIC)
Huong Le	Senior Analyst-Inorganic (VIC)



Glenn Jackson

National Laboratory Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Uncertainty data is available on request

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AUSTRALIEN

Person in charge Dr. D. Stegemann
ASM Dr. D. Stegemann

Report date 19.02.2015

Analytical report AR-15-GF-005714-01

Sample Code 710-2015-02737001

Reference	Duplicate 2B
Sample sender	Tammy Lakeland
Reception date time	09.02.2015
Transport by	DHL
Client Purchase order nr.	B15_010 446597
Purchase order date	06.02.2015
Client sample code	B15-Fe04183
Packaging	glass with screw closure
Number of containers	1
Reception temperature	room temperature
End analysis	19.02.2015

Test results

CYP07 dry matter (°) (#)
Method EC 152/2009, , produce dry matter of original sample

dry residue	74.5	%

CY031 Organotin ~ 8 compounds ~ soil, sludge, sediment (°) (#)
Method Internal method, GLS OC 600, LRMS

Monobutyltin (MBT)	< 0.664	µg/kg dw
Monobutyltin (MBT) - Sn	< 0.448	µg/kg dw
Dibutyltin (DBT)	< 0.664	µg/kg dw
Dibutyltin (DBT) - Sn	< 0.338	µg/kg dw
Tributyltin (TBT)	< 0.664	µg/kg dw
Tributyltin (TBT) - Sn	< 0.272	µg/kg dw
Tetrabutyltin (TTBT)	< 0.664	µg/kg dw
Tetrabutyltin (TTBT) - Sn	< 0.227	µg/kg dw

The results of examination refer exclusively to the checked samples.
Duplicates - even in parts - must be authorized by the test laboratory in written form.
Eurofins GfA Lab Service GmbH · Neuländer Kamp 1 a · D-21079 Hamburg
Headquarters: Eurofins GfA Lab Service GmbH – Neuländer Kamp 1a D-21079 Hamburg
HRB 115907 AG Hamburg
General Managers: Dr. Christian Temme
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DIN EN ISO/IEC 17025
Die Akkreditierung gilt für die in der Urkunde aufgeführten Prüfverfahren

Analytical report AR-15-GF-005714-01

Sample Code 710-2015-02737001

Monooctyltin (MOT)	< 0.664	µg/kg dw
Monooctyltin (MOT) - Sn	< 0.340	µg/kg dw
Dioctyltin (DOT)	< 0.664	µg/kg dw
Dioctyltin (DOT) - Sn	< 0.228	µg/kg dw
Triphenyltin (TPhT)	< 0.664	µg/kg dw
Triphenyltin (TPhT) - Sn	< 0.225	µg/kg dw
Tricyclohexyltin (TCHT)	< 1.33	µg/kg dw
Tricyclohexyltin (TCHT) - Sn	< 0.428	µg/kg dw

(°) = The test was performed at the laboratory site: Am Neuländer Gewerbepark 4
(#) = Eurofins GfA Lab Service Gmbh (Hamburg) is accredited for this test.

< - Concentration below the indicated limit of quantification (LOQ)

This electronically generated test report has been checked and approved. It is also valid without signature.

Dr. Michael Ambrosius
(Analytical Services Manager)

The results of examination refer exclusively to the checked samples.
Duplicates - even in parts - must be authorized by the test laboratory in written form.
Eurofins GfA Lab Service GmbH · Neuländer Kamp 1 a · D-21079 Hamburg
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HRB 115907 AG Hamburg
General Managers: Dr. Christian Temme
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DIN EN ISO/IEC 17025

Die Akkreditierung gilt für die in der Urkunde aufgeführten Prüfverfahren

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CHAIN OF CUSTODY RECORD

CLIENT DETAILS

Company Name : Aurecon	Contact Name: Sally Leyland	Purchase Order :	COC Number :
Office Address : Level 14, 32 Turbot Street, Brisbane QLD 4000	Project Manager : Sally Leyland	PROJECT Number : 245852-400	Eurofins | mgt quote ID : #150127AUR
	Email for results : sally.leyland@aurecongroup.com	PROJECT Name : GPC Geochemcial investigation	Data output format:

Special Directions & Comments :

Eurofins | mgt DI water batch number:

	Sample ID	Date	Matrix	M8 (metals) + PAHs	B14 (OCP, OPP) + Herbicides	B1 (TRH/BTEX)	Asbestos	PCB	Dioxins	R21 (Soil Classification)	E. coli & total coliforms	Radioactivity (gross alpha and beta)	TRH (C6-C10)/BTEX	HOLD	Aurecon Suite 1	Containers: 1LP	250P	125P	1LA	40mL vial	125mL A	Jar	Sample comments:
1	Dup 3B	10/02/2015	Soil												1							2	

Some common holding times (with correct preservation). For further information contact the lab

Waters		Soils	
BTEX, MAH, VOC	14 days	BTEX, MAH, VOC	14 days
TRH, PAH, Phenols, Pesticides	7 days	TRH, PAH, Phenols, Pesticides	14 days
Heavy Metals	6 months	Heavy Metals	6 months
Mercury, CrVI	28 days	Mercury, CrVI	28 days
Microbiological testing	24 hours	Microbiological testing	72 hours
BOD, Nitrate, Nitrite, Total N	2 days	Anions	28 days
Solids - TSS, TDS etc	7 days	SPOCAS, pH Field and FOX, CrS	24 hours
Ferrous iron	7 days	ASLP, TCLP	7 days

Laboratory Staff

Relinquished By:	Received By: ARNOLD RUTKOWSKI
Date & Time::	Date & Time: 13/02/15 830
Signature:	Signature:

Turn around time

1 DAY ☐ 2 DAY ☐ 3 DAY ☐
5 DAY ☑ 10 DAY ☐ Other:

Method Of Shipment

☐ Courier
☐ Hand Delivered
☐ Postal
Courier Consignment # :

Temperature on arrival: 10.8°C

Report number: 447343

QS3009_R1 Issue Date: 05/02/15 Page 1 of 1

Paternal
13/02 10:05 am

E ☐ CN ☐ HD ☐ AP ☐ SR ☐ # CON NOTES 1 POST CODE MASS

ANALYTICAL RATES

The following analysis prices are on a per sample basis, excluding GST and any associated fees that may apply.

Prices apply for the scope of laboratory testing requested and do not apply to secondary/QC samples unless agreed otherwise.

--- AURECON SUITE 1 ---

Analysis[*3]	*Sample Number*	*Price per Sample*	*Line Total*
Metals (Sb, As, Cd, Cr, Cu, Pb, Hg, Mn, Ni, Ag, Zn) – Marine Trace Level	7	$85.00	$595.00
Organotins (MBT, DBT, TBT)[*2]	7	$200.00	$1,400.00
Eurofins Suite: B1[*1] TRH/BTEXN	7	$45.00	$315.00
Poly Aromatic Hydrocarbons (PAH) – Trace Level	7	$75.00	$525.00
Eurofins Suite: B13[*1] PCB/OC Pesticides (*inc DDD, DDE, DDT, Dieldrin, Chlordane, Endrin)* – Trace Level	7	$63.00	$441.00
Total Organic Carbon (TOC)	7	$22.50	$157.50
Nitrogen's – speciated (Total N, Ammonia, Nitrite, Nitrate, NOx, TKN) – Trace Level	7	$33.80	$236.60
Phosphate – Total – Trace Level	7	$8.30	$58.10
Total Analysis Price excluding GST			$3,728.20

*1 Please reference Eurofins Suite codes on all COC's to ensure quoted price is applied.
*2 Analysis is subcontracted to Eurofins Gfa in Germany. Estimated turnaround time is 10 working days.
*3 Please refer to TEST SPECIFICATION over page for applicable reporting limits (LOR's) against the NAGD PQL.

--- AURECON SUITE 2 ---

Analysis	*Sample Number*	*Price per Sample*	*Line Total*
Particle Size Distribution (Sieve & Hydrometer)[*4]	7	$200.00	$1,400.00
Settleability (Settling Rate)[*5]	7	$110.00	$770.00
Total Analysis Price excluding GST			$2,170.00

*4 Analysis subcontracted to SESL Australia. Estimated turnaround time is 10 working days.

*5 Analysis subcontracted to SESL Australia and non NATA Accredited. Estimated turnaround time is 10 working days.

#447343

Analyte	*Limit of Reporting*[6] (mg/Kg)	*NAGD PQL (mg/Kg)*
Moisture Content	0.1%	0.1%
Total Organic Carbon	50 (0.005%)	0.1%
Antimony (Sb) – Trace Level	0.5	0.5
Arsenic (As) – Trace Level	1	1
Chromium (Cr) – Trace Level	1	1
Cadmium (Cd) – Trace Level	0.1	0.1
Copper (Cu) – Trace Level	1	1
Manganese (Mn) – Trace Level	5	10
Mercury (Hg) – Trace Level	0.01	0.01
Nickel (Ni) – Trace Level	1	1
Lead (Pb) – Trace Level	1	1
Zinc (Zn) – Trace Level	1	1
Silver (Ag) – Trace Level	0.1	0.1
Total Petroleum Hydrocarbons (TPH)	20-100	100
BTEX	100 µg/kg	200 µg/kg
OC Pesticides – Trace Level	1 µg/kg	1 µg/kg
Poly Aromatic Hydrocarbons (PAH) – Trace Level	1 µg/kg	5 µg/kg
Poly Chlorinated Biphenyls (PCB's) – Trace Level	5 µg/kg	5 µg/kg
Organotins (Mono, Di & Tributyl Tin)	0.5 µg/kg	1 µg/kg
Phosphate – Total – Trace Level	2	0.1
Nitrogen – Total – Trace Level	1	0.1
Nitrate as N – Trace Level	0.1	0.1
Nitrite as N – Trace Level	0.1	0.1
Ammonia as N – Trace Level	0.1	0.1

*6 Matrix interferences may affect detection limits obtained.

447343

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com.au web : www.eurofins.com.au

Melbourne
3-5 Kingston Town Close
Oakleigh Vic 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Sample Receipt Advice

Company name:	**Aurecon Australia (BRIS) Pty Ltd**
Contact name:	Sally Leyland
Project name:	GPC GEOCHEMICAL INVESTIGATION
Project ID:	245852-400
COC number:	Not provided
Turn around time:	5 Day
Date/Time received:	Feb 13, 2015 8:30 AM
Eurofins | mgt reference:	**447343**

Sample information

☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.

☑ All samples have been received as described on the above COC.

☑ COC has been completed correctly.

☑ Attempt to chill was evident.

☑ Appropriately preserved sample containers have been used.

☑ All samples were received in good condition.

☑ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.

☑ Appropriate sample containers have been used.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Notes

Organotins conducted at Eurofins Germany on 10 day TAT

Contact notes

If you have any questions with respect to these samples please contact:

Mark Rodriquez on Phone : (+61) 8 8947 1557 or by e.mail: MarkRodriquez@eurofins.com.au

Results will be delivered electronically via e.mail to Sally Leyland - Sally.Leyland@aurecongroup.com.

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com.au web : www.eurofins.com.au

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Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Company Name: Aurecon Australia (BRIS) Pty Ltd
Address: Level 14, 32 Turbot St
Brisbane
QLD 4001

Project Name: GPC GEOCHEMICAL INVESTIGATION
Project ID: 245852-400

Order No.:
Report #: 447343
Phone: 07 3173 8000
Fax: +61 7 3173 8001

Received: Feb 13, 2015 8:30 AM
Due: Feb 20, 2015
Priority: 5 Day
Contact Name: Sally Leyland

Eurofins | mgt Client Manager: Mark Rodriquez

Sample Detail					Ammonia (as N)	Antimony	Manganese	Nitrate (as N)	Nitrite (as N)	Organotins (Suite of 8)	Phosphorus	Silver	Total Organic Carbon	Polycyclic Aromatic Hydrocarbons	Metals M8	Total Nitrogen Set (as N)	Eurofins | mgt Suite 13	Eurofins | mgt Suite 1
Laboratory where analysis is conducted																		
Melbourne Laboratory - NATA Site # 1254 & 14271					X	X	X	X	X		X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217																		
Brisbane Laboratory - NATA Site # 20794																		
External Laboratory										X								
Sample ID	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**														
DUP 3B	Feb 10, 2015		Sediment (Trace)	B15-Fe09509	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Certificate of Analysis

Aurecon Australia (BRIS) Pty Ltd
Level 14, 32 Turbot St
Brisbane
QLD 4001

Attention: **Sally Leyland**

Report **447343-S**
Project name GPC GEOCHEMICAL INVESTIGATION
Project ID 245852-400
Received Date Feb 13, 2015

Client Sample ID			**DUP 3B**
Sample Matrix			**Sediment (Trace)**
Eurofins | mgt Sample No.			**B15-Fe09509**
Date Sampled			**Feb 10, 2015**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons - 1999 NEPM Fractions			
TRH C6-C9	20000	ug/kg	< 20000
TRH C10-C14	50000	ug/kg	< 50000
TRH C15-C28	50000	ug/kg	< 50000
TRH C29-C36	50000	ug/kg	< 50000
TRH C10-36 (Total)	10000	ug/kg	< 50000
BTEX			
Benzene	100	ug/kg	< 100
Toluene	100	ug/kg	< 100
Ethylbenzene	100	ug/kg	< 100
m&p-Xylenes	200	ug/kg	< 200
o-Xylene	100	ug/kg	< 100
Xylenes - Total	50	ug/kg	< 50
4-Bromofluorobenzene (surr.)	1	%	75
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene[N02]	500	ug/kg	< 500
TRH C6-C10	20000	ug/kg	< 20000
TRH C6-C10 less BTEX (F1)[N04]	20000	ug/kg	< 20000
TRH >C10-C16	50000	ug/kg	< 50000
TRH >C10-C16 less Naphthalene (F2)[N01]	50000	ug/kg	< 50000
TRH >C16-C34	100000	ug/kg	< 100000
TRH >C34-C40	100000	ug/kg	< 100000
Polycyclic Aromatic Hydrocarbons			
Benzo(a)pyrene TEQ (lower bound) *	1	ug/kg	< 1
Benzo(a)pyrene TEQ (medium bound) *	1	ug/kg	1
Benzo(a)pyrene TEQ (upper bound) *	1	ug/kg	2
Acenaphthene	1	ug/kg	< 1
Acenaphthylene	1	ug/kg	< 1
Anthracene	1	ug/kg	< 1
Benz(a)anthracene	1	ug/kg	< 1
Benzo(a)pyrene	1	ug/kg	< 1
Benzo(b&j)fluoranthene[N07]	1	ug/kg	< 1
Benzo(g.h.i)perylene	1	ug/kg	< 1
Benzo(k)fluoranthene	1	ug/kg	< 1
Chrysene	1	ug/kg	< 1

Client Sample ID			DUP 3B
Sample Matrix			Sediment (Trace)
Eurofins | mgt Sample No.			B15-Fe09509
Date Sampled			Feb 10, 2015
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons			
Dibenz(a.h)anthracene	1	ug/kg	< 1
Fluoranthene	1	ug/kg	< 1
Fluorene	1	ug/kg	< 1
Indeno(1.2.3-cd)pyrene	1	ug/kg	< 1
Naphthalene	1	ug/kg	< 1
Phenanthrene	1	ug/kg	< 1
Pyrene	1	ug/kg	< 1
Total PAH*	1	ug/kg	< 1
2-Fluorobiphenyl (surr.)	1	%	51
p-Terphenyl-d14 (surr.)	1	%	54
Organochlorine Pesticides			
Chlordanes - Total	5	ug/kg	< 5
4.4'-DDD	1	ug/kg	< 1
4.4'-DDE	1	ug/kg	< 1
4.4'-DDT	1	ug/kg	< 1
a-BHC	1	ug/kg	< 1
Aldrin	1	ug/kg	< 1
b-BHC	1	ug/kg	< 1
d-BHC	1	ug/kg	< 1
Dieldrin	1	ug/kg	< 1
Endosulfan I	1	ug/kg	< 1
Endosulfan II	1	ug/kg	< 1
Endosulfan sulphate	1	ug/kg	< 1
Endrin	1	ug/kg	< 1
Endrin aldehyde	1	ug/kg	< 1
Endrin ketone	1	ug/kg	< 1
g-BHC (Lindane)	1	ug/kg	< 1
Heptachlor	1	ug/kg	< 1
Heptachlor epoxide	1	ug/kg	< 1
Hexachlorobenzene	1	ug/kg	< 1
Methoxychlor	1	ug/kg	< 1
Toxaphene	1	ug/kg	< 5
Dibutylchlorendate (surr.)	1	%	124
Tetrachloro-m-xylene (surr.)	1	%	109
Polychlorinated Biphenyls			
Aroclor-1016	5	ug/kg	< 5
Aroclor-1221	5	ug/kg	< 5
Aroclor-1232	5	ug/kg	< 5
Aroclor-1242	5	ug/kg	< 5
Aroclor-1248	5	ug/kg	< 5
Aroclor-1254	5	ug/kg	< 5
Aroclor-1260	5	ug/kg	< 5
Total PCB*	5	ug/kg	< 5
Dibutylchlorendate (surr.)	1	%	124
Tetrachloro-m-xylene (surr.)	1	%	109

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Client Sample ID			DUP 3B
Sample Matrix			**Sediment (Trace)**
Eurofins | mgt Sample No.			**B15-Fe09509**
Date Sampled			**Feb 10, 2015**
Test/Reference	LOR	Unit	
Ammonia (as N)	0.1	mg/kg	9.3
Nitrate & Nitrite (as N)	0.1	mg/kg	0.4
Nitrate (as N)	0.1	mg/kg	0.4
Nitrite (as N)	0.1	mg/kg	< 0.1
Total Kjeldahl Nitrogen (as N)	0.1	mg/kg	36
Total Nitrogen (as N)	0.1	mg/kg	36
Total Organic Carbon	50	mg/kg	1600
Phosphorus	5	mg/kg	180
Organotins (Suite of 8)			
Heavy Metals			
Antimony	0.5	mg/kg	0.6
Arsenic	1	mg/kg	5.4
Cadmium	0.1	mg/kg	< 0.1
Chromium	1	mg/kg	6.5
Copper	1	mg/kg	4.2
Lead	1	mg/kg	1.2
Manganese	10	mg/kg	230
Mercury	0.01	mg/kg	< 0.01
Nickel	1	mg/kg	2.1
Silver	0.1	mg/kg	< 0.1
Zinc	1	mg/kg	9.6

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Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Eurofins | mgt Suite 1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Feb 16, 2015	14 Day
- Method: TRH C6-C36 - LTM-ORG-2010			
BTEX	Melbourne	Feb 16, 2015	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Feb 16, 2015	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Polycyclic Aromatic Hydrocarbons	Melbourne	Feb 16, 2015	14 Day
- Method: USEPA 8270 Polycyclic Aromatic Hydrocarbons			
Ammonia (as N)	Melbourne	Feb 16, 2015	7 Day
- Method: APHA 4500-NH3 Ammonia Nitrogen by FIA			
Nitrate (as N)	Melbourne	Feb 16, 2015	28 Day
- Method: APHA 4500-NO3 Nitrate Nitrogen by FIA			
Nitrite (as N)	Melbourne	Feb 16, 2015	28 Day
- Method: APHA 4500-NO2 Nitrite Nitrogen by FIA			
Total Organic Carbon	Melbourne	Feb 23, 2015	28 Day
- Method: APHA 5310B Total Organic Carbon			
Phosphorus	Melbourne	Feb 16, 2015	180 Day
- Method: USEPA 6010			
Heavy Metals	Melbourne	Feb 16, 2015	180 Day
- Method: USEPA 6010/6020 Heavy Metals			
Metals M8	Melbourne	Feb 16, 2015	28 Day
- Method: USEPA 6010/6020 Heavy Metals & USEPA 7470/71 Mercury			
Eurofins | mgt Suite 13			
Organochlorine Pesticides	Melbourne	Feb 16, 2015	14 Day
- Method: USEPA 8081 Organochlorine Pesticides			
Polychlorinated Biphenyls	Melbourne	Feb 16, 2015	28 Day
- Method: USEPA 8082 Polychlorinated Biphenyls			
Total Nitrogen Set (as N)			
Nitrate & Nitrite (as N)	Melbourne	Feb 16, 2015	28 Day
- Method: APHA 4500-NO3/NO2 Nitrate-Nitrite Nitrogen by FIA			
Total Kjeldahl Nitrogen (as N)	Melbourne	Feb 17, 2015	28 Day
- Method: APHA 4500 TKN			

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Eurofins | mgt Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
4. Results are uncorrected for matrix spikes or surrogate recoveries.
5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

****NOTE:** pH duplicates are reported as a range NOT as RPD

UNITS

mg/kg: milligrams per Kilogram

mg/l: milligrams per litre

ug/l: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100ml: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

TERMS

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery
CRM	Certified Reference Material - reported as percent recovery
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands. In the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
Batch Duplicate	A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.
Batch SPIKE	Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
ASLP	Australian Standard Leaching Procedure (AS4439.3)
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within
TEQ	Toxic Equivalency Quotient

QC - ACCEPTANCE CRITERIA

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries : Recoveries must lie between 50-150% - Phenols 20-130%.

QC DATA GENERAL COMMENTS

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxophene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxophene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Arochlor 1260 in Matrix Spikes and LCS's.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPD's are calculated from raw analytical data thus it is possible to have two sets of data.

DRAFT

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	ug/kg	< 20000			20000	Pass	
TRH C10-C14	ug/kg	< 50000			50000	Pass	
TRH C15-C28	ug/kg	< 50000			50000	Pass	
TRH C29-C36	ug/kg	< 50000			50000	Pass	
Method Blank							
BTEX							
Benzene	ug/kg	< 100			100	Pass	
Toluene	ug/kg	< 100			100	Pass	
Ethylbenzene	ug/kg	< 100			100	Pass	
m&p-Xylenes	ug/kg	< 200			200	Pass	
o-Xylene	ug/kg	< 100			100	Pass	
Xylenes - Total	ug/kg	< 50			50	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	ug/kg	< 500			500	Pass	
TRH C6-C10	ug/kg	< 20000			20000	Pass	
TRH C6-C10 less BTEX (F1)	ug/kg	< 20000			20000	Pass	
TRH >C10-C16	ug/kg	< 50000			50000	Pass	
TRH >C16-C34	ug/kg	< 100000			100000	Pass	
TRH >C34-C40	ug/kg	< 100000			100000	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	ug/kg	< 5			5	Pass	
4.4'-DDD	ug/kg	< 1			1	Pass	
4.4'-DDE	ug/kg	< 1			1	Pass	
4.4'-DDT	ug/kg	< 1			1	Pass	
a-BHC	ug/kg	< 1			1	Pass	
Aldrin	ug/kg	< 1			1	Pass	
b-BHC	ug/kg	< 1			1	Pass	
d-BHC	ug/kg	< 1			1	Pass	
Dieldrin	ug/kg	< 1			1	Pass	
Endosulfan I	ug/kg	< 1			1	Pass	
Endosulfan II	ug/kg	< 1			1	Pass	
Endosulfan sulphate	ug/kg	< 1			1	Pass	
Endrin	ug/kg	< 1			1	Pass	
Endrin aldehyde	ug/kg	< 1			1	Pass	
Endrin ketone	ug/kg	< 1			1	Pass	
g-BHC (Lindane)	ug/kg	< 1			1	Pass	
Heptachlor	ug/kg	< 1			1	Pass	
Heptachlor epoxide	ug/kg	< 1			1	Pass	
Hexachlorobenzene	ug/kg	< 1			1	Pass	
Methoxychlor	ug/kg	< 1			1	Pass	
Toxaphene	ug/kg	< 1			1	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	ug/kg	< 5			5	Pass	
Aroclor-1221	ug/kg	< 5			5	Pass	
Aroclor-1232	ug/kg	< 5			5	Pass	
Aroclor-1242	ug/kg	< 5			5	Pass	
Aroclor-1248	ug/kg	< 5			5	Pass	

DRAFT

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Aroclor-1254	ug/kg	< 5			5	Pass	
Aroclor-1260	ug/kg	< 5			5	Pass	
Method Blank							
Ammonia (as N)	mg/kg	< 0.1			0.1	Pass	
Nitrate & Nitrite (as N)	mg/kg	< 0.1			0.1	Pass	
Nitrate (as N)	mg/kg	< 0.1			0.1	Pass	
Nitrite (as N)	mg/kg	< 0.1			0.1	Pass	
Method Blank							
Heavy Metals							
Antimony	mg/kg	< 0.5			0.5	Pass	
Arsenic	mg/kg	< 1			1	Pass	
Cadmium	mg/kg	< 0.1			0.1	Pass	
Chromium	mg/kg	< 1			1	Pass	
Copper	mg/kg	< 1			1	Pass	
Lead	mg/kg	< 1			1	Pass	
Manganese	mg/kg	< 10			10	Pass	
Mercury	mg/kg	< 0.01			0.01	Pass	
Nickel	mg/kg	< 1			1	Pass	
Silver	mg/kg	< 0.1			0.1	Pass	
Zinc	mg/kg	< 1			1	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	102			70-130	Pass	
TRH C10-C14	%	105			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	116			70-130	Pass	
Toluene	%	85			70-130	Pass	
Ethylbenzene	%	89			70-130	Pass	
m&p-Xylenes	%	96			70-130	Pass	
Xylenes - Total	%	94			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH C6-C10	%	103			70-130	Pass	
TRH >C10-C16	%	98			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
4.4'-DDD	%	130			70-130	Pass	
4.4'-DDE	%	104			70-130	Pass	
4.4'-DDT	%	77			70-130	Pass	
a-BHC	%	120			70-130	Pass	
Aldrin	%	117			70-130	Pass	
b-BHC	%	121			70-130	Pass	
d-BHC	%	108			70-130	Pass	
Dieldrin	%	119			70-130	Pass	
Endosulfan I	%	119			70-130	Pass	
Endosulfan II	%	120			70-130	Pass	
Endosulfan sulphate	%	114			70-130	Pass	
Endrin	%	95			70-130	Pass	
Endrin aldehyde	%	122			70-130	Pass	
Endrin ketone	%	119			70-130	Pass	
g-BHC (Lindane)	%	119			70-130	Pass	
Heptachlor	%	98			70-130	Pass	
Heptachlor epoxide	%	118			70-130	Pass	

FINAL

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Hexachlorobenzene	%	103			70-130	Pass	
Methoxychlor	%	81			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	93			70-130	Pass	
LCS - % Recovery							
Ammonia (as N)	%	114			70-130	Pass	
Nitrate & Nitrite (as N)	%	108			70-130	Pass	
Nitrate (as N)	%	107			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Antimony	%	101			80-120	Pass	
Arsenic	%	101			80-120	Pass	
Cadmium	%	101			80-120	Pass	
Chromium	%	105			80-120	Pass	
Copper	%	109			80-120	Pass	
Lead	%	103			80-120	Pass	
Manganese	%	106			80-120	Pass	
Mercury	%	118			75-125	Pass	
Nickel	%	106			80-120	Pass	
Silver	%	104			80-120	Pass	
Zinc	%	96			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	M15-Fe10359	NCP	%	106			70-130	Pass	
TRH C10-C14	M15-Fe04815	NCP	%	128			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M15-Fe10359	NCP	%	108			70-130	Pass	
Toluene	M15-Fe10359	NCP	%	97			70-130	Pass	
Ethylbenzene	M15-Fe10359	NCP	%	92			70-130	Pass	
m&p-Xylenes	M15-Fe10359	NCP	%	102			70-130	Pass	
o-Xylene	M15-Fe10359	NCP	%	96			70-130	Pass	
Xylenes - Total	M15-Fe10359	NCP	%	100			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M15-Fe10359	NCP	%	75			70-130	Pass	
TRH C6-C10	M15-Fe10359	NCP	%	108			70-130	Pass	
TRH >C10-C16	M15-Fe04815	NCP	%	128			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
4.4'-DDD	M15-Fe09723	NCP	%	118			70-130	Pass	
4.4'-DDE	M15-Fe09723	NCP	%	85			70-130	Pass	
4.4'-DDT	M15-Fe09723	NCP	%	98			70-130	Pass	
a-BHC	M15-Fe09723	NCP	%	114			70-130	Pass	
Aldrin	M15-Fe09723	NCP	%	114			70-130	Pass	
b-BHC	M15-Fe09723	NCP	%	102			70-130	Pass	
d-BHC	M15-Fe09723	NCP	%	101			70-130	Pass	
Dieldrin	M15-Fe09723	NCP	%	124			70-130	Pass	
Endosulfan I	M15-Fe09723	NCP	%	106			70-130	Pass	
Endosulfan II	M15-Fe09723	NCP	%	127			70-130	Pass	
Endosulfan sulphate	M15-Fe09723	NCP	%	113			70-130	Pass	
Endrin	M15-Fe09723	NCP	%	113			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endrin aldehyde	M15-Fe09723	NCP	%	115			70-130	Pass	
Endrin ketone	M15-Fe09723	NCP	%	123			70-130	Pass	
g-BHC (Lindane)	M15-Fe09723	NCP	%	103			70-130	Pass	
Heptachlor	M15-Fe09723	NCP	%	101			70-130	Pass	
Heptachlor epoxide	M15-Fe09723	NCP	%	110			70-130	Pass	
Hexachlorobenzene	M15-Fe09723	NCP	%	92			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1260	M15-Fe09724	NCP	%	104			70-130	Pass	
Spike - % Recovery									
				Result 1					
Total Kjeldahl Nitrogen (as N)	M15-Fe11563	NCP	%	74			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Antimony	M15-Fe10809	NCP	%	86			70-130	Pass	
Arsenic	M15-Fe10809	NCP	%	80			75-125	Pass	
Cadmium	M15-Fe12087	NCP	%	81			75-125	Pass	
Chromium	M15-Fe12087	NCP	%	88			75-125	Pass	
Copper	M15-Fe10809	NCP	%	98			75-125	Pass	
Lead	M15-Fe10809	NCP	%	87			75-125	Pass	
Manganese	M15-Fe12561	NCP	%	91			75-125	Pass	
Mercury	M15-Fe12579	NCP	%	116			70-130	Pass	
Nickel	M15-Fe12087	NCP	%	85			75-125	Pass	
Silver	M15-Fe12087	NCP	%	91			75-125	Pass	
Zinc	M15-Fe10809	NCP	%	83			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	M15-Fe10358	NCP	ug/kg	< 20000	< 20000	<1	30%	Pass	
TRH C10-C14	M15-Fe10446	NCP	ug/kg	< 20000	< 20000	<1	30%	Pass	
TRH C15-C28	M15-Fe10446	NCP	ug/kg	< 50000	< 50000	<1	30%	Pass	
TRH C29-C36	M15-Fe10446	NCP	ug/kg	< 50000	< 50000	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M15-Fe10358	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Toluene	M15-Fe10358	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Ethylbenzene	M15-Fe10358	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
m&p-Xylenes	M15-Fe10358	NCP	ug/kg	< 200	< 200	<1	30%	Pass	
o-Xylene	M15-Fe10358	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Xylenes - Total	M15-Fe10358	NCP	ug/kg	< 300	< 300	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M15-Fe10358	NCP	ug/kg	< 500	< 500	<1	30%	Pass	
TRH C6-C10	M15-Fe10358	NCP	ug/kg	< 20000	< 20000	<1	30%	Pass	
TRH C6-C10 less BTEX (F1)	M15-Fe10358	NCP	ug/kg	< 20000	< 20000	<1	30%	Pass	
TRH >C10-C16	M15-Fe10446	NCP	ug/kg	< 50000	< 50000	<1	30%	Pass	
TRH >C16-C34	M15-Fe10446	NCP	ug/kg	< 100000	< 100000	<1	30%	Pass	
TRH >C34-C40	M15-Fe10446	NCP	ug/kg	< 100000	< 100000	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M15-Fe09722	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
4.4'-DDD	M15-Fe09722	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
4.4'-DDE	M15-Fe09722	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
4.4'-DDT	M15-Fe09722	NCP	ug/kg	< 50	< 50	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
a-BHC	M15-Fe09722	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Aldrin	M15-Fe09722	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
b-BHC	M15-Fe09722	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
d-BHC	M15-Fe09722	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Dieldrin	M15-Fe09722	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endosulfan I	M15-Fe09722	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endosulfan II	M15-Fe09722	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endosulfan sulphate	M15-Fe09722	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endrin	M15-Fe09722	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endrin aldehyde	M15-Fe09722	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Endrin ketone	M15-Fe09722	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
g-BHC (Lindane)	M15-Fe09722	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Heptachlor	M15-Fe09722	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Heptachlor epoxide	M15-Fe09722	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Hexachlorobenzene	M15-Fe09722	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Methoxychlor	M15-Fe09722	NCP	ug/kg	< 50	< 50	<1	30%	Pass	
Toxaphene	M15-Fe09722	NCP	ug/kg	< 1000	< 1000	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	M15-Fe09722	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1221	M15-Fe09722	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1232	M15-Fe09722	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1242	M15-Fe09722	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1248	M15-Fe09722	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1254	M15-Fe09722	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Aroclor-1260	M15-Fe09722	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Total PCB*	M15-Fe09722	NCP	ug/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Total Kjeldahl Nitrogen (as N)	M15-Fe11563	NCP	mg/kg	320	350	7.1	30%	Pass	
Phosphorus	M15-Fe11750	NCP	mg/kg	330	280	17	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Antimony	M15-Fe12087	NCP	mg/kg	22000	23000	1.0	30%	Pass	
Arsenic	M15-Fe12087	NCP	mg/kg	8900	9400	2.0	30%	Pass	
Cadmium	M15-Fe12087	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M15-Fe12087	NCP	mg/kg	16	16	1.0	30%	Pass	
Copper	M15-Fe12087	NCP	mg/kg	180	180	2.0	30%	Pass	
Lead	M15-Fe12087	NCP	mg/kg	190	190	1.0	30%	Pass	
Manganese	M15-Fe09738	NCP	mg/kg	620	730	15	30%	Pass	
Mercury	M15-Fe12578	NCP	mg/kg	0.20	0.20	9.0	30%	Pass	
Nickel	M15-Fe12087	NCP	mg/kg	11	11	5.0	30%	Pass	
Silver	M15-Fe12087	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Zinc	M15-Fe12087	NCP	mg/kg	120	110	6.0	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised By

Mark Rodriquez	Analytical Services Manager
Carroll Lee	Senior Analyst-Organic (VIC)
Carroll Lee	Senior Analyst-Volatile (VIC)
Emily Rosenberg	Senior Analyst-Metal (VIC)
Huong Le	Senior Analyst-Inorganic (VIC)

Glenn Jackson
National Laboratory Manager

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Uncertainty data is available on request

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DRAFT

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AUSTRALIEN

Person in charge Dr. D. Stegemann
ASM Dr. D. Stegemann

Report date 24.02.2015

Analytical report AR-15-GF-006227-01

Sample Code 710-2015-03490001

Reference	Soil
	DUP 3B
Sample sender	Mr. Onur Mehmet
Reception date time	16.02.2015
Transport by	DHL
Client Purchase order nr.	B115_013 447343
Purchase order date	13.02.2015
Client sample code	B15-Fe09509
Packaging	glass with screw closure
Number of containers	1
Reception temperature	room temperature
End analysis	24.02.2015

Test results

CYP07 dry matter (°) (#)
Method EC 152/2009, , produce dry matter of original sample

dry residue	79.4	%

CY031 Organotin ~ 8 compounds ~ soil, sludge, sediment (°) (#)
Method Internal method, GLS OC 600, LRMS

Monobutyltin (MBT)	< 0.596	µg/kg dw
Monobutyltin (MBT) - Sn	< 0.403	µg/kg dw
Dibutyltin (DBT)	< 0.596	µg/kg dw
Dibutyltin (DBT) - Sn	< 0.304	µg/kg dw
Tributyltin (TBT)	< 0.596	µg/kg dw
Tributyltin (TBT) - Sn	< 0.244	µg/kg dw
Tetrabutyltin (TTBT)	< 0.596	µg/kg dw
Tetrabutyltin (TTBT) - Sn	< 0.204	µg/kg dw
Monooctyltin (MOT)	< 0.596	µg/kg dw
Monooctyltin (MOT) - Sn	< 0.305	µg/kg dw

The results of examination refer exclusively to the checked samples.
Duplicates - even in parts - must be authorized by the test laboratory in written form.
Eurofins GfA Lab Service GmbH · Neuländer Kamp 1 a · D-21079 Hamburg
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HRB 115907 AG Hamburg
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DIN EN ISO/IEC 17025

Die Akkreditierung gilt für die in der Urkunde aufgeführten Prüfverfahren

Analytical report AR-15-GF-006227-01

Sample Code 710-2015-03490001

Dioctyltin (DOT)	< 0.596	µg/kg dw
Dioctyltin (DOT) - Sn	< 0.205	µg/kg dw
Triphenyltin (TPhT)	< 0.596	µg/kg dw
Triphenyltin (TPhT) - Sn	< 0.202	µg/kg dw
Tricyclohexyltin (TCHT)	< 1.19	µg/kg dw
Tricyclohexyltin (TCHT) - Sn	< 0.385	µg/kg dw

(°) = The test was performed at the laboratory site: Am Neuländer Gewerbepark 4
(#) = Eurofins GfA Lab Service Gmbh (Hamburg) is accredited for this test.

< - Concentration below the indicated limit of quantification (LOQ)

This electronically generated test report has been checked and approved. It is also valid without signature.

Hanna Joerss
(Analytical Services Manager)

The results of examination refer exclusively to the checked samples.
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DIN EN ISO/IEC 17025

Die Akkreditierung gilt für die in der Urkunde aufgeführten Prüfverfahren

Appendix F
Summary Geochemical Results

Summary DMPA Geochemical Results

Sample date	Sample ID	Borehole	Depth	Aluminium	Iron	Antimony	Arsenic	Cadmium	Chromium	Copper	Cobalt	Lead	Manganese	Nickel	Selenium	Silver	Vanadium	Zinc	Mercury	Monobutyltin	Dibutyltin	Tributyltin
				(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(µgSn/kg)	(µgSn/kg)	(µgSn/kg)
23/02/2015	EB1 0.0-0.5A	EB1	0.0-0.5A	5450	12000	<0.50	18.4	<0.1	11.1	12	5.4	3.2	448	4.5	0.5	<0.1	26	11	<0.01	<1	<1	<0.5
23/02/2015	EB1 0.5-1.0A	EB1	0.5-1.0A	9550	21000	<0.50	15.9	<0.1	17.1	11.4	10.4	5.4	3510	9.3	0.8	0.2	41	25.5	<0.01	<1	<1	<0.5
23/02/2015	EB2 0.0-0.5A	EB2	0.0-0.5A	9990	18100	<0.50	13.1	<0.1	16.5	8.6	6.9	4.8	327	7.5	0.6	<0.1	35	22	<0.01	<1	<1	<0.5
23/02/2015	EB2 0.5-0.85A	EB2	0.5-0.85A	29200	43900	<0.50	5	<0.1	34	57.8	15.2	12.8	398	25.8	0.8	<0.1	113	66	0.02	<1	<1	<0.5
23/02/2015	EB3 0.0-0.7A	EB3	0.0-0.7A	15600	27300	<0.50	5.01	<0.1	23.5	25.8	14.2	8.1	236	18.2	0.7	<0.1	66	46.2	<0.01	<1	<1	<0.5
23/02/2015	EB4 0.0-0.4A	EB4	0.0-0.4A	19300	28600	<0.50	5.25	<0.1	26.3	27.6	13	10	364	16.3	0.6	<0.1	68	45	0.01	<1	<1	<0.5
23/02/2015	EB5 0.0-0.5A	EB5	0.0-0.5A	22500	39200	<0.50	8.43	<0.1	32.4	42.3	15.7	10.7	733	22.8	0.8	<0.1	81	70.7	0.02	<1	<1	<0.5
23/02/2015	EB6 0.0-0.5A	EB6	0.0-0.5A	20600	29100	<0.50	4.82	<0.1	20.9	33	7.3	11.1	95	11	0.7	<0.1	54	49.3	<0.01	<1	<1	<0.5
23/02/2015	EB6 0.5-1.0A	EB6	0.5-1.0A	17900	24900	<0.50	4.2	0.3	19.8	36.4	11.1	10.2	123	11.7	1	<0.1	58	46.2	<0.01	<1	<1	<0.5
23/02/2015	EB7 0.0-0.5A	EB7	0.0-0.5A	15800	29300	<0.50	6.42	<0.1	28	32.3	13.2	7.8	168	19.6	0.5	<0.1	73	54.5	0.01	<1	<1	<0.5
23/02/2015	EB7 0.5-1.0A	EB7	0.5-1.0A	13400	25200	<0.50	7.73	<0.1	23.8	23.6	10.2	7.1	161	15.3	0.6	<0.1	62	47.5	0.01	<1	<1	<0.5
22/02/2015	EB8 0.0-0.5A	EB8	0.0-0.5A	6840	11800	<0.50	5.54	<0.1	10.6	4.4	4	3.1	108	4.5	0.2	<0.1	24.6	13.8	<0.01	<1	<1	<0.5
22/02/2015	EB8 0.5-1.0A	EB8	0.5-1.0A	12400	22400	<0.50	6.65	<0.1	16.4	13.3	7.4	5.4	94	8.9	0.4	<0.1	40.4	32.6	0.01	<1	<1	<0.5
23/02/2015	EB9 0.0-0.7A	EB9	0.0-0.7A	23000	37500	<0.50	6.38	<0.1	26.4	38.8	10.8	9.4	283	17.6	0.9	0.1	87	53.2	0.01	<1	<1	<0.5
22/02/2015	EB10 0.0-0.5A	EB10	0.0-0.5A	7840	14000	<0.50	18.6	<0.1	13.1	3.6	5.8	3.9	312	5.9	0.4	<0.1	27.2	13.6	<0.01	<1	<1	<0.5
22/02/2015	EB10 0.5-1.0A	EB10	0.5-1.0A	7540	14800	<0.50	12	<0.1	11.8	4.4	6.1	3.4	301	5.8	0.3	<0.1	22.9	13.7	<0.01	<1	<1	<0.5
23/02/2015	EB11 0.0-0.5A	EB11	0.0-0.5A	15000	25600	<0.50	4.97	<0.1	22.3	33	13	9.7	227	15	0.5	<0.1	67	48	0.01	<1	<1	<0.5
23/02/2015	EB11 0.5-0.8A	EB11	0.5-0.8A	15900	27800	<0.50	6.89	0.1	24.5	27	12.4	9.3	298	14.6	0.6	<0.1	65	51.1	<0.01	<1	<1	<0.5
24/02/2015	EB12 0.0-0.3A	EB12	0.0-0.3A	19400	37000	<0.50	7.63	<0.1	27.8	35.8	12.6	11.8	309	19	0.8	<0.1	64.6	71.7	0.02	<1	<1	<0.5
22/02/2015	EB13 0.0-0.7A	EB13	0.0-0.7A	17200	24600	<0.50	9.68	0.1	22.8	21.9	8.9	7.3	248	12.9	0.5	<0.1	51.8	35.2	0.02	<1	<1	<0.5
23/02/2015	EB14 0.0-0.5A	EB14	0.0-0.5A	21200	34100	<0.50	3.28	<0.1	27.7	35.8	13.1	9	168	21.3	0.9	<0.1	73	67.1	<0.01	<1	<1	<0.5
23/02/2015	EB14 0.5-1.0A	EB14	0.5-1.0A	25500	35300	<0.50	6.83	<0.1	26.7	44.3	47.4	14.9	2090	23.9	0.8	0.2	83	76.3	0.03	<1	<1	<0.5
23/02/2015	EB15 0.0-0.6A	EB15	0.0-0.6A	11000	17900	<0.50	8.36	<0.1	19	16.5	9.6	6	436	10.1	0.5	<0.1	39	29.3	<0.01	<1	<1	<0.5
24/02/2015	EB16 0.0-0.04A	EB16	0.0-0.04A	16900	36400	<0.50	6.74	<0.1	23.8	29	12.3	11.2	186	15.2	0.7	<0.1	81.2	53.4	<0.01	<1	<1	<0.5
24/02/2015	EB17 0.0-0.5A	EB17	0.0-0.5A	22000	36200	<0.50	12.1	<0.1	24.3	39	11.2	12.7	223	15.2	0.8	<0.1	70.6	74.8	0.02	<1	<1	<0.5
22/02/2015	EB18 0.0-0.5A	EB18	0.0-0.5A	6750	13500	<0.50	12.4	<0.1	13.5	4.1	6.3	3.6	429	5.1	0.3	<0.1	31.1	18.8	<0.01	<1	<1	<0.5
22/02/2015	EB18 0.5-0.85A	EB18	0.5-0.85A	20100	26300	<0.50	7.64	<0.1	24	30.2	22.8	8.6	1050	13.4	1	<0.1	58.7	44.6	0.02	<1	<1	<0.5
22/02/2015	EB19 0.0-0.5A	EB19	0.0-0.5A	9420	15100	<0.50	9.58	<0.1	16.6	6.8	6.6	4.8	203	7.1	0.4	<0.1	31	21.4	0.01	<1	<1	<0.5
22/02/2015	EB19 0.5-0.8A	EB19	0.5-0.8A	24200	36600	<0.50	8.48	<0.1	23.9	32.2	10.8	12.9	160	14.7	0.8	<0.1	61.9	60.6	0.02	<1	<1	<0.5
22/02/2015	EB20 0.0-0.6A	EB20	0.0-0.6A	25300	37900	<0.50	9.94	<0.1	29	34	14.2	13.2	198	19.1	0.7	<0.1	93.1	48.2	0.01	<1	<1	<0.5
22/02/2015	EB21 0.0-0.5A	EB21	0.0-0.5A	4480	14500	<0.50	33	<0.1	8.8	1.6	5.7	2.6	809	4.2	0.3	<0.1	28.8	9	<0.01	<1	<1	<0.5
22/02/2015	EB21 0.5-1.0A	EB21	0.5-1.0A	4380	12700	<0.50	26.4	<0.1	9.2	1.5	5.7	2.5	773	4	0.3	<0.1	24.4	9.3	<0.01	<1	<1	<0.5
24/02/2015	EB22 0.0-0.5A	EB22	0.0-0.5A	21400	32700	<0.50	5.88	<0.1	26.8	79.5	11.5	10	143	18.3	0.6	0.3	93.7	56.3	0.02	<1	<1	<0.5
22/02/2015	EB23 0.0-0.5A	EB23	0.0-0.5A	7120	12500	<0.50	9.04	<0.1	13.7	4.4	5.6	3.3	326	4.7	0.3	<0.1	30.2	14.1	<0.01	<1	<1	<0.5
22/02/2015	EB23 0.5-0.7A	EB23	0.5-0.7A	24800	37800	<0.50	6.3	<0.1	28.2	26.4	14.6	9.6	296	17.4	0.8	<0.1	65.8	61.9	0.02	<1	<1	<0.5
22/02/2015	EB24 0.0-0.5A	EB24	0.0-0.5A	4790	11000	<0.50	15.5	<0.1	10.1	2.7	5.2	2.7	465	4.2	0.2	<0.1	26	12	<0.01	<1	<1	<0.5
22/02/2015	EB24 0.5-1.0A	EB24	0.5-1.0A	22400	37000	<0.50	6.66	<0.1	29.7	61.4	15.4	13	190	16.1	0.8	<0.1	84.4	46.2	0.02	<1	<1	<0.5
22/02/2015	EB25 0.0-0.6A	EB25	0.0-0.6A	18700	28400	<0.50	10	<0.1	21.8	25.6	10.2	9.5	278	13.5	0.5	<0.1	61.4	37.1	0.02	<1	<1	<0.5
23/02/2015	EB26 0.0-0.5A	EB26	0.0-0.5A	5600	11000	<0.50	6.88	<0.1	9.6	7.5	5	2.8	234	5.7	0.2	<0.1	29	14.8	<0.01	<1	<1	<0.5
23/02/2015	EB26 0.5-1.0A	EB26	0.5-1.0A	16500	27900	<0.50	4.41	<0.1	22.1	24.4	10.4	8	232	14.1	0.7	<0.1	58	51.2	<0.01	<1	<1	<0.5
24/02/2015	EB27 0.0-0.7A	EB27	0.0-0.7A	18000	29600	<0.50	19.9	<0.1	24.4	31.8	25	9.5	453	20.2	0.8	<0.1	67.1	44.1	0.02	<1	<1	<0.5
26/02/2015	EB28 0.0-0.4A	EB28	0.0-0.4A	19900	35200	<0.50	6.97	<0.1	25.4	36.4	16.5	11.2	182	18.5	1	0.2	59.1	60.8	0.01	<1	<1	<0.5
22/02/2015	EB29 0.0-0.5A	EB29	0.0-0.5A	12900	20600	<0.50	10.2	<0.1	19.5	13.4	9.1	7.7	234	9.4	0.5	<0.1	46.3	23.1	0.01	<1	<1	<0.5
22/02/2015	EB30 0.0-0.5A	EB30	0.0-0.5A	8760	14400	<0.50	17.8	<0.1	14.1	4.6	5.8	4.2	423	6.5	0.4	<0.1	28.8	16.2	0.01	<1	<1	<0.5
22/02/2015	EB30 0.5-0.8A	EB30	0.5-0.8A	9070	17700	<0.50	20.1	<0.1	14.8	8.2	8.4	4.7	928	8	0.6	<0.1	37.6	19	0.01	<1	<1	<0.5
24/02/2015	EB31 0.0-0.5A	EB31	0.0-0.5A	20500	39600	<0.50	11.4	<0.1	28.3	31.2	22.1	13.6	772	17.2	0.8	<0.1	84.2	60.5	0.02	<1	<1	<0.5
24/02/2015	EB32 0.0-0.5A	EB32	0.0-0.5A	7090	24600	<0.50	9.23	<0.1	19.9	9.1	8.6	10.1	301	8.2	0.5	<0.1	74.4	23.1	<0.01	<1	<1	<0.5
24/02/2015	EB32 0.5-1.0A	EB32	0.5-1.0A	6650	15800	<0.50	2.42	<0.1	15.4	8.8	7.6	4.1	106	7	0.3	<0.1	37.2	27	<0.01	<1	<1	<0.5
24/02/2015	EB33 0.0-0.5A	EB33	0.0-0.5A	9420	16700	<0.50	15.4	<0.1	18.3	8.1	8.8	5.5	472	8.4	0.5	<0.1	38.7	21.7	<0.01	<1	<1	<0.5
24/02/2015	EB33 0.5-1.0A	EB33	0.5-1.0A	6390	14800	<0.50	4.04	<0.1	14.8	14.9	11.6	4.9	108	9	2	<0.1	41.4	32.4	<0.01	<1	<1	<0.5
24/02/2015	EB34 0.0-0.5A	EB34	0.0-0.5A	4680	11300	<0.50	18.2	<0.1	10.4	3.3	5.3	3.3	258	4.8	2.7	<0.1	22	13.3	<0.01	<1	<1	<0.5
24/02/2015	EB34 0.5-1.0A	EB34	0.5-1.0A	3080	8040	<0.50	11.7	<0.1	7.8	1.9	4.8	2.6	224	3.4	1.8	<0.1	14.3	9.5	<0.01	<1	<1	<0.5
22/02/2015	EB35 0.0-0.5A	EB35	0.0-0.5A	12300	20600	<0.50	9.4	<0.1	19.7	16.9	8.4	7.2	211	10.3	0.5	<0.1	46.2	31.7	0.01	<1	<1	<0.5
22/02/2015	EB35 0.5-1.0A	EB35	0.5-1.0A	8760	17100	<0.50	12.3	<0.1	14.4	9.6	7.2	5	1240	7.1	0.5	<0.1	35.7	21.8	<0.01	<1	<1	<0.5
24/02/2015	EB36 0.0-0.5A	EB36	0.0-0.5A	5610	11600	<0.50	10.2	<0.1	13.5	3.4	5.6	3.7	206	5.7	2.4	<0.1	17.7	14.9	<0.01	<1	<1	<0.5
24/02/2015	EB36 0.5-1.0A	EB36	0.5-1.0A	8250	15100	<0.50	8.19	<0.1	12.9	12.2	8	6.5	328	7.4	2.7	<0.1	37.4	16.9	<0.01	<1	<1	<0.5
03/02/2015	WB1 0.0-0.5A	WB1	0.0-0.5A	3790	8760	<0.50	17.7	<0.1	6.4	3.1	5	2.1	633	3.2	0.4	<0.1	22	11.6	<0.01	<1	<1	<0.5
03/02/2015	WB1 0.51.0A	WB1	0.51.0A	4490	11900	<0.50	10.4	<0.1	7.8	5.3	6	2.6	533	4.6	0.2	<0.1	31.3	14.6	<0.01	<1	<1	<0.5
03/02/2015	WB2 0.0-0.5A	WB2	0.0-0.5A	3990	9340	<0.50	19.8	<0.1	6.5	2.7	6.1	2.3	1110	3.6	0.3	<0.1	24.8	13.5	<0.01	<1	<1	<0.5
03/02/2015	WB2 0.5-1.0A	WB2	0.5-1.0A	4090	7990	<0.50	12	<0.1	7.6	2.6	4.5	2.3	384	3.3	0.3	<0.1	20.7	11.3	<0.01	<1	<1	<0.5
04/02/2015	WB3 0.0-0.5a	WB3	0.0-0.5a	4200	9680	<0.50	23	<0.1	7.1	2.8	6.3	2.5	1490	3.7	0.3	<0.1	27.5	14.1	<0.01	<1	<1	<0.5
04/02/2015	WB3 0.5-1.0a	WB3	0.5-1.0a	3930	10000	<0.50	22.1	<0.1	7.3	2.8	6.3	2.6	1400	3.6	0.3	<0.1	27.7	13.5	<0.01	<1	<1	<0.5

Summary DMPA Geochemical Results

Sample date	Sample ID	Borehole	Depth	Aluminium	Iron	Antimony	Arsenic	Cadmium	Chromium	Copper	Cobalt	Lead	Manganese	Nickel	Selenium	Silver	Vanadium	Zinc	Mercury	Monobutyltin	Dibutyltin	Tributyltin
				(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(µgSn/kg)	(µgSn/kg)	(µgSn/kg)
04/02/2015	WB4 0.0-0.5A	WB4	0.0-0.5A	4220	9040	<0.50	9.36	<0.1	7.9	3.4	5.2	2.3	485	3.8	0.3	<0.1	23.5	12	<0.01	<1	<1	<0.5
04/02/2015	WB4 0.5-1.0A	WB4	0.5-1.0A	4430	8980	<0.50	9.02	<0.1	7.6	3.5	5.3	2.5	711	4	0.3	<0.1	24.4	12.4	<0.01	<1	<1	<0.5
04/02/2015	WB5 0.0-0.5A	WB5	0.0-0.5A	4260	10000	<0.50	18	<0.1	9	2.8	6.3	2.5	1070	3.9	0.3	<0.1	27.6	15.5	<0.01	<1	<1	<0.5
04/02/2015	WB5 0.5-1.0A	WB5	0.5-1.0A	6470	11500	<0.50	8.88	<0.1	12.4	5.5	6.4	3.5	1720	5.8	0.4	<0.1	31.9	17.8	<0.01	<1	<1	<0.5
09/02/2015	WB6 0.0-0.5A	WB6	0.0-0.5A	3860	9480	<0.50	20.6	<0.1	7.9	2.7	6.2	2.5	1010	3.8	0.3	0.1	27.5	13.7	<0.01	<1	<1	<0.5
09/02/2015	WB6 0.5-1.0A	WB6	0.5-1.0A	3480	8740	<0.50	17.5	<0.1	7.6	2.4	5.6	2.4	754	3.4	0.3	<0.1	26.8	12.1	<0.01	<1	<1	<0.5
09/02/2015	WB7 0.0-0.5A	WB7	0.0-0.5A	4050	11100	<0.50	22.5	<0.1	9.4	3	7	2.7	1030	4.3	0.3	0.1	34.5	15.1	<0.01	<1	<1	<0.5
09/02/2015	WB7 0.5-1.0A	WB7	0.5-1.0A	4110	11700	<0.50	20.1	<0.1	10.7	2.9	6.8	2.7	700	4.4	0.3	<0.1	36.5	14.3	<0.01	<1	<1	<0.5
04/02/2015	WB8 0.0-0.5A	WB8	0.0-0.5A	5620	12100	<0.50	17.4	<0.1	11.1	4.3	7.5	3.2	737	5.4	0.4	<0.1	30.7	16.6	<0.01	<1	<1	<0.5
04/02/2015	WB8 0.5-1.0A	WB8	0.5-1.0A	9350	15000	<0.50	17.6	<0.1	14.2	9.4	8.5	4.4	781	7.6	0.5	<0.1	38.3	24.3	<0.01	<1	<1	<0.5
04/02/2015	WB9 0.0-0.5A	WB9	0.0-0.5A	5000	12400	<0.50	21.4	<0.1	10.3	3.3	6.8	2.6	855	4.6	0.4	<0.1	33.5	15.6	<0.01	<1	<1	<0.5
04/02/2015	WB9 0.5-1.0A	WB9	0.5-1.0A	12300	21600	<0.50	9.8	0.8	20.6	66.1	8.4	8.5	486	11.1	0.6	<0.1	59	40.9	0.04	<1	<1	<0.5
09/02/2015	WB10 0.0-0.5A	WB10	0.0-0.5A	4800	9480	<0.50	11.8	<0.1	10.6	2.9	6.3	2.6	528	4.4	0.4	<0.1	23.6	14	<0.01	<1	<1	<0.5
09/02/2015	WB10 0.5-1.0A	WB10	0.5-1.0A	4400	10100	<0.50	12	<0.1	11.2	3	6.1	2.6	597	4.4	0.3	<0.1	30.9	13.3	<0.01	<1	<1	<0.5
09/02/2015	WB11 0.0-0.5A	WB11	0.0-0.5A	5080	12200	<0.50	17.8	<0.1	10.2	4.4	7.7	3.1	917	5.2	0.4	<0.1	33.4	16.4	<0.01	<1	<1	<0.5
09/02/2015	WB11 0.5-1.0A	WB11	0.5-1.0A	4430	12500	<0.50	25.3	<0.1	9	3.4	8.6	3.2	1530	5.2	0.3	<0.1	35.2	14.7	<0.01	<1	<1	<0.5
04/02/2015	WB12 0.0-0.5A	WB12	0.0-0.5A	5050	10000	<0.50	8.92	<0.1	11.6	2.9	5.7	2.9	275	4.2	0.3	<0.1	24.9	14.6	<0.01	<1	<1	<0.5
04/02/2015	WB12 0.5-1.0A	WB12	0.5-1.0A	4830	9850	<0.50	8.6	<0.1	10.6	2.7	5.3	2.7	251	3.9	0.3	<0.1	22.6	13.4	<0.01	<1	<1	<0.5
04/02/2015	WB13 0.0-0.5A	WB13	0.0-0.5A	4840	11500	<0.50	13.9	<0.1	10.5	2.9	5.8	2.5	416	4.2	0.3	0.2	29.5	13.9	<0.01	<1	<1	<0.5
04/02/2015	WB13 0.5-1.0A	WB13	0.5-1.0A	4500	9790	<0.50	11.5	<0.1	9.4	2.7	5.4	2.4	320	3.7	0.3	<0.1	23.8	13.2	<0.01	<1	<1	<0.5
09/02/2015	WB14 0.0-0.5A	WB14	0.0-0.5A	4240	11000	<0.50	18.3	<0.1	10	3.2	7	2.5	822	4.9	0.3	<0.1	31	14.1	<0.01	<1	<1	<0.5
09/02/2015	WB14 0.5-1.0A	WB14	0.5-1.0A	4470	10700	<0.50	15.6	<0.1	10	3.3	6.6	2.5	614	4.6	0.3	<0.1	29.9	14.2	<0.01	<1	<1	<0.5
09/02/2015	WB15 0.0-0.5A	WB15	0.0-0.5A	4910	10100	<0.50	13	<0.1	11.5	3	6.8	2.6	472	4.7	0.4	<0.1	25.2	15	<0.01	<1	<1	<0.5
09/02/2015	WB15 0.5-1.0A	WB15	0.5-1.0A	4660	9450	<0.50	9.91	<0.1	10.4	3.2	6.2	2.7	466	4.5	0.4	<0.1	23.5	13.8	<0.01	<1	<1	<0.5
04/02/2015	WB16 0.0-0.5A	WB16	0.0-0.5A	4590	11400	<0.50	10.1	<0.1	12.5	2.5	5.6	2.9	286	4.1	0.3	<0.1	29.6	14.4	<0.01	<1	<1	<0.5
04/02/2015	WB16 0.5-1.0A	WB16	0.5-1.0A	4710	10400	<0.50	10.5	<0.1	10.9	2.4	5.6	2.6	263	3.9	0.3	<0.1	25.1	13.5	<0.01	<1	<1	<0.5
11/02/2015	WB17 0.0-0.5A	WB17	0.0-0.5A	3990	9260	<0.50	11.5	<0.1	9.3	2.4	5.1	2.4	329	3.5	0.2	<0.5	24.3	13.2	<0.01	<1	<1	<0.5
11/02/2015	WB17 0.5-1.0A	WB17	0.5-1.0A	3960	9040	<0.50	13.7	<0.1	7.8	2.8	5.2	2.2	401	3.7	0.3	<0.5	22.3	13.2	<0.01	<1	<1	<0.5
04/02/2015	WB18 0.0-0.5A	WB18	0.0-0.5A	5320	11400	<0.50	13.3	<0.1	9	3.4	6	2.6	551	4.3	0.4	<0.1	25.1	13.7	<0.01	<1	<1	<0.5
04/02/2015	WB18 0.5-1.0A	WB18	0.5-1.0A	5680	15000	<0.50	17.8	<0.1	11.5	4	7.5	3.2	742	5.3	0.4	<0.1	35.1	16.2	<0.01	<1	<1	<0.5
11/02/2015	WB19 0.0-0.5A	WB19	0.0-0.5A	4100	9070	<0.50	11.9	<0.1	8.9	2.5	5.5	2.2	354	3.7	0.2	<0.5	22.4	13.7	<0.01	<1	<1	<0.5
11/02/2015	WB19 0.5-1.0A	WB19	0.5-1.0A	4300	10000	<0.50	13.7	<0.1	9.6	2.7	5.9	2.4	483	4.1	0.3	<0.5	25	14.4	<0.01	<1	<1	<0.5
11/02/2015	WB20 0.0-0.5A	WB20	0.0-0.5A	4210	11000	<0.50	16.8	<0.1	8.7	3	6.2	2.4	640	4.2	0.3	<0.5	29	13.7	<0.01	<1	<1	<0.5
11/02/2015	WB20 0.5-1.0A	WB20	0.5-1.0A	4570	11100	<0.50	17.2	<0.1	8.6	3.2	6.5	2.4	725	4.5	0.3	<0.5	27.3	14.2	<0.01	<1	<1	<0.5
13/02/2015	WB21 0.0-0.5A	WB21	0.0-0.5A	4220	11100	<0.50	13.5	<0.1	10.3	2.7	6.2	2.8	552	4.1	0.4	<0.1	25.5	15.1	<0.01	<1	<1	<0.5
13/02/2015	WB21 0.5-1.0A	WB21	0.5-1.0A	4140	9960	<0.50	9.3	<0.1	9.8	2.7	5.8	2.7	504	4	0.3	<0.1	22.2	13.9	<0.01	<1	<1	<0.5
13/02/2015	WB22 0.0-0.5A	WB22	0.0-0.5A	3560	8930	<0.50	9.12	<0.1	9.1	2.2	5	2.3	280	3.4	0.2	<0.1	21.1	12	<0.01	<1	<1	<0.5
13/02/2015	WB22 0.5-1.0A	WB22	0.5-1.0A	3800	9980	<0.50	11.3	<0.1	9.7	2.4	5.6	2.6	352	3.7	0.3	0.2	25.1	12.7	<0.01	<1	<1	<0.5
11/02/2015	WB23 0.0-0.5A	WB23	0.0-0.5A	5010	11600	<0.50	16.3	<0.1	10.1	4	6.3	2.8	646	4.8	0.3	<0.5	29.6	15.2	<0.01	<1	<1	<0.5
11/02/2015	WB23 0.5-1.0A	WB23	0.5-1.0A	5020	11400	<0.50	19.5	<0.1	9.8	4.3	5.7	2.9	587	4.7	0.3	<0.5	27.9	14.7	<0.01	<1	<1	<0.5
13/02/2015	WB24 0.0-0.5A	WB24	0.0-0.5A	3670	9900	<0.50	11.9	<0.1	9.6	2.4	5.7	2.5	370	3.7	0.3	<0.1	23.9	13.8	<0.01	<1	<1	<0.5
13/02/2015	WB24 0.5-0.8A	WB24	0.5-0.8A	4480	10300	<0.50	11.9	<0.1	10	2.5	5.9	2.7	380	4	0.3	<0.1	24.1	14.6	<0.01	<1	<1	<0.5
12/02/2015	WB25 0.0-0.5A	WB25	0.0-0.5A	4170	11600	<0.50	13.4	<0.1	11.2	2.9	6.3	2.8	424	4.5	0.3	<0.1	27.9	14.8	<0.01	<1	<1	<0.5
12/02/2015	WB25 0.5-1.0A	WB25	0.5-1.0A	4610	13800	<0.50	16.6	<0.1	12.8	3.3	7.3	3.5	567	5	0.3	<0.1	36.2	16.5	<0.01	<1	<1	<0.5
12/02/2015	WB26 0.0-0.5A	WB26	0.0-0.5A	4340	11600	<0.50	13	<0.1	10.4	3	6	2.9	509	4.3	0.3	<0.1	28.4	14.2	<0.01	<1	<1	<0.5
12/02/2015	WB26 0.5-1.0A	WB26	0.5-1.0A	4600	11000	<0.50	9.22	<0.1	12	3.3	6.5	3.4	376	4.7	0.3	0.1	25.7	15.6	<0.01	<1	<1	<0.5
12/02/2015	WB27 0.0-0.5A	WB27	0.0-0.5A	3880	11400	<0.50	21.4	<0.1	9.1	3	7.1	2.8	812	4.3	0.3	<0.1	29.6	15.1	<0.01	<1	<1	<0.5
12/02/2015	WB27 0.5-1.0A	WB27	0.5-1.0A	4040	11200	<0.50	17	<0.1	9.8	3	6.5	2.8	622	4.3	0.3	<0.1	29.7	15	<0.01	<1	<1	<0.5
02/04/2015	WBI-3 1.9-2.0m	WBI-3	1.9-2.0m	6320	16800	<0.50	4.87	<0.1	10.9	9.3	4.1	4.7	109	6	0.2	<0.1	28.9	26.4	<0.01	-	-	-
02/04/2015	WBI-3 2.9-3.0m	WBI-3	2.9-3.0m	3330	9340	<0.50	3.31	<0.1	8.1	6	2.8	2.5	82	3.6	0.1	<0.1	17.8	16.7	<0.01	-	-	-
05/04/2015	WBI-10 0.55-0.65m	WBI-10	0.55-0.65m	5870	16800	<0.50	20.4	<0.1	13.6	5.8	8.8	4.9	1210	7.2	0.5	<0.1	39	19.5	<0.01	-	-	-
05/04/2015	WBI-10 0.9-1.0m	WBI-10	0.9-1.0m	17400	34900	<0.50	4.87	<0.1	23.7	46.2	16.7	10.7	300	23.4	0.4	<0.1	72.2	57.8	0.02	-	-	-
05/04/2015	WBI-10 1.9-2.0m	WBI-10	1.9-2.0m	12200	26700	<0.50	6.24	<0.1	18.1	34.9	12.3	10	254	17	0.5	<0.1	55.7	40.8	0.01	-	-	-
05/04/2015	WBI-10 2.9-3.0m	WBI-10	2.9-3.0m	8550	21100	<0.50	22.9	<0.1	15.4	5.2	5	4.4	109	5.8	0.3	<0.1	48	15.6	<0.01	-	-	-
05/04/2015	WBI-10 3.9-4.0m	WBI-10	3.9-4.0m	5500	15100	<0.50	12.6	<0.1	11.3	5.9	5.8	3.9	108	5.5	0.2	<0.1	34.7	19.3	0.01	-	-	-
03/02/2015	PC1 0.0-0.5A	PC1	0.0-0.5A	14500	20200	<0.50	11.7	<0.1	21.3	17.8	10.8	7.5	320	11.4	4.2	<0.1	46.3	44.2	0.02	<1	<1	<0.5
03/02/2015	PC1 0.5-1.0A	PC1	0.5-1.0A	7190	17000	<0.50	13.2	<0.1	14.7	11.6	10.6	6.4	206	6.7	2.4	<0.1	50	19.4	<0.01	<1	<1	<0.5
03/02/2015	PC2 0.0-0.5A	PC2	0.0-0.5A	12700	17300	<0.50	10.8	<0.1	19.9	14.2	9.1	6.9	250	10.7	3.6	<0.1	38.3	32.7	0.02	<1	<1	<0.5
03/02/2015	PC2 0.5-1.0A	PC2	0.5-1.0A	9480	14400	<0.50	11	<0.1	16	10.2	8.5	5.6	290	8	3.6	<0.1	31.2	31.3	0.02	<1	<1	<0.5
03/02/2015	PC3 0.0-0.5A	PC3	0.0-0.5A	10700	16200	<0.50	10.5	<0.1	16.7	11.9	9.7	5.7	303	8.7	3.2	<0.1	32.6	32.7	0.02	<1	<1	<0.5
03/02/2015	PC3 0.5-1.0A	PC3	0.5-1.0A	7940	14000	<0.50	8.66	<0.1	13.1	7.2	9.4	4.4	291	6.9	2.9	<0.1	28.9	21.7	<0.01	<1	<1	<0.5
03/02/2015	PC4 0.0-0.5A	PC4	0.0-0.5A	21800	27500	<0.50	13	<0.1	27.6	29.1	13	9.5	471	14.7	1	<0.1	65.9	55.2	0.04	<1	<1	<0.5

Summary DMPA Geochemical Results

Sample date	Sample ID	Borehole	Depth	Aluminium	Iron	Antimony	Arsenic	Cadmium	Chromium	Copper	Cobalt	Lead	Manganese	Nickel	Selenium	Silver	Vanadium	Zinc	Mercury	Monobutyltin	Dibutyltin	Tributyltin
				(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(µgSn/kg)	(µgSn/kg)	(µgSn/kg)
03/02/2015	PC4 0.5-1.0A	PC4	0.5-1.0A	16500	23000	<0.50	13.1	<0.1	23	20.9	11.3	8.9	344	13.3	4.5	<0.1	48.1	46.9	0.02	<1	<1	<0.5
05/02/2015	PC5 0.0-0.5A	PC5	0.0-0.5A	10600	16400	<0.50	11.5	<0.1	19.1	12.9	7.5	6.6	392	9.2	0.7	<0.1	36.7	34.5	0.03	<1	<1	<0.5
05/02/2015	PC5 0.5-1.0A	PC5	0.5-1.0A	11300	16700	<0.50	10.1	<0.1	18.6	13.7	7.8	6.8	324	9.4	0.6	<0.1	37.6	35.2	0.03	<1	<1	<0.5
08/02/2015	PC6 0.0-0.5A	PC6	0.0-0.5A	13000	21800	<0.50	11.1	<0.1	22.3	12.9	8.5	7	290	10.5	0.7	0.2	38.1	32.4	0.03	<1	<1	<0.5
08/02/2015	PC6 0.5-1.0A	PC6	0.5-1.0A	14500	27600	<0.50	12.3	<0.1	26.7	17	9.4	8.5	270	12.2	0.7	0.3	48.3	36.7	0.03	<1	<1	<0.5
08/02/2015	PC7 0.0-0.5A	PC7	0.0-0.5A	6290	14500	<0.50	9.82	<0.1	15.2	5.3	6.6	4	288	6.2	0.4	0.1	24.5	19.2	0.01	<1	<1	<0.5
08/02/2015	PC7 0.5-1.0A	PC7	0.5-1.0A	16100	29300	<0.50	13.5	<0.1	28.9	18.5	10.7	9	266	13.8	0.8	0.1	52.2	41.6	0.03	<1	<1	<0.5
10/02/2015	PC8 0.0-0.5 A	PC8	0.0-0.5 A	7600	12400	<0.50	10.4	<0.1	15.6	7.4	7.4	4.6	298	6.5	0.6	0.9	27.7	22.5	0.02	<1	<1	<0.5
10/02/2015	PC8 0.5-1.0 A	PC8	0.5-1.0 A	7900	13800	<0.50	10.4	<0.1	16.1	8.3	7.5	5.1	336	7.3	0.6	0.2	30.1	23.4	0.01	<1	<1	<0.5
09/02/2015	PC9 0.0-0.3A	PC9	0.0-0.3A	9540	15000	<0.50	12.9	<0.1	17.8	10.6	7.5	6.2	317	7.9	0.7	<0.1	33.8	29.7	0.02	<1	<1	<0.5
16/02/2015	PC10 0.0-0.5A	PC10	0.0-0.5A	10600	20700	<0.50	13.5	<0.1	21.9	13.4	8.6	6.7	257	9.3	0.6	<0.1	42.2	30.9	0.02	<1	<1	<0.5
16/02/2015	PC10 0.5-1.0A	PC10	0.5-1.0A	11000	21600	<0.50	10.8	<0.1	23.2	15.5	9.6	7.1	289	10	0.7	<0.1	43.6	33.6	0.02	<1	<1	<0.5
08/02/2015	PC11 0.0-0.5A	PC11	0.0-0.5A	10900	23200	<0.50	15	<0.1	21.7	12.7	9.1	7.1	363	10.6	0.7	0.4	39	31.7	0.03	<1	<1	<0.5
08/04/2015	PCE-3 0.35-0.45m	PCE-3	0.35-0.45m	14000	25000	<0.50	8.46	<0.1	18	36.8	10.6	7.3	293	12.6	0.7	<0.1	57.6	45	0.02	-	-	-
08/04/2015	PCE-3 0.95-1.05m	PCE-3	0.95-1.05m	10800	20200	<0.50	4.54	<0.1	11.3	28	8.3	6.6	107	10	0.4	<0.1	59.6	30.2	0.02	-	-	-
08/04/2015	PCE-3 1.95-2.05m	PCE-3	1.95-2.05m	3850	5670	<0.50	2.71	<0.1	13.1	2.9	2.1	3.1	35	3.5	0.1	<0.1	15.4	4.2	<0.01	-	-	-
08/04/2015	PCE-3 2.95-3.05m	PCE-3	2.95-3.05m	6170	15000	<0.50	12	<0.1	11.4	7.6	4.9	2.5	74	6.8	0.1	<0.1	39.4	15.6	<0.01	-	-	-
08/04/2015	PCE-3 3.95-4.05m	PCE-3	3.95-4.05m	6240	15800	<0.50	9.56	<0.1	10.3	10.7	4.3	2.8	69	5.6	0.2	<0.1	45.8	17.3	<0.01	-	-	-
09/04/2015	PCE-1 0.35-0.45m	PCE-1	0.35-0.45m	7800	15600	<0.50	10.4	<0.1	14.8	10.8	8	5.4	242	8	0.6	<0.1	30.2	29.6	0.01	-	-	-
09/04/2015	PCE-1 0.95-1.05m	PCE-1	0.95-1.05m	12500	22400	<0.50	5.94	<0.1	13.9	30	9.8	7	118	10.9	0.6	<0.1	60.6	35.6	0.01	-	-	-
09/04/2015	PCE-1 1.9-2.0m	PCE-1	1.9-2.0m	6040	15200	<0.50	9.85	<0.1	11.4	10.5	8.8	4.9	204	6.8	0.4	<0.1	34.8	18.5	<0.01	-	-	-
09/04/2015	PCE-1 2.9-3.0m	PCE-1	2.9-3.0m	13200	27000	<0.50	13.8	<0.1	13.6	67	19.8	8.7	296	15.2	0.5	<0.1	90.7	34.8	0.02	-	-	-
09/04/2015	PCE-1 3.9-4.0m	PCE-1	3.9-4.0m	11100	21900	<0.50	4.28	<0.1	11.8	27.2	15.6	5.8	1080	12.7	0.4	0.1	98.3	28.7	0.04	-	-	-
15/02/2015	WBE1 0.0-0.5A	WBE1	0.0-0.5A	13800	31500	<0.50	17	<0.1	24.8	18.7	15	9.3	245	11.8	0.8	<0.1	49.6	40.2	0.02	<1	<1	<0.5
15/02/2015	WBE1 0.5-1.0A	WBE1	0.5-1.0A	14800	23500	<0.50	9.35	<0.1	22.7	22	11	7.9	135	10.6	0.7	<0.1	49.3	37.3	0.02	<1	<1	<0.5
15/02/2015	WBE2 0.0-0.5A	WBE2	0.0-0.5A	13400	30400	<0.50	19	<0.1	23.4	17.7	14.1	8.7	250	10.5	0.9	<0.1	52.4	37.7	0.02	<1	<1	<0.5
15/02/2015	WBE2 0.5-1.0A	WBE2	0.5-1.0A	13100	24300	<0.50	14.5	<0.1	22.8	19.6	11	7.6	263	9.9	0.7	0.1	47.1	35	0.02	<1	<1	<0.5
15/02/2015	WBE3 0.0-0.5A	WBE3	0.0-0.5A	10100	21200	<0.50	13.2	<0.1	18.2	12.4	11.6	5.7	322	9.3	0.6	0.5	35.2	34	0.02	<1	<1	<0.5
15/02/2015	WBE3 0.5-1.0A	WBE3	0.5-1.0A	13300	23500	<0.50	12.5	<0.1	23	22.7	11.1	8.4	181	10	0.7	0.1	57.1	34.9	0.02	<1	<1	<0.5
11/02/2015	WBE4 0.0-0.5A	WBE4	0.0-0.5A	11300	26300	<0.50	27.2	<0.1	20.3	13.2	16.7	6.8	242	10.4	0.7	<0.5	50.6	36.1	0.01	<1	<1	<0.5
11/02/2015	WBE4 0.5-1.0A	WBE4	0.5-1.0A	10400	30400	<0.50	23.1	<0.1	18.6	15.5	12.9	8	364	8.4	0.8	<0.5	47.8	31.1	0.02	<1	<1	<0.5
11/02/2015	WBE5 0.0-0.5A	WBE5	0.0-0.5A	17600	25800	<0.50	11	<0.1	23.4	33.4	13.2	9.2	369	12.6	1	<0.5	63.5	43.3	0.02	<1	<1	<0.5
11/02/2015	WBE5 0.5-1.0A	WBE5	0.5-1.0A	17200	18200	<0.50	6.26	<0.1	19.9	33.9	7.9	8.7	243	10	1	<0.5	57.6	39.2	0.02	<1	<1	<0.5
11/02/2015	WBE6 0.0-0.5A	WBE6	0.0-0.5A	13300	15600	<0.50	8.72	<0.1	17.8	18.6	9.3	7.3	118	8.6	0.7	<0.5	48.5	29.7	0.02	<1	<1	<0.5
11/02/2015	WBE6 0.5-1.0A	WBE6	0.5-1.0A	15800	24900	<0.50	7.38	<0.1	15.8	38.9	8.1	8.2	184	12.6	1.3	<0.5	52.8	28.5	0.02	<1	<1	<0.5
08/02/2015	WBE7 0.0-0.5A	WBE7	0.0-0.5A	13600	31500	<0.50	17.6	<0.1	24.8	15.7	13.9	8	246	12.5	0.7	<0.1	50.1	39	0.03	<1	<1	<0.5
08/02/2015	WBE7 0.5-1.0A	WBE7	0.5-1.0A	15700	32200	<0.50	16.1	<0.1	26.6	24.7	12.4	9.1	276	12.5	0.8	<0.1	55.6	41	0.04	<1	<1	<0.5
11/02/2015	WBE8 0.0-0.5A	WBE8	0.0-0.5A	17300	20400	<0.50	7.62	<0.1	19.9	34.1	12.1	8.2	197	11.3	0.9	<0.5	61.9	37.8	0.02	<1	<1	<0.5
11/02/2015	WBE8 0.5-1.0A	WBE8	0.5-1.0A	15700	18400	<0.50	6.14	<0.1	16.9	37.2	8.8	8.2	198	9.9	1.1	<0.5	59.7	33	0.02	<1	<1	<0.5
15/02/2015	WBE9 0.0-0.5A	WBE9	0.0-0.5A	9140	19000	<0.50	11.3	<0.1	16.3	10.8	11.2	4.9	276	8.1	0.6	0.1	36.8	29.7	0.02	<1	<1	<0.5
15/02/2015	WBE9 0.5-1.0A	WBE9	0.5-1.0A	15600	27500	<0.50	17.1	<0.1	26.2	27.5	15.6	9.6	302	12.1	1	<0.1	68.1	41.1	0.03	<1	<1	<0.5
08/02/2015	WBE10 0.0-0.5A	WBE10	0.0-0.5A	16700	38400	<0.50	18.2	<0.1	28.2	22.4	20.6	9	368	15.2	0.8	0.1	53.8	52.9	0.04	<1	<1	<0.5
08/02/2015	WBE10 0.5-1.0A	WBE10	0.5-1.0A	18900	32100	<0.50	8.24	<0.1	22.1	44.9	13.7	9.4	210	14	1.1	0.1	91.4	41.8	0.04	<1	<1	<0.5
11/02/2015	WBE11 0.0-0.5A	WBE11	0.0-0.5A	15600	14800	<0.50	3.1	<0.1	18.1	33	7.1	8.1	213	10.5	0.9	<0.5	52.2	33.2	0.02	<1	<1	<0.5
11/02/2015	WBE11 0.5-1.0A	WBE11	0.5-1.0A	17600	21400	<0.50	5.81	<0.1	16.2	54.8	10.9	9.5	472	12.9	1.4	<0.5	64.8	37.8	0.02	<1	<1	<0.5
11/02/2015	WBE12 0.0-0.5A	WBE12	0.0-0.5A	12900	21000	<0.50	13.3	<0.1	18.4	24	10.2	7.8	205	9.6	0.9	<0.5	47.7	32.2	0.02	<1	<1	<0.5
11/02/2015	WBE12 0.5-1.0A	WBE12	0.5-1.0A	14000	26700	<0.50	11.4	<0.1	17	45.1	16	8.9	247	11.5	1.2	<0.5	81.6	33.7	0.02	<1	<1	<0.5
11/02/2015	WBE13 0.0-0.5A	WBE13	0.0-0.5A	12600	21000	<0.50	15	<0.1	16.6	26.4	13.9	7.9	303	9.6	0.9	<0.5	59.2	31.2	0.02	<1	<1	<0.5
11/02/2015	WBE13 0.5-1.0A	WBE13	0.5-1.0A	13300	22400	<0.50	11.1	<0.1	16.8	26.6	11.8	7.8	155	9.8	0.8	<0.5	55.3	32.8	0.02	<1	<1	<0.5
08/02/2015	WBE14 0.0-0.5A	WBE14	0.0-0.5A	20300	32000	<0.50	9.97	<0.1	27	39.7	12.2	10.2	273	14.5	1	0.3	72.2	48.4	0.03	<1	<1	<0.5
08/02/2015	WBE14 0.5-1.0A	WBE14	0.5-1.0A	16500	26100	<0.50	7.32	<0.1	19.7	43	13.2	9.6	194	12.8	1.1	0.2	56.7	38.7	0.03	<1	<1	<0.5
08/02/2015	WBE15 0.0-0.5A	WBE15	0.0-0.5A	14900	36400	<0.50	19.1	<0.1	27.2	21.6	19.6	8.7	441	14.9	0.9	0.1	52.6	57.9	0.05	<1	<1	<0.5
08/02/2015	WBE15 0.5-1.0A	WBE15	0.5-1.0A	19400	49400	<0.50	25.3	<0.1	29.2	41	21.3	11.5	367	18.2	1.2	0.2	73.7	50.4	0.06	<1	<1	<0.5
15/02/2015	WBE16 0.0-0.5A	WBE16	0.0-0.5A	12800	32000	<0.50	14.6	<0.1	23.8	13.4	25.3	6.3	407	13.3	0.8	<0.1	49.1	52.2	0.02	<1	<1	<0.5
15/02/2015	WBE16 0.5-1.0A	WBE16	0.5-1.0A	17400	27600	<0.50	8.16	<0.1	25.5	34.3	12.9	9	291	13.1	1	<0.1	66	45.8	0.02	<1	<1	<0.5
15/02/2015	WBE17 0.0-0.5A	WBE17	0.0-0.5A	12500	28900	<0.50	13.4	<0.1	22.4	16	24.7	5.8	462	12.1	0.7	<0.1	48	49.4	0.02	<1	<1	<0.5
15/02/2015	WBE17 0.5-1.0A	WBE17	0.5-1.0A	21300	27300	<0.50	6.28	<0.1	29.1	37.3	10.2	9.8	274	13.9	1	<0.1	72.5	49.4	0.02	<1	<1	<0.5
15/02/2015	WBE18 0.0-0.5A	WBE18	0.0-0.5A	14400	25400	<0.50	10.6	<0.1	24.9	16	15.6	7.2	308	12.7	0.7	<0.1	46.2	45.3	0.02	<1	<1	<0.5
15/02/2015	WBE18 0.5-1.0A	WBE18	0.5-1.0A	16700	29900	<0.50	8.22	<0.1	22.8	35.6	11	8.4	322	11.4	1	<0.1	63.6	40.5	0.02	<1	<1	<0.5
08/02/2015	WBE19 0.0-0.5A	WBE19	0.0-0.5A	8510	81000	<0.50	37.8	<0.1	37.2	20.6	2.1	6.4	49	1.8	0.7	<0.1	172	7.7	0.05	<1	<1	<0.5
08/02/2015	WBE20 0.0-0.5A	WBE20	0.0-0.5A	17500	39700	<0.50	13.1	<0.1	32	34.1	14.1	12.9	440	17.6	1.5	0.1	80.3	58.1	0.06	<1	<1	<0.5
08/02/2015	WBE20 0.5-1.0A	WBE20	0.5-1.0A	11500	25800	<0.50	6.7	<0.1	18.7	27.5	8.3	9.2	189	7.8	0.7	<0.1	59.7	28	0.03	<1	<1	<0.5

Summary DMPA Geochemical Results

Sample date	Sample ID	Borehole	Depth	Aluminium	Iron	Antimony	Arsenic	Cadmium	Chromium	Copper	Cobalt	Lead	Manganese	Nickel	Selenium	Silver	Vanadium	Zinc	Mercury	Monobutyltin	Dibutyltin	Tributyltin
				(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(µgSn/kg)	(µgSn/kg)	(µgSn/kg)
08/02/2015	WBE21 0.0-0.5A	WBE21	0.0-0.5A	6800	21300	<0.50	8.02	<0.1	14.1	13	5.6	5.3	244	7.8	0.6	<0.1	42.8	15.3	0.03	<1	<1	<0.5
08/02/2015	WBE21 0.5-1.0A	WBE21	0.5-1.0A	13000	18500	<0.50	6.98	<0.1	19.8	25	6.5	9.4	105	6.7	1	0.5	50.4	23.1	0.03	<1	<1	<0.5

Summary DMPA Geochemical Results

Sample date	Sample ID	Borehole	Depth	Nitrite as N	Nitrate as N	Nitrite + Nitrate as N	Total Kjeldahl Nitrogen as N	Total Nitrogen as N	Total Phosphorus as P	Ammonia as N	Total Organic Carbon
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%
23/02/2015	EB1 0.0-0.5A	EB1	0.0-0.5A	<0.1	<0.1	<0.1	100	100	299	0.5	0.11
23/02/2015	EB1 0.5-1.0A	EB1	0.5-1.0A	<0.1	<0.1	<0.1	140	140	363	0.5	0.26
23/02/2015	EB2 0.0-0.5A	EB2	0.0-0.5A	<0.1	<0.1	<0.1	240	240	310	0.6	0.12
23/02/2015	EB2 0.5-0.85A	EB2	0.5-0.85A	<0.1	0.2	0.2	230	230	313	0.2	0.27
23/02/2015	EB3 0.0-0.7A	EB3	0.0-0.7A	<0.1	0.4	0.4	180	180	323	1	0.18
23/02/2015	EB4 0.0-0.4A	EB4	0.0-0.4A	<0.1	<0.1	<0.1	240	240	252	1.4	0.13
23/02/2015	EB5 0.0-0.5A	EB5	0.0-0.5A	<0.1	<0.1	<0.1	250	250	392	0.9	0.14
23/02/2015	EB6 0.0-0.5A	EB6	0.0-0.5A	<0.1	<0.1	<0.1	240	240	205	1.4	0.11
23/02/2015	EB6 0.5-1.0A	EB6	0.5-1.0A	<0.1	0.2	0.2	250	250	187	1.2	0.08
23/02/2015	EB7 0.0-0.5A	EB7	0.0-0.5A	<0.1	<0.1	<0.1	110	110	331	0.7	0.1
23/02/2015	EB7 0.5-1.0A	EB7	0.5-1.0A	<0.1	<0.1	<0.1	130	130	395	0.7	0.09
22/02/2015	EB8 0.0-0.5A	EB8	0.0-0.5A	<0.1	<0.1	<0.1	230	230	213	0.6	0.1
22/02/2015	EB8 0.5-1.0A	EB8	0.5-1.0A	<0.1	<0.1	<0.1	60	60	148	0.8	0.12
23/02/2015	EB9 0.0-0.7A	EB9	0.0-0.7A	<0.1	<0.1	<0.1	220	220	304	1.8	0.33
22/02/2015	EB10 0.0-0.5A	EB10	0.0-0.5A	<0.1	<0.1	<0.1	180	180	274	0.6	0.16
22/02/2015	EB10 0.5-1.0A	EB10	0.5-1.0A	<0.1	<0.1	<0.1	160	160	314	0.4	0.15
23/02/2015	EB11 0.0-0.5A	EB11	0.0-0.5A	<0.1	<0.1	<0.1	180	180	210	1.1	0.08
23/02/2015	EB11 0.5-0.8A	EB11	0.5-0.8A	<0.1	<0.1	<0.1	170	170	237	1	0.08
24/02/2015	EB12 0.0-0.3A	EB12	0.0-0.3A	<0.1	0.1	0.1	240	240	318	1.4	0.14
22/02/2015	EB13 0.0-0.7A	EB13	0.0-0.7A	<0.1	<0.1	<0.1	290	290	267	2.2	0.17
23/02/2015	EB14 0.0-0.5A	EB14	0.0-0.5A	<0.1	<0.1	<0.1	180	180	335	2.2	0.17
23/02/2015	EB14 0.5-1.0A	EB14	0.5-1.0A	<0.1	<0.1	<0.1	290	290	396	1.5	0.25
23/02/2015	EB15 0.0-0.6A	EB15	0.0-0.6A	<0.1	<0.1	<0.1	210	210	407	1.5	0.09
24/02/2015	EB16 0.0-0.04A	EB16	0.0-0.04A	<0.1	<0.1	<0.1	190	190	824	2.2	0.15
24/02/2015	EB17 0.0-0.5A	EB17	0.0-0.5A	<0.1	<0.1	<0.1	410	410	285	2.2	0.18
22/02/2015	EB18 0.0-0.5A	EB18	0.0-0.5A	<0.1	<0.1	<0.1	120	120	261	0.8	0.13
22/02/2015	EB18 0.5-0.85A	EB18	0.5-0.85A	<0.1	<0.1	<0.1	190	190	210	1.5	0.18
22/02/2015	EB19 0.0-0.5A	EB19	0.0-0.5A	<0.1	<0.1	<0.1	220	220	231	1.1	0.12
22/02/2015	EB19 0.5-0.8A	EB19	0.5-0.8A	<0.1	<0.1	<0.1	180	180	216	2.4	0.27
22/02/2015	EB20 0.0-0.6A	EB20	0.0-0.6A	<0.1	<0.1	<0.1	170	170	187	2.3	0.14
22/02/2015	EB21 0.0-0.5A	EB21	0.0-0.5A	<0.1	<0.1	<0.1	50	50	326	0.6	0.06
22/02/2015	EB21 0.5-1.0A	EB21	0.5-1.0A	<0.1	<0.1	<0.1	60	60	297	0.8	0.05
24/02/2015	EB22 0.0-0.5A	EB22	0.0-0.5A	<0.1	<0.1	<0.1	300	300	210	1.3	0.1
22/02/2015	EB23 0.0-0.5A	EB23	0.0-0.5A	<0.1	0.4	0.4	100	100	261	0.5	0.1
22/02/2015	EB23 0.5-0.7A	EB23	0.5-0.7A	<0.1	<0.1	<0.1	210	210	235	1.3	0.24
22/02/2015	EB24 0.0-0.5A	EB24	0.0-0.5A	<0.1	<0.1	<0.1	70	70	216	1.1	0.07
22/02/2015	EB24 0.5-1.0A	EB24	0.5-1.0A	<0.1	<0.1	<0.1	210	210	207	1.7	0.16
22/02/2015	EB25 0.0-0.6A	EB25	0.0-0.6A	<0.1	<0.1	<0.1	170	170	265	1	0.08
23/02/2015	EB26 0.0-0.5A	EB26	0.0-0.5A	<0.1	0.1	0.1	60	60	188	0.7	0.04
23/02/2015	EB26 0.5-1.0A	EB26	0.5-1.0A	<0.1	<0.1	<0.1	170	170	233	4.3	0.1
24/02/2015	EB27 0.0-0.7A	EB27	0.0-0.7A	<0.1	<0.1	<0.1	250	250	234	1.4	0.1
26/02/2015	EB28 0.0-0.4A	EB28	0.0-0.4A	<0.1	<0.1	<0.1	150	150	284	4.8	0.15
22/02/2015	EB29 0.0-0.5A	EB29	0.0-0.5A	<0.1	<0.1	<0.1	240	240	239	2.7	0.21
22/02/2015	EB30 0.0-0.5A	EB30	0.0-0.5A	<0.1	<0.1	<0.1	280	280	303	1.8	0.25
22/02/2015	EB30 0.5-0.8A	EB30	0.5-0.8A	<0.1	<0.1	<0.1	170	170	319	1	0.1
24/02/2015	EB31 0.0-0.5A	EB31	0.0-0.5A	<0.1	0.3	0.3	240	240	318	1.7	0.18
24/02/2015	EB32 0.0-0.5A	EB32	0.0-0.5A	<0.1	<0.1	<0.1	180	180	161	0.9	0.08
24/02/2015	EB32 0.5-1.0A	EB32	0.5-1.0A	<0.1	<0.1	<0.1	70	70	233	0.7	0.04
24/02/2015	EB33 0.0-0.5A	EB33	0.0-0.5A	<0.1	<0.1	<0.1	120	120	215	1.3	0.14
24/02/2015	EB33 0.5-1.0A	EB33	0.5-1.0A	<0.1	<0.1	<0.1	90	90	176	1.4	0.05
24/02/2015	EB34 0.0-0.5A	EB34	0.0-0.5A	<0.1	<0.1	<0.1	220	220	208	1.2	0.15
24/02/2015	EB34 0.5-1.0A	EB34	0.5-1.0A	<0.1	<0.1	<0.1	90	90	204	1.5	0.11
22/02/2015	EB35 0.0-0.5A	EB35	0.0-0.5A	<0.1	<0.1	<0.1	130	130	195	2.3	0.09
22/02/2015	EB35 0.5-1.0A	EB35	0.5-1.0A	<0.1	<0.1	<0.1	110	110	223	2.3	0.06
24/02/2015	EB36 0.0-0.5A	EB36	0.0-0.5A	<0.1	<0.1	<0.1	200	200	203	1.5	0.22
24/02/2015	EB36 0.5-1.0A	EB36	0.5-1.0A	<0.1	<0.1	<0.1	20	20	72	1.3	0.12

Summary DMPA Geochemical Results

Sample date	Sample ID	Borehole	Depth	Nitrite as N	Nitrate as N	Nitrite + Nitrate as N	Total Kjeldahl Nitrogen as N	Total Nitrogen as N	Total Phosphorus as P	Ammonia as N	Total Organic Carbon
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%
03/02/2015	WB1 0.0-0.5A	WB1	0.0-0.5A	<0.1	0.2	0.2	80	80	153	0.6	0.27
03/02/2015	WB1 0.51.0A	WB1	0.51.0A	<0.1	0.2	0.2	40	40	161	0.6	0.06
03/02/2015	WB2 0.0-0.5A	WB2	0.0-0.5A	<0.1	0.7	0.7	60	60	231	0.7	0.09
03/02/2015	WB2 0.5-1.0A	WB2	0.5-1.0A	<0.1	0.3	0.3	40	40	168	0.2	0.08
04/02/2015	WB3 0.0-0.5a	WB3	0.0-0.5a	<0.1	0.8	0.8	60	60	190	2	0.05
04/02/2015	WB3 0.5-1.0a	WB3	0.5-1.0a	<0.1	0.4	0.4	60	60	205	3.6	0.06
04/02/2015	WB4 0.0-0.5A	WB4	0.0-0.5A	<0.1	0.2	0.2	40	40	183	1.7	0.04
04/02/2015	WB4 0.5-1.0A	WB4	0.5-1.0A	<0.1	0.2	0.2	40	40	193	1.4	0.06
04/02/2015	WB5 0.0-0.5A	WB5	0.0-0.5A	<0.1	0.6	0.6	70	70	209	0.6	0.05
04/02/2015	WB5 0.5-1.0A	WB5	0.5-1.0A	<0.1	0.1	0.1	140	140	247	4	0.23
09/02/2015	WB6 0.0-0.5A	WB6	0.0-0.5A	<0.1	<0.1	<0.1	50	50	184	3.8	0.08
09/02/2015	WB6 0.5-1.0A	WB6	0.5-1.0A	<0.1	<0.1	<0.1	60	60	248	3	0.08
09/02/2015	WB7 0.0-0.5A	WB7	0.0-0.5A	<0.1	0.3	0.3	80	80	266	1.5	0.05
09/02/2015	WB7 0.5-1.0A	WB7	0.5-1.0A	<0.1	<0.1	<0.1	40	40	232	1.1	0.25
04/02/2015	WB8 0.0-0.5A	WB8	0.0-0.5A	<0.1	<0.1	<0.1	300	300	229	5.7	0.27
04/02/2015	WB8 0.5-1.0A	WB8	0.5-1.0A	<0.1	0.1	0.1	200	200	260	20.3	0.41
04/02/2015	WB9 0.0-0.5A	WB9	0.0-0.5A	<0.1	0.1	0.1	60	60	240	3.1	0.1
04/02/2015	WB9 0.5-1.0A	WB9	0.5-1.0A	<0.1	0.1	0.1	100	100	217	6.2	0.06
09/02/2015	WB10 0.0-0.5A	WB10	0.0-0.5A	<0.1	0.1	0.1	60	60	215	2.9	0.38
09/02/2015	WB10 0.5-1.0A	WB10	0.5-1.0A	<0.1	<0.1	<0.1	80	80	234	0.8	0.08
09/02/2015	WB11 0.0-0.5A	WB11	0.0-0.5A	<0.1	0.2	0.2	210	210	277	3	0.37
09/02/2015	WB11 0.5-1.0A	WB11	0.5-1.0A	<0.1	0.2	0.2	50	50	321	2.4	0.1
04/02/2015	WB12 0.0-0.5A	WB12	0.0-0.5A	<0.1	0.1	0.1	40	40	167	5.1	0.05
04/02/2015	WB12 0.5-1.0A	WB12	0.5-1.0A	<0.1	0.1	0.1	70	70	180	8	0.07
04/02/2015	WB13 0.0-0.5A	WB13	0.0-0.5A	<0.1	0.5	0.5	60	60	200	1.1	0.04
04/02/2015	WB13 0.5-1.0A	WB13	0.5-1.0A	<0.1	0.2	0.2	50	50	211	3.4	0.13
09/02/2015	WB14 0.0-0.5A	WB14	0.0-0.5A	<0.1	0.3	0.3	60	60	245	0.5	0.19
09/02/2015	WB14 0.5-1.0A	WB14	0.5-1.0A	<0.1	0.2	0.2	50	50	230	2.7	0.08
09/02/2015	WB15 0.0-0.5A	WB15	0.0-0.5A	<0.1	<0.1	<0.1	70	70	200	3.1	0.14
09/02/2015	WB15 0.5-1.0A	WB15	0.5-1.0A	<0.1	<0.1	<0.1	120	120	166	4.6	0.39
04/02/2015	WB16 0.0-0.5A	WB16	0.0-0.5A	<0.1	0.1	0.1	40	40	196	3.9	0.05
04/02/2015	WB16 0.5-1.0A	WB16	0.5-1.0A	<0.1	0.3	0.3	50	50	184	6	0.06
11/02/2015	WB17 0.0-0.5A	WB17	0.0-0.5A	<0.1	<0.1	<0.1	60	60	210	3.7	0.07
11/02/2015	WB17 0.5-1.0A	WB17	0.5-1.0A	<0.1	<0.1	<0.1	60	60	174	3.7	0.07
04/02/2015	WB18 0.0-0.5A	WB18	0.0-0.5A	<0.1	0.2	0.2	70	70	210	1.8	0.06
04/02/2015	WB18 0.5-1.0A	WB18	0.5-1.0A	<0.1	0.2	0.2	60	60	252	4.9	0.06
11/02/2015	WB19 0.0-0.5A	WB19	0.0-0.5A	<0.1	0.4	0.4	70	70	184	1.1	0.08
11/02/2015	WB19 0.5-1.0A	WB19	0.5-1.0A	<0.1	0.3	0.3	80	80	151	3.5	0.14
11/02/2015	WB20 0.0-0.5A	WB20	0.0-0.5A	<0.1	<0.1	<0.1	40	40	251	1.5	0.06
11/02/2015	WB20 0.5-1.0A	WB20	0.5-1.0A	<0.1	<0.1	<0.1	40	40	224	2.1	0.06
13/02/2015	WB21 0.0-0.5A	WB21	0.0-0.5A	<0.1	<0.1	<0.1	100	100	212	5.1	0.07
13/02/2015	WB21 0.5-1.0A	WB21	0.5-1.0A	<0.1	<0.1	<0.1	90	90	195	7.3	0.09
13/02/2015	WB22 0.0-0.5A	WB22	0.0-0.5A	<0.1	0.1	0.1	80	80	183	2.1	0.06
13/02/2015	WB22 0.5-1.0A	WB22	0.5-1.0A	<0.1	<0.1	<0.1	70	70	198	3.2	0.07
11/02/2015	WB23 0.0-0.5A	WB23	0.0-0.5A	<0.1	<0.1	<0.1	160	160	247	7.7	0.08
11/02/2015	WB23 0.5-1.0A	WB23	0.5-1.0A	<0.1	0.2	0.2	40	40	290	6.6	0.07
13/02/2015	WB24 0.0-0.5A	WB24	0.0-0.5A	<0.1	<0.1	<0.1	70	70	194	3.6	0.06
13/02/2015	WB24 0.5-0.8A	WB24	0.5-0.8A	<0.1	0.1	0.1	80	80	171	4.3	0.06
12/02/2015	WB25 0.0-0.5A	WB25	0.0-0.5A	<0.1	<0.1	<0.1	60	60	232	4.8	0.07
12/02/2015	WB25 0.5-1.0A	WB25	0.5-1.0A	<0.1	<0.1	<0.1	50	50	253	5.8	0.06
12/02/2015	WB26 0.0-0.5A	WB26	0.0-0.5A	<0.1	<0.1	<0.1	60	60	218	2.9	0.06
12/02/2015	WB26 0.5-1.0A	WB26	0.5-1.0A	<0.1	<0.1	<0.1	120	120	239	8.7	0.08
12/02/2015	WB27 0.0-0.5A	WB27	0.0-0.5A	<0.1	0.1	0.1	70	70	230	1.7	0.05
12/02/2015	WB27 0.5-1.0A	WB27	0.5-1.0A	<0.1	0.1	0.1	60	60	201	2.8	0.05
03/02/2015	PC1 0.0-0.5A	PC1	0.0-0.5A	<0.1	0.2	0.2	820	820	339	18.2	0.53
03/02/2015	PC1 0.5-1.0A	PC1	0.5-1.0A	<0.1	0.2	0.2	90	90	154	1.3	0.27

Summary DMPA Geochemical Results

Sample date	Sample ID	Borehole	Depth	Nitrite as N	Nitrate as N	Nitrite + Nitrate as N	Total Kjeldahl Nitrogen as N	Total Nitrogen as N	Total Phosphorus as P	Ammonia as N	Total Organic Carbon
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%
03/02/2015	PC2 0.0-0.5A	PC2	0.0-0.5A	<0.1	0.1	0.1	480	480	264	15.3	0.82
03/02/2015	PC2 0.5-1.0A	PC2	0.5-1.0A	<0.1	0.1	0.1	440	440	263	5.3	0.88
03/02/2015	PC3 0.0-0.5A	PC3	0.0-0.5A	<0.1	0.1	0.1	560	560	251	12.8	0.86
03/02/2015	PC3 0.5-1.0A	PC3	0.5-1.0A	<0.1	0.1	0.1	140	140	292	2.3	0.61
03/02/2015	PC4 0.0-0.5A	PC4	0.0-0.5A	<0.1	0.1	0.1	830	830	412	15.2	1.02
03/02/2015	PC4 0.5-1.0A	PC4	0.5-1.0A	<0.1	0.1	0.1	630	630	280	20	1.06
05/02/2015	PC5 0.0-0.5A	PC5	0.0-0.5A	<0.1	<0.1	<0.1	600	600	276	26.5	0.7
05/02/2015	PC5 0.5-1.0A	PC5	0.5-1.0A	<0.1	<0.1	<0.1	700	700	292	50.8	0.72
08/02/2015	PC6 0.0-0.5A	PC6	0.0-0.5A	<0.1	<0.1	<0.1	320	320	191	2.3	0.55
08/02/2015	PC6 0.5-1.0A	PC6	0.5-1.0A	<0.1	0.2	0.2	310	310	221	4.1	1.03
08/02/2015	PC7 0.0-0.5A	PC7	0.0-0.5A	<0.1	<0.1	<0.1	150	150	202	2.3	0.45
08/02/2015	PC7 0.5-1.0A	PC7	0.5-1.0A	<0.1	0.1	0.1	380	380	225	5.8	0.66
10/02/2015	PC8 0.0-0.5 A	PC8	0.0-0.5 A	<0.1	<0.1	<0.1	260	260	167	1.5	0.38
10/02/2015	PC8 0.5-1.0 A	PC8	0.5-1.0 A	<0.1	<0.1	<0.1	450	450	222	3.1	0.64
09/02/2015	PC9 0.0-0.3A	PC9	0.0-0.3A	<0.1	0.2	0.2	460	460	218	7.5	0.54
16/02/2015	PC10 0.0-0.5A	PC10	0.0-0.5A	<0.1	<0.1	<0.1	350	350	215	2.3	0.68
16/02/2015	PC10 0.5-1.0A	PC10	0.5-1.0A	<0.1	<0.1	<0.1	290	290	216	5.6	0.62
08/02/2015	PC11 0.0-0.5A	PC11	0.0-0.5A	<0.1	<0.1	<0.1	460	460	318	2.1	0.7
15/02/2015	WBE1 0.0-0.5A	WBE1	0.0-0.5A	<0.1	<0.1	<0.1	490	490	171	4.8	0.67
15/02/2015	WBE1 0.5-1.0A	WBE1	0.5-1.0A	<0.1	<0.1	<0.1	350	350	93	5.6	0.68
15/02/2015	WBE2 0.0-0.5A	WBE2	0.0-0.5A	<0.1	<0.1	<0.1	480	480	144	6.2	0.88
15/02/2015	WBE2 0.5-1.0A	WBE2	0.5-1.0A	<0.1	<0.1	<0.1	370	370	141	7.8	0.68
15/02/2015	WBE3 0.0-0.5A	WBE3	0.0-0.5A	<0.1	<0.1	<0.1	580	580	182	6.6	0.82
15/02/2015	WBE3 0.5-1.0A	WBE3	0.5-1.0A	<0.1	<0.1	<0.1	390	390	124	10	0.76
11/02/2015	WBE4 0.0-0.5A	WBE4	0.0-0.5A	<0.1	<0.1	<0.1	310	310	197	4.4	0.95
11/02/2015	WBE4 0.5-1.0A	WBE4	0.5-1.0A	<0.1	<0.1	<0.1	580	580	220	5.9	0.96
11/02/2015	WBE5 0.0-0.5A	WBE5	0.0-0.5A	<0.1	<0.1	<0.1	600	600	196	10.3	1.37
11/02/2015	WBE5 0.5-1.0A	WBE5	0.5-1.0A	<0.1	<0.1	<0.1	620	620	145	8.4	1.42
11/02/2015	WBE6 0.0-0.5A	WBE6	0.0-0.5A	<0.1	<0.1	<0.1	360	360	154	4.5	0.63
11/02/2015	WBE6 0.5-1.0A	WBE6	0.5-1.0A	<0.1	0.1	0.1	1300	1300	165	7.4	4
08/02/2015	WBE7 0.0-0.5A	WBE7	0.0-0.5A	<0.1	<0.1	<0.1	330	330	174	2.6	0.58
08/02/2015	WBE7 0.5-1.0A	WBE7	0.5-1.0A	<0.1	0.2	0.2	340	340	160	3.4	1.16
11/02/2015	WBE8 0.0-0.5A	WBE8	0.0-0.5A	<0.1	<0.1	<0.1	670	670	182	5.1	1.39
11/02/2015	WBE8 0.5-1.0A	WBE8	0.5-1.0A	<0.1	<0.1	<0.1	760	760	166	7.5	3.93
15/02/2015	WBE9 0.0-0.5A	WBE9	0.0-0.5A	<0.1	<0.1	<0.1	580	580	245	6.9	0.7
15/02/2015	WBE9 0.5-1.0A	WBE9	0.5-1.0A	<0.1	0.2	0.2	570	570	142	10.1	1.04
08/02/2015	WBE10 0.0-0.5A	WBE10	0.0-0.5A	<0.1	<0.1	<0.1	380	380	133	2.8	0.86
08/02/2015	WBE10 0.5-1.0A	WBE10	0.5-1.0A	<0.1	0.1	0.1	700	700	150	4.9	1.36
11/02/2015	WBE11 0.0-0.5A	WBE11	0.0-0.5A	<0.1	<0.1	<0.1	780	780	171	6	3.28
11/02/2015	WBE11 0.5-1.0A	WBE11	0.5-1.0A	<0.1	<0.1	<0.1	1470	1470	145	7.9	6.82
11/02/2015	WBE12 0.0-0.5A	WBE12	0.0-0.5A	<0.1	0.5	0.5	480	480	186	3.1	2.92
11/02/2015	WBE12 0.5-1.0A	WBE12	0.5-1.0A	<0.1	0.4	0.4	770	770	151	6.8	2.85
11/02/2015	WBE13 0.0-0.5A	WBE13	0.0-0.5A	<0.1	<0.1	<0.1	370	370	247	4.7	0.91
11/02/2015	WBE13 0.5-1.0A	WBE13	0.5-1.0A	<0.1	<0.1	<0.1	480	480	221	4.7	0.81
08/02/2015	WBE14 0.0-0.5A	WBE14	0.0-0.5A	<0.1	<0.1	<0.1	480	480	152	3.7	1.33
08/02/2015	WBE14 0.5-1.0A	WBE14	0.5-1.0A	<0.1	<0.1	<0.1	750	750	131	5.1	1.18
08/02/2015	WBE15 0.0-0.5A	WBE15	0.0-0.5A	<0.1	<0.1	<0.1	710	710	238	12.7	0.88
08/02/2015	WBE15 0.5-1.0A	WBE15	0.5-1.0A	<0.1	<0.1	<0.1	800	800	166	11.4	3.78
15/02/2015	WBE16 0.0-0.5A	WBE16	0.0-0.5A	<0.1	<0.1	<0.1	640	640	264	3.6	0.7
15/02/2015	WBE16 0.5-1.0A	WBE16	0.5-1.0A	<0.1	0.3	0.3	530	530	159	6.3	1.12
15/02/2015	WBE17 0.0-0.5A	WBE17	0.0-0.5A	<0.1	<0.1	<0.1	520	520	223	4.4	0.72
15/02/2015	WBE17 0.5-1.0A	WBE17	0.5-1.0A	<0.1	<0.1	<0.1	620	620	159	7.6	3.34
15/02/2015	WBE18 0.0-0.5A	WBE18	0.0-0.5A	<0.1	<0.1	<0.1	590	590	201	5.3	0.73
15/02/2015	WBE18 0.5-1.0A	WBE18	0.5-1.0A	<0.1	<0.1	<0.1	520	520	129	5	1.37
08/02/2015	WBE19 0.0-0.5A	WBE19	0.0-0.5A	<0.1	<0.1	<0.1	100	100	74	0.9	0.13
08/02/2015	WBE20 0.0-0.5A	WBE20	0.0-0.5A	<0.1	<0.1	<0.1	600	600	419	19.4	0.72

Summary DMPA Geochemical Results

Sample date	Sample ID	Borehole	Depth	Nitrite as N	Nitrate as N	Nitrite + Nitrate as N	Total Kjeldahl Nitrogen as N	Total Nitrogen as N	Total Phosphorus as P	Ammonia as N	Total Organic Carbon
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%
08/02/2015	WBE20 0.5-1.0A	WBE20	0.5-1.0A	<0.1	<0.1	<0.1	440	440	550	8.3	0.13
08/02/2015	WBE21 0.0-0.5A	WBE21	0.0-0.5A	<0.1	<0.1	<0.1	140	140	61	3.4	0.51
08/02/2015	WBE21 0.5-1.0A	WBE21	0.5-1.0A	<0.1	<0.1	<0.1	620	620	285	12.1	0.17

Summary DMPA Geochemical Results

Sample date	Sample ID	Borehole	Depth	Organophosphorus pesticides																			
				Bromophos-ethyl	Carbophenothion	Chlorfenvinphos (E)	Chlorfenvinphos (Z)	Chlorpyrifos	Chlorpyrifos-methyl	Demeton-S-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion	Fenamiphos	Fenthion	Malathion	Azinphos Methyl	Monocrotophos	Parathion	Parathion-methyl	Pirimphos-ethyl	Prothiofos
				µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
23/02/2015	EB1 0.0-0.5A	EB1	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
23/02/2015	EB1 0.5-1.0A	EB1	0.5-1.0A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
23/02/2015	EB2 0.0-0.5A	EB2	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
23/02/2015	EB2 0.5-0.85A	EB2	0.5-0.85A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
23/02/2015	EB3 0.0-0.7A	EB3	0.0-0.7A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
23/02/2015	EB4 0.0-0.4A	EB4	0.0-0.4A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
23/02/2015	EB5 0.0-0.5A	EB5	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
23/02/2015	EB6 0.0-0.5A	EB6	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
23/02/2015	EB6 0.5-1.0A	EB6	0.5-1.0A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
23/02/2015	EB7 0.0-0.5A	EB7	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
23/02/2015	EB7 0.5-1.0A	EB7	0.5-1.0A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
22/02/2015	EB8 0.0-0.5A	EB8	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
22/02/2015	EB8 0.5-1.0A	EB8	0.5-1.0A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
23/02/2015	EB9 0.0-0.7A	EB9	0.0-0.7A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
22/02/2015	EB10 0.0-0.5A	EB10	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
22/02/2015	EB10 0.5-1.0A	EB10	0.5-1.0A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
23/02/2015	EB11 0.0-0.5A	EB11	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
23/02/2015	EB11 0.5-0.8A	EB11	0.5-0.8A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
24/02/2015	EB12 0.3V	EB12	0.3V	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
22/02/2015	EB13 0.0-0.7A	EB13	0.0-0.7A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
23/02/2015	EB14 0.0-0.5A	EB14	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
23/02/2015	EB14 0.5-1.0A	EB14	0.5-1.0A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
23/02/2015	EB15 0.0-0.6A	EB15	0.0-0.6A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
24/02/2015	EB16 0.3V	EB16	0.3V	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
24/02/2015	EB17 0.3V	EB17	0.3V	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
22/02/2015	EB18 0.0-0.5A	EB18	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
22/02/2015	EB18 0.5-0.85A	EB18	0.5-0.85A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
22/02/2015	EB19 0.0-0.5A	EB19	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
22/02/2015	EB19 0.5-0.8A	EB19	0.5-0.8A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
22/02/2015	EB20 0.0-0.6A	EB20	0.0-0.6A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
22/02/2015	EB21 0.0-0.5A	EB21	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
22/02/2015	EB21 0.5-1.0A	EB21	0.5-1.0A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
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22/02/2015	EB23 0.0-0.5A	EB23	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
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22/02/2015	EB24 0.0-0.5A	EB24	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
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22/02/2015	EB25 0.0-0.6A	EB25	0.0-0.6A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
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22/02/2015	EB30 0.0-0.5A	EB30	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
22/02/2015	EB30 0.5-0.8A	EB30	0.5-0.8A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
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24/02/2015	EB33 0.7V	EB33	0.7V	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
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22/02/2015	EB35 0.0-0.5A	EB35	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
22/02/2015	EB35 0.5-1.0A	EB35	0.5-1.0A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
24/02/2015	EB36 0.0-0.5A	EB36	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
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03/02/2015	WB1 0.0-0.5A	WB1	0.0-0.5A	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
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03/02/2015	WB2 0.0-0.5A	WB2	0.0-0.5A	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
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04/02/2015	WB3 0.5-1.0a	WB3	0.5-1.0a	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
04/02/2015	WB4 0.0-0.5A	WB4	0.0-0.5A	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
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04/02/2015	WB8 0.0-0.5A	WB8	0.0-0.5A	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
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04/02/2015	WB9 0.0-0.5A	WB9	0.0-0.5A	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
04/02/2015	WB9 0.5-1.0A	WB9	0.5-1.0A	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
09/02/2015	WB10 0.0-0.5A	WB10	0.0-0.5A	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10

Summary DMPA Geochemical Results

Sample date	Sample ID	Borehole	Depth	Organophosphorus pesticides																			
				Bromophos-ethyl	Carbophenothion	Chlorfenvinphos (E)	Chlorfenvinphos (Z)	Chlorpyrifos	Chlorpyrifos-methyl	Demeton-S-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion	Fenamiphos	Fenthion	Malathion	Azinphos Methyl	Monocrotophos	Parathion	Parathion-methyl	Pirimphos-ethyl	Prothiofos
				µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
09/02/2015	WB10 0.5-1.0A	WB10	0.5-1.0A	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
09/02/2015	WB11 0.0-0.5A	WB11	0.0-0.5A	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
09/02/2015	WB11 0.5-1.0A	WB11	0.5-1.0A	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
04/02/2015	WB12 0.0-0.5A	WB12	0.0-0.5A	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
04/02/2015	WB12 0.5-1.0A	WB12	0.5-1.0A	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
04/02/2015	WB13 0.0-0.5A	WB13	0.0-0.5A	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
04/02/2015	WB13 0.5-1.0A	WB13	0.5-1.0A	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
09/02/2015	WB14 0.0-0.5A	WB14	0.0-0.5A	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
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09/02/2015	WB15 0.0-0.5A	WB15	0.0-0.5A	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
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04/02/2015	WB16 0.5-1.0A	WB16	0.5-1.0A	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
11/02/2015	WB17 0.0-0.5A	WB17	0.0-0.5A	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
11/02/2015	WB17 0.5-1.0A	WB17	0.5-1.0A	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
04/02/2015	WB18 0.0-0.5A	WB18	0.0-0.5A	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
04/02/2015	WB18 0.5-1.0A	WB18	0.5-1.0A	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
11/02/2015	WB19 0.0-0.5A	WB19	0.0-0.5A	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
11/02/2015	WB19 0.5-1.0A	WB19	0.5-1.0A	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
11/02/2015	WB20 0.0-0.5A	WB20	0.0-0.5A	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
11/02/2015	WB20 0.5-1.0A	WB20	0.5-1.0A	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
13/02/2015	WB21 0.0-0.5A	WB21	0.0-0.5A	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
13/02/2015	WB21 0.5-1.0A	WB21	0.5-1.0A	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
13/02/2015	WB22 0.0-0.5A	WB22	0.0-0.5A	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
13/02/2015	WB22 0.5-1.0A	WB22	0.5-1.0A	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
11/02/2015	WB23 0.0-0.5A	WB23	0.0-0.5A	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
11/02/2015	WB23 0.5-1.0A	WB23	0.5-1.0A	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
13/02/2015	WB24 0.0-0.5A	WB24	0.0-0.5A	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
13/02/2015	WB24 0.5-0.8A	WB24	0.5-0.8A	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
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12/02/2015	WB27 0.5-1.0A	WB27	0.5-1.0A	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
03/02/2015	PC1 0.0-0.5A	PC1	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
03/02/2015	PC1 0.5-1.0A	PC1	0.5-1.0A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
03/02/2015	PC2 0.0-0.5A	PC2	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
03/02/2015	PC2 0.5-1.0A	PC2	0.5-1.0A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
03/02/2015	PC3 0.0-0.5A	PC3	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
03/02/2015	PC3 0.5-1.0A	PC3	0.5-1.0A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
03/02/2015	PC4 0.0-0.5A	PC4	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
03/02/2015	PC4 0.5-1.0A	PC4	0.5-1.0A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
05/02/2015	PC5 0.0-0.5A	PC5	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
05/02/2015	PC5 0.5-1.0A	PC5	0.5-1.0A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
08/02/2015	PC6 0.0-0.5A	PC6	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
08/02/2015	PC6 0.5-1.0A	PC6	0.5-1.0A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
08/02/2015	PC7 0.0-0.5A	PC7	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
08/02/2015	PC7 0.5-1.0A	PC7	0.5-1.0A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
10/02/2015	PC8 0.0-0.5 A	PC8	0.0-0.5 A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
10/02/2015	PC8 0.5-1.0 A	PC8	0.5-1.0 A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
09/02/2015	PC9 0.0-0.3A	PC9	0.0-0.3A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
16/02/2015	PC10 0.0-0.5A	PC10	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
16/02/2015	PC10 0.5-1.0A	PC10	0.5-1.0A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
08/02/2015	PC11 0.0-0.5A	PC11	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
15/02/2015	WBE1 0.0-0.5A	WBE1	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
15/02/2015	WBE1 0.5-1.0A	WBE1	0.5-1.0A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
15/02/2015	WBE2 0.0-0.5A	WBE2	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
15/02/2015	WBE2 0.5-1.0A	WBE2	0.5-1.0A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
15/02/2015	WBE3 0.0-0.5A	WBE3	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
15/02/2015	WBE3 0.5-1.0A	WBE3	0.5-1.0A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
11/02/2015	WBE4 0.0-0.5A	WBE4	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
11/02/2015	WBE4 0.5-1.0A	WBE4	0.5-1.0A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
11/02/2015	WBE5 0.0-0.5A	WBE5	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
11/02/2015	WBE5 0.5-1.0A	WBE5	0.5-1.0A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
11/02/2015	WBE6 0.0-0.5A	WBE6	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
11/02/2015	WBE6 0.5-1.0A	WBE6	0.5-1.0A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
08/02/2015	WBE7 0.0-0.5A	WBE7	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
08/02/2015	WBE7 0.5-1.0A	WBE7	0.5-1.0A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
11/02/2015	WBE8 0.0-0.5A	WBE8	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
11/02/2015	WBE8 0.5-1.0A	WBE8	0.5-1.0A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
15/02/2015	WBE9 0.0-0.5A	WBE9	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
15/02/2015	WBE9 0.5-1.0A	WBE9	0.5-1.0A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
08/02/2015	WBE10 0.0-0.5A	WBE10	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
08/02/2015	WBE10 0.5-1.0A	WBE10	0.5-1.0A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10

Summary DMPA Geochemical Results

Sample date	Sample ID	Borehole	Depth	Organophosphorus pesticides																			
				Bromophos-ethyl	Carbophenothion	Chlorfenvinphos (E)	Chlorfenvinphos (Z)	Chlorpyrifos	Chlorpyrifos-methyl	Demeton-S-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion	Fenamiphos	Fenthion	Malathion	Azinphos Methyl	Monocrotophos	Parathion	Parathion-methyl	Pirimphos-ethyl	Prothiofos
				µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
11/02/2015	WBE11 0.0-0.5A	WBE11	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
11/02/2015	WBE11 0.5-1.0A	WBE11	0.5-1.0A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
11/02/2015	WBE12 0.0-0.5A	WBE12	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
11/02/2015	WBE12 0.5-1.0A	WBE12	0.5-1.0A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
11/02/2015	WBE13 0.0-0.5A	WBE13	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
11/02/2015	WBE13 0.5-1.0A	WBE13	0.5-1.0A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
08/02/2015	WBE14 0.0-0.5A	WBE14	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
08/02/2015	WBE14 0.5-1.0A	WBE14	0.5-1.0A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
08/02/2015	WBE15 0.0-0.5A	WBE15	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
08/02/2015	WBE15 0.5-1.0A	WBE15	0.5-1.0A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
15/02/2015	WBE16 0.0-0.5A	WBE16	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
15/02/2015	WBE16 0.5-1.0A	WBE16	0.5-1.0A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
15/02/2015	WBE17 0.0-0.5A	WBE17	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
15/02/2015	WBE17 0.5-1.0A	WBE17	0.5-1.0A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
15/02/2015	WBE18 0.0-0.5A	WBE18	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
15/02/2015	WBE18 0.5-1.0A	WBE18	0.5-1.0A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
08/02/2015	WBE19 0.0-0.5A	WBE19	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
08/02/2015	WBE20 0.0-0.5A	WBE20	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
08/02/2015	WBE20 0.5-1.0A	WBE20	0.5-1.0A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
08/02/2015	WBE21 0.0-0.5A	WBE21	0.0-0.5A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
08/02/2015	WBE21 0.5-1.0A	WBE21	0.5-1.0A	<10	<10	<10.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10

Summary DMPA Geochemical Results

Sample date	Sample ID	Borehole	Depth	Organochlorine pesticides																								
				Aldrin	alpha-BHC	beta-BHC	delta-BHC	4.4`-DDD	4.4`-DDE	4.4`-DDT	Sum of DDD + DDE + DDT	Dieldrin	alpha-Endosulfan	beta-Endosulfan	Endosulfan sulfate	Endosulfan (sum)	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachlorobenzene (HCB)	gamma-BHC	Methoxychlor	cis-Chlordane	trans-Chlordane	Total Chlordane (sum)	Oxychlordane
				µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
23/02/2015	EB1 0.0-0.5A	EB1	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
23/02/2015	EB1 0.5-1.0A	EB1	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
23/02/2015	EB2 0.0-0.5A	EB2	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
23/02/2015	EB2 0.5-0.85A	EB2	0.5-0.85A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
23/02/2015	EB3 0.0-0.7A	EB3	0.0-0.7A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
23/02/2015	EB4 0.0-0.4A	EB4	0.0-0.4A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
23/02/2015	EB5 0.0-0.5A	EB5	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
23/02/2015	EB6 0.0-0.5A	EB6	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
23/02/2015	EB6 0.5-1.0A	EB6	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
23/02/2015	EB7 0.0-0.5A	EB7	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
23/02/2015	EB7 0.5-1.0A	EB7	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
22/02/2015	EB8 0.0-0.5A	EB8	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
22/02/2015	EB8 0.5-1.0A	EB8	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
23/02/2015	EB9 0.0-0.7A	EB9	0.0-0.7A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
22/02/2015	EB10 0.0-0.5A	EB10	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
22/02/2015	EB10 0.5-1.0A	EB10	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
23/02/2015	EB11 0.0-0.5A	EB11	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
23/02/2015	EB11 0.5-0.8A	EB11	0.5-0.8A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
24/02/2015	EB12 0.3V	EB12	0.3V	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
22/02/2015	EB13 0.0-0.7A	EB13	0.0-0.7A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
23/02/2015	EB14 0.0-0.5A	EB14	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
23/02/2015	EB14 0.5-1.0A	EB14	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
23/02/2015	EB15 0.0-0.6A	EB15	0.0-0.6A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
24/02/2015	EB16 0.3V	EB16	0.3V	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
24/02/2015	EB17 0.3V	EB17	0.3V	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
22/02/2015	EB18 0.0-0.5A	EB18	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
22/02/2015	EB18 0.5-0.85A	EB18	0.5-0.85A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
22/02/2015	EB19 0.0-0.5A	EB19	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
22/02/2015	EB19 0.5-0.8A	EB19	0.5-0.8A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
22/02/2015	EB20 0.0-0.6A	EB20	0.0-0.6A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
22/02/2015	EB21 0.0-0.5A	EB21	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
22/02/2015	EB21 0.5-1.0A	EB21	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
24/02/2015	EB22 0.3V	EB22	0.3V	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
22/02/2015	EB23 0.0-0.5A	EB23	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
22/02/2015	EB23 0.5-0.7A	EB23	0.5-0.7A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
22/02/2015	EB24 0.0-0.5A	EB24	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
22/02/2015	EB24 0.5-1.0A	EB24	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
22/02/2015	EB25 0.0-0.6A	EB25	0.0-0.6A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
23/02/2015	EB26 0.0-0.5A	EB26	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
23/02/2015	EB26 0.5-1.0A	EB26	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
24/02/2015	EB27 0.7V	EB27	0.7V	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
26/02/2015	EB28 0.0-0.4A	EB28	0.0-0.4A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
22/02/2015	EB29 0.0-0.5A	EB29	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
22/02/2015	EB30 0.0-0.5A	EB30	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
22/02/2015	EB30 0.5-0.8A	EB30	0.5-0.8A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
24/02/2015	EB31 0.3V	EB31	0.3V	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
24/02/2015	EB32 0.0-0.5A	EB32	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
24/02/2015	EB32 0.7V	EB32	0.7V	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
24/02/2015	EB33 0.0-0.5A	EB33	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
24/02/2015	EB33 0.7V	EB33	0.7V	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
24/02/2015	EB34 0.0-0.5A	EB34	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
24/02/2015	EB34 0.7V	EB34	0.7V	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
22/02/2015	EB35 0.0-0.5A	EB35	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
22/02/2015	EB35 0.5-1.0A	EB35	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
24/02/2015	EB36 0.0-0.5A	EB36	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
24/02/2015	EB36 0.7V	EB36	0.7V	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
03/02/2015	WB1 0.0-0.5A	WB1	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
03/02/2015	WB1 0.51.0A	WB1	0.51.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
03/02/2015	WB2 0.0-0.5A	WB2	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
03/02/2015	WB2 0.5-1.0A	WB2	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
04/02/2015	WB3 0.0-0.5a	WB3	0.0-0.5a	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
04/02/2015	WB3 0.5-1.0a	WB3	0.5-1.0a	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
04/02/2015	WB4 0.0-0.5A	WB4	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
04/02/2015	WB4 0.5-1.0A	WB4	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
04/02/2015	WB5 0.0-0.5A	WB5	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
04/02/2015	WB5 0.5-1.0A	WB5	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
09/02/2015	WB6 0.0-0.5A	WB6	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
09/02/2015	WB6 0.5-1.0A	WB6	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
09/02/2015	WB7 0.0-0.5A	WB7	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
09/02/2015	WB7 0.5-1.0A	WB7	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
04/02/2015	WB8 0.0-0.5A	WB8	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
04/02/2015	WB8 0.5-1.0A	WB8	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
04/02/2015	WB9 0.0-0.5A	WB9	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
04/02/2015	WB9 0.5-1.0A	WB9	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
09/02/2015	WB10 0.0-0.5A	WB10	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
09/02/2015	WB10 0.5-1.0A	WB10	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
09/02/2015	WB11 0.0-0.5A	WB11	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
09/02/2015	WB11 0.5-1.0A	WB11	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
04/02/2015	WB12 0.0-0.5A	WB12	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
04/02/2015	WB12 0.5-1.0A	WB12	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
04/02/2015	WB13 0.0-0.5A	WB13	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
04/02/2015	WB13 0.5-1.0A	WB13	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50

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File Summary DMPA Geochem Results.xlsx 12/

Summary DMPA Geochemical Results

Sample date	Sample ID	Borehole	Depth	Organochlorine pesticides																								
				Aldrin	alpha-BHC	beta-BHC	delta-BHC	4.4`-DDD	4.4`-DDE	4.4`-DDT	Sum of DDD + DDE + DDT	Dieldrin	alpha-Endosulfan	beta-Endosulfan	Endosulfan sulfate	Endosulfan (sum)	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachlorobenzene (HCB)	gamma-BHC	Methoxychlor	cis-Chlordane	trans-Chlordane	Total Chlordane (sum)	Oxychlordane
				µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
09/02/2015	WB14 0.0-0.5A	WB14	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
09/02/2015	WB14 0.5-1.0A	WB14	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
09/02/2015	WB15 0.0-0.5A	WB15	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
09/02/2015	WB15 0.5-1.0A	WB15	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
04/02/2015	WB16 0.0-0.5A	WB16	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
04/02/2015	WB16 0.5-1.0A	WB16	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
11/02/2015	WB17 0.0-0.5A	WB17	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
11/02/2015	WB17 0.5-1.0A	WB17	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
04/02/2015	WB18 0.0-0.5A	WB18	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
04/02/2015	WB18 0.5-1.0A	WB18	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
11/02/2015	WB19 0.0-0.5A	WB19	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
11/02/2015	WB19 0.5-1.0A	WB19	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
11/02/2015	WB20 0.0-0.5A	WB20	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
11/02/2015	WB20 0.5-1.0A	WB20	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
13/02/2015	WB21 0.0-0.5A	WB21	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
13/02/2015	WB21 0.5-1.0A	WB21	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
13/02/2015	WB22 0.0-0.5A	WB22	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
13/02/2015	WB22 0.5-1.0A	WB22	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
11/02/2015	WB23 0.0-0.5A	WB23	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
11/02/2015	WB23 0.5-1.0A	WB23	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
13/02/2015	WB24 0.0-0.5A	WB24	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
13/02/2015	WB24 0.5-0.8A	WB24	0.5-0.8A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
12/02/2015	WB25 0.0-0.5A	WB25	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
12/02/2015	WB25 0.5-1.0A	WB25	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
12/02/2015	WB26 0.0-0.5A	WB26	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
12/02/2015	WB26 0.5-1.0A	WB26	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
12/02/2015	WB27 0.0-0.5A	WB27	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
12/02/2015	WB27 0.5-1.0A	WB27	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
03/02/2015	PC1 0.0-0.5A	PC1	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
03/02/2015	PC1 0.5-1.0A	PC1	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.75	0.75	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
03/02/2015	PC2 0.0-0.5A	PC2	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
03/02/2015	PC2 0.5-1.0A	PC2	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
03/02/2015	PC3 0.0-0.5A	PC3	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
03/02/2015	PC3 0.5-1.0A	PC3	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
03/02/2015	PC4 0.0-0.5A	PC4	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
03/02/2015	PC4 0.5-1.0A	PC4	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
05/02/2015	PC5 0.0-0.5A	PC5	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
05/02/2015	PC5 0.5-1.0A	PC5	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
08/02/2015	PC6 0.0-0.5A	PC6	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
08/02/2015	PC6 0.5-1.0A	PC6	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
08/02/2015	PC7 0.0-0.5A	PC7	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
08/02/2015	PC7 0.5-1.0A	PC7	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
10/02/2015	PC8 0.0-0.5 A	PC8	0.0-0.5 A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
10/02/2015	PC8 0.5-1.0 A	PC8	0.5-1.0 A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
09/02/2015	PC9 0.0-0.3A	PC9	0.0-0.3A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
16/02/2015	PC10 0.0-0.5A	PC10	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
16/02/2015	PC10 0.5-1.0A	PC10	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
08/02/2015	PC11 0.0-0.5A	PC11	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
15/02/2015	WBE1 0.0-0.5A	WBE1	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
15/02/2015	WBE1 0.5-1.0A	WBE1	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
15/02/2015	WBE2 0.0-0.5A	WBE2	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
15/02/2015	WBE2 0.5-1.0A	WBE2	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
15/02/2015	WBE3 0.0-0.5A	WBE3	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
15/02/2015	WBE3 0.5-1.0A	WBE3	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
11/02/2015	WBE4 0.0-0.5A	WBE4	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
11/02/2015	WBE4 0.5-1.0A	WBE4	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
11/02/2015	WBE5 0.0-0.5A	WBE5	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
11/02/2015	WBE5 0.5-1.0A	WBE5	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
11/02/2015	WBE6 0.0-0.5A	WBE6	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
11/02/2015	WBE6 0.5-1.0A	WBE6	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
08/02/2015	WBE7 0.0-0.5A	WBE7	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
08/02/2015	WBE7 0.5-1.0A	WBE7	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
11/02/2015	WBE8 0.0-0.5A	WBE8	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
11/02/2015	WBE8 0.5-1.0A	WBE8	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
15/02/2015	WBE9 0.0-0.5A	WBE9	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
15/02/2015	WBE9 0.5-1.0A	WBE9	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
08/02/2015	WBE10 0.0-0.5A	WBE10	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
08/02/2015	WBE10 0.5-1.0A	WBE10	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
11/02/2015	WBE11 0.0-0.5A	WBE11	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
11/02/2015	WBE11 0.5-1.0A	WBE11	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
11/02/2015	WBE12 0.0-0.5A	WBE12	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
11/02/2015	WBE12 0.5-1.0A	WBE12	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
11/02/2015	WBE13 0.0-0.5A	WBE13	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
11/02/2015	WBE13 0.5-1.0A	WBE13	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
08/02/2015	WBE14 0.0-0.5A	WBE14	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
08/02/2015	WBE14 0.5-1.0A	WBE14	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
08/02/2015	WBE15 0.0-0.5A	WBE15	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
08/02/2015	WBE15 0.5-1.0A	WBE15	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
15/02/2015	WBE16 0.0-0.5A	WBE16	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
15/02/2015	WBE16 0.5-1.0A	WBE16	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
15/02/2015	WBE17 0.0-0.5A	WBE17	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
15/02/2015	WBE17 0.5-1.0A	WBE17	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.

Summary DMPA Geochemical Results

Sample date	Sample ID	Borehole	Depth	Organochlorine pesticides																								
				Aldrin	alpha-BHC	beta-BHC	delta-BHC	4.4`-DDD	4.4`-DDE	4.4`-DDT	Sum of DDD + DDE + DDT	Dieldrin	alpha-Endosulfan	beta-Endosulfan	Endosulfan sulfate	Endosulfan (sum)	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor epoxide	Hexachlorobenzene (HCB)	gamma-BHC	Methoxychlor	cis-Chlordane	trans-Chlordane	Total Chlordane (sum)	Oxychlordane
				µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
15/02/2015	WBE18 0.0-0.5A	WBE18	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
15/02/2015	WBE18 0.5-1.0A	WBE18	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
08/02/2015	WBE19 0.0-0.5A	WBE19	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
08/02/2015	WBE20 0.0-0.5A	WBE20	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
08/02/2015	WBE20 0.5-1.0A	WBE20	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
08/02/2015	WBE21 0.0-0.5A	WBE21	0.0-0.5A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50
08/02/2015	WBE21 0.5-1.0A	WBE21	0.5-1.0A	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.25	<0.50	<0.25	<0.25	<0.25	<0.50

Summary DMPA Geochemical Results

Sample date	Sample ID	Borehole	Depth	Naphthalene	2-Methylnaphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benz(a) anthracene	Chrysene	Benzo(b+j) fluoranthene	Benzo(k) fluoranthen	Benzo€ pyrene	Benzo(a) pyrene	Perylene	Benzo(g.h.i) perylene	Dibenz(a.h) anthracene	Indeno(1.2.3.cd) pyrene	Coronene	Sum of PAHs
				µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
23/02/2015	EB1 0.0-0.5A	EB1	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
23/02/2015	EB1 0.5-1.0A	EB1	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
23/02/2015	EB2 0.0-0.5A	EB2	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
23/02/2015	EB2 0.5-0.85A	EB2	0.5-0.85A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
23/02/2015	EB3 0.0-0.7A	EB3	0.0-0.7A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
23/02/2015	EB4 0.0-0.4A	EB4	0.0-0.4A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
23/02/2015	EB5 0.0-0.5A	EB5	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
23/02/2015	EB6 0.0-0.5A	EB6	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
23/02/2015	EB6 0.5-1.0A	EB6	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
23/02/2015	EB7 0.0-0.5A	EB7	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
23/02/2015	EB7 0.5-1.0A	EB7	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
22/02/2015	EB8 0.0-0.5A	EB8	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
22/02/2015	EB8 0.5-1.0A	EB8	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
23/02/2015	EB9 0.0-0.7A	EB9	0.0-0.7A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
22/02/2015	EB10 0.0-0.5A	EB10	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
22/02/2015	EB10 0.5-1.0A	EB10	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
23/02/2015	EB11 0.0-0.5A	EB11	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
23/02/2015	EB11 0.5-0.8A	EB11	0.5-0.8A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
24/02/2015	EB12 0.3V	EB12	0.3V	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
22/02/2015	EB13 0.0-0.7A	EB13	0.0-0.7A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
23/02/2015	EB14 0.0-0.5A	EB14	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
23/02/2015	EB14 0.5-1.0A	EB14	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
23/02/2015	EB15 0.0-0.6A	EB15	0.0-0.6A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
24/02/2015	EB16 0.3V	EB16	0.3V	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
24/02/2015	EB17 0.3V	EB17	0.3V	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
22/02/2015	EB18 0.0-0.5A	EB18	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
22/02/2015	EB18 0.5-0.85A	EB18	0.5-0.85A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
22/02/2015	EB19 0.0-0.5A	EB19	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
22/02/2015	EB19 0.5-0.8A	EB19	0.5-0.8A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
22/02/2015	EB20 0.0-0.6A	EB20	0.0-0.6A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
22/02/2015	EB21 0.0-0.5A	EB21	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
22/02/2015	EB21 0.5-1.0A	EB21	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
24/02/2015	EB22 0.3V	EB22	0.3V	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
22/02/2015	EB23 0.0-0.5A	EB23	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
22/02/2015	EB23 0.5-0.7A	EB23	0.5-0.7A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
22/02/2015	EB24 0.0-0.5A	EB24	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
22/02/2015	EB24 0.5-1.0A	EB24	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
22/02/2015	EB25 0.0-0.6A	EB25	0.0-0.6A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
23/02/2015	EB26 0.0-0.5A	EB26	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
23/02/2015	EB26 0.5-1.0A	EB26	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
24/02/2015	EB27 0.7V	EB27	0.7V	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
26/02/2015	EB28 0.0-0.4A	EB28	0.0-0.4A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
22/02/2015	EB29 0.0-0.5A	EB29	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
22/02/2015	EB30 0.0-0.5A	EB30	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
22/02/2015	EB30 0.5-0.8A	EB30	0.5-0.8A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
24/02/2015	EB31 0.3V	EB31	0.3V	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
24/02/2015	EB32 0.0-0.5A	EB32	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
24/02/2015	EB32 0.7V	EB32	0.7V	<5	<5	<4	<4	<4	4	<4	6	4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	14
24/02/2015	EB33 0.0-0.5A	EB33	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
24/02/2015	EB33 0.7V	EB33	0.7V	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
24/02/2015	EB34 0.0-0.5A	EB34	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
24/02/2015	EB34 0.7V	EB34	0.7V	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
22/02/2015	EB35 0.0-0.5A	EB35	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
22/02/2015	EB35 0.5-1.0A	EB35	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
24/02/2015	EB36 0.0-0.5A	EB36	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
24/02/2015	EB36 0.7V	EB36	0.7V	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
03/02/2015	WB1 0.0-0.5A	WB1	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
03/02/2015	WB1 0.51.0A	WB1	0.51.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
03/02/2015	WB2 0.0-0.5A	WB2	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
03/02/2015	WB2 0.5-1.0A	WB2	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
04/02/2015	WB3 0.0-0.5a	WB3	0.0-0.5a	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
04/02/2015	WB3 0.5-1.0a	WB3	0.5-1.0a	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
04/02/2015	WB4 0.0-0.5A	WB4	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
04/02/2015	WB4 0.5-1.0A	WB4	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
04/02/2015	WB5 0.0-0.5A	WB5	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
04/02/2015	WB5 0.5-1.0A	WB5	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
09/02/2015	WB6 0.0-0.5A	WB6	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
09/02/2015	WB6 0.5-1.0A	WB6	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
09/02/2015	WB7 0.0-0.5A	WB7	0.0-0.5A	<5	<5	<4	9	<4	<4	<4	<4	12	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	21
09/02/2015	WB7 0.5-1.0A	WB7	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
04/02/2015	WB8 0.0-0.5A	WB8	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
04/02/2015	WB8 0.5-1.0A	WB8	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
04/02/2015	WB9 0.0-0.5A	WB9	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
04/02/2015	WB9 0.5-1.0A	WB9	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4

Summary DMPA Geochemical Results

Sample date	Sample ID	Borehole	Depth	Naphthalene	2-Methylnaphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benz(a) anthracene	Chrysene	Benzo(b+j) fluoranthene	Benzo(k) fluoranthen	Benzo€ pyrene	Benzo(a) pyrene	Perylene	Benzo(g.h.i) perylene	Dibenz(a.h) anthracene	Indeno(1.2.3.cd) pyrene	Coronene	Sum of PAHs
				µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
09/02/2015	WB10 0.0-0.5A	WB10	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
09/02/2015	WB10 0.5-1.0A	WB10	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
09/02/2015	WB11 0.0-0.5A	WB11	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
09/02/2015	WB11 0.5-1.0A	WB11	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
04/02/2015	WB12 0.0-0.5A	WB12	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
04/02/2015	WB12 0.5-1.0A	WB12	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
04/02/2015	WB13 0.0-0.5A	WB13	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
04/02/2015	WB13 0.5-1.0A	WB13	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
09/02/2015	WB14 0.0-0.5A	WB14	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
09/02/2015	WB14 0.5-1.0A	WB14	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
09/02/2015	WB15 0.0-0.5A	WB15	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
09/02/2015	WB15 0.5-1.0A	WB15	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
04/02/2015	WB16 0.0-0.5A	WB16	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
04/02/2015	WB16 0.5-1.0A	WB16	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
11/02/2015	WB17 0.0-0.5A	WB17	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
11/02/2015	WB17 0.5-1.0A	WB17	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
04/02/2015	WB18 0.0-0.5A	WB18	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
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11/02/2015	WB19 0.0-0.5A	WB19	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
11/02/2015	WB19 0.5-1.0A	WB19	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
11/02/2015	WB20 0.0-0.5A	WB20	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
11/02/2015	WB20 0.5-1.0A	WB20	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
13/02/2015	WB21 0.0-0.5A	WB21	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
13/02/2015	WB21 0.5-1.0A	WB21	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
13/02/2015	WB22 0.0-0.5A	WB22	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
13/02/2015	WB22 0.5-1.0A	WB22	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	5
11/02/2015	WB23 0.0-0.5A	WB23	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
11/02/2015	WB23 0.5-1.0A	WB23	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
13/02/2015	WB24 0.0-0.5A	WB24	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
13/02/2015	WB24 0.5-0.8A	WB24	0.5-0.8A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
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12/02/2015	WB25 0.5-1.0A	WB25	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
12/02/2015	WB26 0.0-0.5A	WB26	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
12/02/2015	WB26 0.5-1.0A	WB26	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
12/02/2015	WB27 0.0-0.5A	WB27	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
12/02/2015	WB27 0.5-1.0A	WB27	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
03/02/2015	PC1 0.0-0.5A	PC1	0.0-0.5A	<5	<5	<4	<4	<4	8	<4	8	9	5	10	4	<4	<4	<4	7	5	<5	<5	<5	56
03/02/2015	PC1 0.5-1.0A	PC1	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
03/02/2015	PC2 0.0-0.5A	PC2	0.0-0.5A	<5	<5	<4	<4	<4	5	<4	20	20	14	11	6	8	5	8	5	6	<4	6	<5	114
03/02/2015	PC2 0.5-1.0A	PC2	0.5-1.0A	<5	<5	<4	<4	<4	4	<4	5	7	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	16
03/02/2015	PC3 0.0-0.5A	PC3	0.0-0.5A	<5	<5	<4	<4	<4	6	<4	8	8	4	5	<4	<4	<4	<4	<4	<4	<4	<4	<5	31
03/02/2015	PC3 0.5-1.0A	PC3	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
03/02/2015	PC4 0.0-0.5A	PC4	0.0-0.5A	7	<5	<4	<4	<4	7	<4	8	9	<4	6	4	<4	<4	<4	7	4	<4	<4	<5	52
03/02/2015	PC4 0.5-1.0A	PC4	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	5	7	<4	<4	<4	<4	<4	<4	8	<4	<4	<4	<5	20
05/02/2015	PC5 0.0-0.5A	PC5	0.0-0.5A	<5	<5	<4	<4	<4	9	<4	11	10	7	8	6	<4	7	6	6	7	<4	5	<5	82
05/02/2015	PC5 0.5-1.0A	PC5	0.5-1.0A	<5	<5	<4	<4	<4	11	<4	16	16	10	12	12	8	11	11	12	10	<4	9	<5	138
08/02/2015	PC6 0.0-0.5A	PC6	0.0-0.5A	<5	<5	<4	<4	<4	5	<4	9	8	4	5	5	<4	<4	<4	4	<4	<4	<4	<5	40
08/02/2015	PC6 0.5-1.0A	PC6	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	5	<4	<4	<4	<5	5
08/02/2015	PC7 0.0-0.5A	PC7	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
08/02/2015	PC7 0.5-1.0A	PC7	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	6	<4	<4	<4	<5	6
10/02/2015	PC8 0.0-0.5 A	PC8	0.0-0.5 A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	5	<4	4	<5	9
10/02/2015	PC8 0.5-1.0 A	PC8	0.5-1.0 A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
09/02/2015	PC9 0.0-0.3A	PC9	0.0-0.3A	<5	<5	<4	<4	<4	7	<4	7	9	<4	<4	6	<4	4	4	<4	4	<4	<4	<5	41
16/02/2015	PC10 0.0-0.5A	PC10	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
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15/02/2015	WBE1 0.0-0.5A	WBE1	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
15/02/2015	WBE1 0.5-1.0A	WBE1	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	4
15/02/2015	WBE2 0.0-0.5A	WBE2	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
15/02/2015	WBE2 0.5-1.0A	WBE2	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
15/02/2015	WBE3 0.0-0.5A	WBE3	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
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11/02/2015	WBE4 0.0-0.5A	WBE4	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
11/02/2015	WBE4 0.5-1.0A	WBE4	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
11/02/2015	WBE5 0.0-0.5A	WBE5	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
11/02/2015	WBE5 0.5-1.0A	WBE5	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
11/02/2015	WBE6 0.0-0.5A	WBE6	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
11/02/2015	WBE6 0.5-1.0A	WBE6	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4	<4	<4	<5	<4
08/02/2015	WBE7 0.0-0.5A	WBE7	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
08/02/2015	WBE7 0.5-1.0A	WBE7	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
11/02/2015	WBE8 0.0-0.5A	WBE8	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
11/02/2015	WBE8 0.5-1.0A	WBE8	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
15/02/2015	WBE9 0.0-0.5A	WBE9	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	6	6	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	12
15/02/2015	WBE9 0.5-1.0A	WBE9	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	4	<4	<4	<4	<5	4

Summary DMPA Geochemical Results

Sample date	Sample ID	Borehole	Depth	Naphthalene	2-Methylnaphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benz(a) anthracene	Chrysene	Benzo(b+j) fluoranthene	Benzo(k) fluoranthen	Benzo€ pyrene	Benzo(a) pyrene	Perylene	Benzo(g.h.i) perylene	Dibenz(a.h) anthracene	Indeno(1.2.3.cd) pyrene	Coronene	Sum of PAHs
				µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
08/02/2015	WBE10 0.0-0.5A	WBE10	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
08/02/2015	WBE10 0.5-1.0A	WBE10	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
11/02/2015	WBE11 0.0-0.5A	WBE11	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
11/02/2015	WBE11 0.5-1.0A	WBE11	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
11/02/2015	WBE12 0.0-0.5A	WBE12	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
11/02/2015	WBE12 0.5-1.0A	WBE12	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
11/02/2015	WBE13 0.0-0.5A	WBE13	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
11/02/2015	WBE13 0.5-1.0A	WBE13	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
08/02/2015	WBE14 0.0-0.5A	WBE14	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
08/02/2015	WBE14 0.5-1.0A	WBE14	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
08/02/2015	WBE15 0.0-0.5A	WBE15	0.0-0.5A	<5	<5	<4	<4	<4	14	<4	17	15	6	9	7	5	5	6	5	6	<4	4	<5	99
08/02/2015	WBE15 0.5-1.0A	WBE15	0.5-1.0A	<5	<5	<4	<4	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
15/02/2015	WBE16 0.0-0.5A	WBE16	0.0-0.5A	<5	<5	7	<4	<4	<4	7	<4	5	7	7	12	11	11	16	6	16	7	15	8	135
15/02/2015	WBE16 0.5-1.0A	WBE16	0.5-1.0A	<5	<5	10	<4	<4	<4	12	15	21	30	30	24	25	20	28	10	18	8	17	<5	268
15/02/2015	WBE17 0.0-0.5A	WBE17	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
15/02/2015	WBE17 0.5-1.0A	WBE17	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
15/02/2015	WBE18 0.0-0.5A	WBE18	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	4	<4	<4	<4	<5	4
15/02/2015	WBE18 0.5-1.0A	WBE18	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	4	<4	<4	<4	<5	4
08/02/2015	WBE19 0.0-0.5A	WBE19	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
08/02/2015	WBE20 0.0-0.5A	WBE20	0.0-0.5A	<5	<5	<4	<5	<4	<4	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
08/02/2015	WBE20 0.5-1.0A	WBE20	0.5-1.0A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
08/02/2015	WBE21 0.0-0.5A	WBE21	0.0-0.5A	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<5	<4
08/02/2015	WBE21 0.5-1.0A	WBE21	0.5-1.0A	<5	<5	<4	<4	<4	8	<4	5	6	6	4	<4	<4	<4	<4	<4	<4	<4	<4	<5	29

Summary DMPA Geochemical Results

Sample date	Sample ID	Borehole	Depth	Total recoverable hydrocarbons (NEPM 2013)				BTEX							Total petroleum hydrocarbons (NEPM 1999)				
				>C10 - C16 Fraction	>C16 - C34 Fraction	>C34 - C40 Fraction	>C10 - C40 Fraction (sum)	Benzene	Toluene	Ethylbenzene	meta- & para-Xylene	ortho-Xylene	Total Xylenes	Sum of BTEX	C6 - C9 Fraction	C10 - C14 Fraction	C15 - C28 Fraction	C29 - C36 Fraction	C10 - C36 Fraction (sum)
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
23/02/2015	EB1 0.0-0.5A	EB1	0.0-0.5A	<3	<3	<5	<3									<3	<3	<5	<3
23/02/2015	EB1 0.3V	EB1	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
23/02/2015	EB1 0.5-1.0A	EB1	0.5-1.0A	<3	6	<5	6									<3	<3	<5	<3
23/02/2015	EB1 0.7V	EB1	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
23/02/2015	EB2 0.0-0.5A	EB2	0.0-0.5A	<3	<3	<5	<3									<3	<3	<5	<3
23/02/2015	EB2 0.3V	EB2	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
23/02/2015	EB2 0.5-0.85A	EB2	0.5-0.85A	<3	14	<5	14									<3	7	9	16
23/02/2015	EB2 0.7V	EB2	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
23/02/2015	EB3 0.0-0.7A	EB3	0.0-0.7A	<3	<3	<5	<3									<3	<3	<5	<3
23/02/2015	EB3 0.3V	EB3	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
23/02/2015	EB4 0.0-0.4A	EB4	0.0-0.4A	<3	11	<5	11									<3	5	8	13
23/02/2015	EB4 0.3V	EB4	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
23/02/2015	EB5 0.0-0.5A	EB5	0.0-0.5A	<3	<3	<5	<3									<3	<3	<5	<3
23/02/2015	EB5 0.3V	EB5	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
23/02/2015	EB6 0.0-0.5A	EB6	0.0-0.5A	<3	<3	<5	<3									<3	<3	<5	<3
23/02/2015	EB6 0.3V	EB6	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
23/02/2015	EB6 0.5-1.0A	EB6	0.5-1.0A	<3	<3	<5	<3									<3	<3	<5	<3
23/02/2015	EB6 0.7V	EB6	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
23/02/2015	EB7 0.0-0.5A	EB7	0.0-0.5A	<3	<3	<5	<3									<3	<3	<5	<3
23/02/2015	EB7 0.3V	EB7	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
23/02/2015	EB7 0.5-1.0A	EB7	0.5-1.0A	<3	<3	<5	<3									<3	<3	<5	<3
23/02/2015	EB7 0.7V	EB7	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
22/02/2015	EB8 0.0-0.5A	EB8	0.0-0.5A	<3	<3	<5	<3									<3	<3	<5	<3
22/02/2015	EB8 0.3V	EB8	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
22/02/2015	EB8 0.5-1.0A	EB8	0.5-1.0A	<3	5	<5	5									<3	<3	<5	<3
22/02/2015	EB8 0.7V	EB8	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
23/02/2015	EB9 0.0-0.7A	EB9	0.0-0.7A	<3	<3	<5	<3									<3	<3	<5	<3
23/02/2015	EB9 0.3V	EB9	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
22/02/2015	EB10 0.0-0.5A	EB10	0.0-0.5A	<3	6	<5	6									4	3	<5	7
22/02/2015	EB10 0.3V	EB10	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
22/02/2015	EB10 0.5-1.0A	EB10	0.5-1.0A	<3	12	5	17									3	5	10	18
22/02/2015	EB10 0.7V	EB10	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
23/02/2015	EB11 0.0-0.5A	EB11	0.0-0.5A	<3	6	<5	6									<3	<3	<5	<3
23/02/2015	EB11 0.3V	EB11	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
23/02/2015	EB11 0.5-0.8A	EB11	0.5-0.8A	<3	<3	<5	<3									<3	<3	<5	<3
23/02/2015	EB11 0.7V	EB11	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
24/02/2015	EB12 0.0-0.3A	EB12	0.0-0.3A	<3	<3	<5	<3									<3	<3	<5	<3
24/02/2015	EB12 0.3V	EB12	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
22/02/2015	EB13 0.0-0.7A	EB13	0.0-0.7A	<3	11	<5	11									3	6	8	17
22/02/2015	EB13 0.3V	EB13	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
23/02/2015	EB14 0.0-0.5A	EB14	0.0-0.5A	<3	<3	<5	<3									<3	<3	<5	<3
23/02/2015	EB14 0.3V	EB14	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
23/02/2015	EB14 0.5-1.0A	EB14	0.5-1.0A	<3	3	<5	3									<3	<3	<5	<3
23/02/2015	EB14 0.7V	EB14	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
23/02/2015	EB15 0.0-0.6A	EB15	0.0-0.6A	<3	14	6	20									<3	7	10	17
23/02/2015	EB15 0.3V	EB15	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
24/02/2015	EB16 0.0-0.04A	EB16	0.0-0.04A	<3	<3	<5	<3									<3	<3	<5	<3
24/02/2015	EB16 0.3V	EB16	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
24/02/2015	EB17 0.0-0.5A	EB17	0.0-0.5A	<3	<3	<5	<3									<3	<3	<5	<3
24/02/2015	EB17 0.3V	EB17	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
22/02/2015	EB18 0.0-0.5A	EB18	0.0-0.5A	<3	6	<5	6									4	3	<5	7
22/02/2015	EB18 0.3V	EB18	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
22/02/2015	EB18 0.5-0.85A	EB18	0.5-0.85A	<3	3	<5	3									<3	<3	<5	<3
22/02/2015	EB18 0.7V	EB18	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				

Summary DMPA Geochemical Results

Sample date	Sample ID	Borehole	Depth	Total recoverable hydrocarbons (NEPM 2013)				BTEX							Total petroleum hydrocarbons (NEPM 1999)				
				>C10 - C16 Fraction	>C16 - C34 Fraction	>C34 - C40 Fraction	>C10 - C40 Fraction (sum)	Benzene	Toluene	Ethylbenzene	meta- & para-Xylene	ortho-Xylene	Total Xylenes	Sum of BTEX	C6 - C9 Fraction	C10 - C14 Fraction	C15 - C28 Fraction	C29 - C36 Fraction	C10 - C36 Fraction (sum)
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
22/02/2015	EB19 0.0-0.5A	EB19	0.0-0.5A	<3	6	<5	6									<3	3	<5	3
22/02/2015	EB19 0.3V	EB19	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
22/02/2015	EB19 0.5-0.8A	EB19	0.5-0.8A	<3	5	<5	5									<3	<3	<5	<3
22/02/2015	EB19 0.7V	EB19	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
22/02/2015	EB20 0.0-0.6A	EB20	0.0-0.6A	<3	4	<5	4									<3	<3	<5	<3
22/02/2015	EB20 0.3V	EB20	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
22/02/2015	EB21 0.0-0.5A	EB21	0.0-0.5A	<3	3	<5	3									<3	<3	<5	<3
22/02/2015	EB21 0.3V	EB21	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
22/02/2015	EB21 0.5-1.0A	EB21	0.5-1.0A	<3	5	<5	5									<3	<3	<5	<3
22/02/2015	EB21 0.7V	EB21	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
24/02/2015	EB22 0.0-0.5A	EB22	0.0-0.5A	<3	<3	<5	<3									<3	<3	<5	<3
24/02/2015	EB22 0.3V	EB22	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
22/02/2015	EB23 0.0-0.5A	EB23	0.0-0.5A	<3	6	<5	6									<3	<3	<5	<3
22/02/2015	EB23 0.3V	EB23	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
22/02/2015	EB23 0.5-0.7A	EB23	0.5-0.7A	<3	5	<5	5									<3	<3	<5	<3
22/02/2015	EB23 0.7V	EB23	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
22/02/2015	EB24 0.0-0.5A	EB24	0.0-0.5A	<3	4	<5	4									<3	<3	<5	<3
22/02/2015	EB24 0.3V	EB24	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
22/02/2015	EB24 0.5-1.0A	EB24	0.5-1.0A	<3	7	<5	7									<3	<3	6	6
22/02/2015	EB24 0.7V	EB24	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
22/02/2015	EB25 0.0-0.6A	EB25	0.0-0.6A	<3	4	<5	4									<3	<3	<5	<3
22/02/2015	EB25 0.3V	EB25	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
23/02/2015	EB26 0.0-0.5A	EB26	0.0-0.5A	<3	4	<5	4									<3	<3	<5	<3
23/02/2015	EB26 0.3V	EB26	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
23/02/2015	EB26 0.5-1.0A	EB26	0.5-1.0A	<3	7	<5	7									<3	4	<5	4
23/02/2015	EB26 0.7V	EB26	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
24/02/2015	EB27 0.0-0.7A	EB27	0.0-0.7A	<3	4	<5	4									<3	<3	<5	<3
24/02/2015	EB27 0.3V	EB27	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
24/02/2015	EB27 0.7V	EB27	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
26/02/2015	EB28 0.0-0.4A	EB28	0.0-0.4A	<3	4	<5	4									<3	<3	<5	<3
26/02/2015	EB28 0.3V	EB28	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
22/02/2015	EB29 0.0-0.5A	EB29	0.0-0.5A	<3	5	<5	5									<3	<3	<5	<3
22/02/2015	EB29 0.3V	EB29	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
22/02/2015	EB30 0.0-0.5A	EB30	0.0-0.5A	<3	5	<5	5									<3	<3	<5	<3
22/02/2015	EB30 0.3V	EB30	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
22/02/2015	EB30 0.5-0.8A	EB30	0.5-0.8A	<3	<3	<5	<3									<3	<3	<5	<3
22/02/2015	EB30 0.7V	EB30	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
24/02/2015	EB31 0.0-0.5A	EB31	0.0-0.5A	<3	<3	<5	<3									<3	<3	<5	<3
24/02/2015	EB31 0.3V	EB31	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
24/02/2015	EB32 0.0-0.5A	EB32	0.0-0.5A	<3	<3	<5	<3									<3	<3	<5	<3
24/02/2015	EB32 0.3V	EB32	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
24/02/2015	EB32 0.5-1.0A	EB32	0.5-1.0A	<3	<3	<5	<3									<3	<3	<5	<3
24/02/2015	EB32 0.7V	EB32	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
24/02/2015	EB33 0.0-0.5A	EB33	0.0-0.5A	<3	5	<5	5									<3	<3	<5	<3
24/02/2015	EB33 0.3V	EB33	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
24/02/2015	EB33 0.5-1.0A	EB33	0.5-1.0A	<3	<3	<5	<3									<3	<3	<5	<3
24/02/2015	EB33 0.7V	EB33	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
24/02/2015	EB34 0.0-0.5A	EB34	0.0-0.5A	<3	<3	<5	<3									<3	<3	<5	<3
24/02/2015	EB34 0.3V	EB34	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
24/02/2015	EB34 0.5-1.0A	EB34	0.5-1.0A	<3	<3	<5	<3									<3	<3	<5	<3
24/02/2015	EB34 0.7V	EB34	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
22/02/2015	EB35 0.0-0.5A	EB35	0.0-0.5A	<3	<3	<5	<3									<3	<3	<5	<3
22/02/2015	EB35 0.3V	EB35	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
22/02/2015	EB35 0.5-1.0A	EB35	0.5-1.0A	<3	<3	<5	<3									<3	<3	<5	<3

Summary DMPA Geochemical Results

Sample date	Sample ID	Borehole	Depth	Total recoverable hydrocarbons (NEPM 2013)				BTEX							Total petroleum hydrocarbons (NEPM 1999)				
				>C10 - C16 Fraction	>C16 - C34 Fraction	>C34 - C40 Fraction	>C10 - C40 Fraction (sum)	Benzene	Toluene	Ethylbenzene	meta- & para-Xylene	ortho-Xylene	Total Xylenes	Sum of BTEX	C6 - C9 Fraction	C10 - C14 Fraction	C15 - C28 Fraction	C29 - C36 Fraction	C10 - C36 Fraction (sum)
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
22/02/2015	EB35 0.7V	EB35	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
24/02/2015	EB36 0.0-0.5A	EB36	0.0-0.5A	<3	<3	<5	<3									<3	<3	<5	<3
24/02/2015	EB36 0.3V	EB36	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
24/02/2015	EB36 0.5-1.0A	EB36	0.5-1.0A	<3	<3	<5	<3									<3	<3	<5	<3
24/02/2015	EB36 0.7V	EB36	0.7V						<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3			
03/02/2015	WB1 0.0-0.5A	WB1	0.0-0.5A	<3	5	<5	5									<3	<3	<5	<3
03/02/2015	WB1 0.3V	WB1	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
03/02/2015	WB1 0.5-1.0A	WB1	0.5-1.0A	<3	5	<5	5									<3	4	<5	4
03/02/2015	WB1 0.7V	WB1	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
03/02/2015	WB2 0.0-0.5A	WB2	0.0-0.5A	<3	4	<5	4									<3	<3	<5	<3
03/02/2015	WB2 0.3V	WB2	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
03/02/2015	WB2 0.5-1.0A	WB2	0.5-1.0A	<3	<3	<5	<3									<3	<3	<5	<3
03/02/2015	WB2 0.7V	WB2	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
04/02/2015	WB3 0.0-0.5B	WB3	0.0-0.5B																
04/02/2015	WB3 0.0-0.5a	WB3	0.0-0.5a	<3	4	<5	4									<3	<3	<5	<3
04/02/2015	WB3 0.3V	WB3	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
04/02/2015	WB3 0.5-1.0a	WB3	0.5-1.0a	<3	8	<5	8									<3	5	<5	5
04/02/2015	WB3 0.5-1.0B	WB3	0.5-1.0B																
04/02/2015	WB3 0.7V	WB3	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
04/02/2015	WB4 0.0-0.5A	WB4	0.0-0.5A	<3	9	<5	9									<3	6	<5	6
04/02/2015	WB4 0.3V	WB4	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
04/02/2015	WB4 0.5-1.0A	WB4	0.5-1.0A	<3	4	<5	4									<3	<3	<5	<3
04/02/2015	WB4 0.7V	WB4	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
04/02/2015	WB5 0.0-0.5A	WB5	0.0-0.5A	<3	4	<5	4									<3	3	<5	3
04/02/2015	WB5 0.3V	WB5	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
04/02/2015	WB5 0.5-1.0A	WB5	0.5-1.0A	<3	6	<5	6									<3	4	<5	4
04/02/2015	WB5 0.7V	WB5	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
09/02/2015	WB6 0.0-0.5A-A	WB6	0.0-0.5A-A	<3	<3	<5	<3									<3	<3	<5	<3
09/02/2015	WB6 0.3V	WB6	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
09/02/2015	WB6 0.5-1.0A	WB6	0.5-1.0A	<3	<3	<5	<3									<3	<3	<5	<3
09/02/2015	WB6 0.7V	WB6	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
09/02/2015	WB7 0.0-0.5A	WB7	0.0-0.5A	<3	<3	<5	<3									<3	<3	<5	<3
09/02/2015	WB7 0.3V	WB7	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
09/02/2015	WB7 0.5-1.0A	WB7	0.5-1.0A	<3	<3	<5	<3									<3	<3	<5	<3
09/02/2015	WB7 0.7V	WB7	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
04/02/2015	WB8 0.0-0.5A	WB8	0.0-0.5A	<3	10	<5	10									<3	8	<5	8
04/02/2015	WB8 0.3V	WB8	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
04/02/2015	WB8 0.5-1.0A	WB8	0.5-1.0A	<3	8	<5	8									3	5	<5	8
04/02/2015	WB8 0.7V	WB8	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
04/02/2015	WB9 0.0-0.5A	WB9	0.0-0.5A	<3	8	<5	8									<3	6	<5	6
04/02/2015	WB9 0.3V	WB9	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
04/02/2015	WB9 0.5-1.0A	WB9	0.5-1.0A	<3	7	<5	7									<3	4	<5	4
04/02/2015	WB9 0.7V	WB9	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
09/02/2015	WB10 0.0-0.5A	WB10	0.0-0.5A	<3	<3	<5	<3									<3	<3	<5	<3
09/02/2015	WB10 0.3V	WB10	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
09/02/2015	WB10 0.5-1.0A	WB10	0.5-1.0A	4	6	<5	10									5	6	<5	11
09/02/2015	WB10 0.7V	WB10	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
09/02/2015	WB11 0.0-0.5A	WB11	0.0-0.5A	<3	4	<5	4									<3	<3	<5	<3
09/02/2015	WB11 0.3V	WB11	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
09/02/2015	WB11 0.5-1.0A	WB11	0.5-1.0A	<3	<3	<5	<3									<3	<3	<5	<3
09/02/2015	WB11 0.7V	WB11	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
04/02/2015	WB12 0.0-0.5A	WB12	0.0-0.5A	<3	4	<5	4									<3	3	<5	3
04/02/2015	WB12 0.3V	WB12	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
04/02/2015	WB12 0.5-1.0A	WB12	0.5-1.0A	<3	6	<5	6									<3	3	<5	3

Summary DMPA Geochemical Results

Sample date	Sample ID	Borehole	Depth	Total recoverable hydrocarbons (NEPM 2013)				BTEX							Total petroleum hydrocarbons (NEPM 1999)				
				>C10 - C16 Fraction	>C16 - C34 Fraction	>C34 - C40 Fraction	>C10 - C40 Fraction (sum)	Benzene	Toluene	Ethylbenzene	meta- & para-Xylene	ortho-Xylene	Total Xylenes	Sum of BTEX	C6 - C9 Fraction	C10 - C14 Fraction	C15 - C28 Fraction	C29 - C36 Fraction	C10 - C36 Fraction (sum)
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
04/02/2015	WB12 0.7V	WB12	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
04/02/2015	WB13 0.0-0.5A	WB13	0.0-0.5A	<3	7	<5	7									<3	5	<5	5
04/02/2015	WB13 0.3V	WB13	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
04/02/2015	WB13 0.5-1.0A	WB13	0.5-1.0A	<3	<3	<5	<3									<3	<3	<5	<3
04/02/2015	WB13 0.7V	WB13	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
09/02/2015	WB14 0.0-0.5A	WB14	0.0-0.5A	<3	<3	<5	<3									<3	<3	<5	<3
09/02/2015	WB14 0.3V	WB14	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
09/02/2015	WB14 0.5-1.0A	WB14	0.5-1.0A	<3	<3	<5	<3									<3	<3	<5	<3
09/02/2015	WB14 0.7V	WB14	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
09/02/2015	WB15 0.0-0.5A	WB15	0.0-0.5A	<3	<3	<5	<3									<3	<3	<5	<3
09/02/2015	WB15 0.3V	WB15	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
09/02/2015	WB15 0.5-1.0A	WB15	0.5-1.0A	<3	3	<5	3									<3	<3	<5	<3
09/02/2015	WB15 0.7V	WB15	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
04/02/2015	WB16 0.0-0.5A	WB16	0.0-0.5A	<3	5	<5	5									<3	3	<5	3
04/02/2015	WB16 0.3V	WB16	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
04/02/2015	WB16 0.5-1.0A	WB16	0.5-1.0A	<3	5	<5	5									<3	3	<5	3
04/02/2015	WB16 0.7V	WB16	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
11/02/2015	WB17 0.0-0.5A	WB17	0.0-0.5A	<3	10	<5	10									<3	4	7	11
11/02/2015	WB17 0.3V	WB17	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
11/02/2015	WB17 0.5-1.0A	WB17	0.5-1.0A	<3	5	<5	5									<3	3	<5	3
11/02/2015	WB17 0.7V	WB17	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
04/02/2015	WB18 0.0-0.5A	WB18	0.0-0.5A	<3	5	<5	5									<3	4	<5	4
04/02/2015	WB18 0.3V	WB18	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
04/02/2015	WB18 0.5-1.0A	WB18	0.5-1.0A	<3	5	<5	5									<3	<3	<5	<3
04/02/2015	WB18 0.7V	WB18	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
11/02/2015	WB19 0.0-0.5A	WB19	0.0-0.5A	<3	<3	<5	<3									<3	<3	<5	<3
11/02/2015	WB19 0.3V	WB19	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
11/02/2015	WB19 0.5-1.0A	WB19	0.5-1.0A	<3	<3	<5	<3									<3	<3	<5	<3
11/02/2015	WB19 0.7V	WB19	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
11/02/2015	WB20 0.0-0.5A	WB20	0.0-0.5A	<3	<3	<5	<3									<3	<3	<5	<3
11/02/2015	WB20 0.3V	WB20	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
11/02/2015	WB20 0.5-1.0A	WB20	0.5-1.0A	<3	<3	<5	<3									<3	<3	<5	<3
11/02/2015	WB20 0.7V	WB20	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
13/02/2015	WB21 0.0-0.5A	WB21	0.0-0.5A	<3	<3	<5	<3									<3	<3	<5	<3
13/02/2015	WB21 0.3V	WB21	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
13/02/2015	WB21 0.5-1.0A	WB21	0.5-1.0A	<3	<3	<5	<3									<3	<3	<5	<3
13/02/2015	WB21 0.7V	WB21	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
13/02/2015	WB22 0.0-0.5A	WB22	0.0-0.5A	<3	<3	<5	<3									<3	<3	<5	<3
13/02/2015	WB22 0.3V	WB22	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
13/02/2015	WB22 0.5-1.0A	WB22	0.5-1.0A	<3	<3	<5	<3									<3	<3	<5	<3
13/02/2015	WB22 0.5-1.0B	WB22	0.5-1.0B																
13/02/2015	WB22 0.7V	WB22	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
11/02/2015	WB23 0.0-0.5A	WB23	0.0-0.5A	<3	3	<5	3									<3	<3	<5	<3
11/02/2015	WB23 0.3V	WB23	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
11/02/2015	WB23 0.5-1.0A	WB23	0.5-1.0A	<3	3	<5	3									<3	<3	<5	<3
11/02/2015	WB23 0.7V	WB23	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
13/02/2015	WB24 0.0-0.5A	WB24	0.0-0.5A	<3	<3	<5	<3									<3	<3	<5	<3
13/02/2015	WB24 0.3V	WB24	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
13/02/2015	WB24 0.5-0.8A	WB24	0.5-0.8A	<3	3	<5	3									<3	<3	<5	<3
13/02/2015	WB24 0.7V	WB24	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
12/02/2015	WB25 0.0-0.5A	WB25	0.0-0.5A	<3	12	<5	12									<3	8	7	15
12/02/2015	WB25 0.3V	WB25	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
12/02/2015	WB25 0.5-1.0A	WB25	0.5-1.0A	<3	9	<5	9									<3	7	<5	7
12/02/2015	WB25 0.7V	WB25	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				

Summary DMPA Geochemical Results

Sample date	Sample ID	Borehole	Depth	Total recoverable hydrocarbons (NEPM 2013)				BTEX							Total petroleum hydrocarbons (NEPM 1999)				
				>C10 - C16 Fraction	>C16 - C34 Fraction	>C34 - C40 Fraction	>C10 - C40 Fraction (sum)	Benzene	Toluene	Ethylbenzene	meta- & para-Xylene	ortho-Xylene	Total Xylenes	Sum of BTEX	C6 - C9 Fraction	C10 - C14 Fraction	C15 - C28 Fraction	C29 - C36 Fraction	C10 - C36 Fraction (sum)
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
12/02/2015	WB26 0.0-0.5A	WB26	0.0-0.5A	<3	7	<5	7									<3	5	<5	5
12/02/2015	WB26 0.3V	WB26	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
12/02/2015	WB26 0.5-1.0A	WB26	0.5-1.0A	<3	12	<5	12									<3	8	6	14
12/02/2015	WB26 0.7V	WB26	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
12/02/2015	WB27 0.0-0.5A	WB27	0.0-0.5A	<3	9	<5	9									<3	6	6	12
12/02/2015	WB27 0.3V	WB27	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
12/02/2015	WB27 0.5-1.0A	WB27	0.5-1.0A	<3	11	<5	11									<3	7	6	13
12/02/2015	WB27 0.7V	WB27	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
03/02/2015	PC1 0.0-0.5A	PC1	0.0-0.5A	5	16	7	28									5	11	10	26
03/02/2015	PC1 0.3V	PC1	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
03/02/2015	PC1 0.5-1.0A	PC1	0.5-1.0A	<3	<3	<5	<3									<3	<3	<5	<3
03/02/2015	PC1 0.7V	PC1	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
03/02/2015	PC2 0.0-0.5A	PC2	0.0-0.5A	<3	9	<5	9									<3	5	<5	5
03/02/2015	PC2 0.3V	PC2	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
03/02/2015	PC2 0.5-1.0A	PC2	0.5-1.0A	<3	8	<5	8									<3	6	<5	6
03/02/2015	PC2 0.7V	PC2	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
03/02/2015	PC3 0.0-0.5A	PC3	0.0-0.5A	3	13	5	21									3	9	7	19
03/02/2015	PC3 0.3V	PC3	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
03/02/2015	PC3 0.5-1.0A	PC3	0.5-1.0A	<3	4	<5	4									<3	<3	<5	<3
03/02/2015	PC3 0.7V	PC3	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
03/02/2015	PC4 0.0-0.5A	PC4	0.0-0.5A	4	20	10	34									4	14	11	29
03/02/2015	PC4 0.3V	PC4	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
03/02/2015	PC4 0.5-1.0A	PC4	0.5-1.0A	<3	11	<5	11									<3	6	6	12
03/02/2015	PC4 0.7V	PC4	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
05/02/2015	PC5 0.0-0.5A	PC5	0.0-0.5A	3	20	8	31									5	13	12	30
05/02/2015	PC5 0.3V	PC5	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
05/02/2015	PC5 0.5-1.0A	PC5	0.5-1.0A	<3	7	<5	7									<3	4	<5	4
05/02/2015	PC5 0.7V	PC5	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
08/02/2015	PC6 0.0-0.5A	PC6	0.0-0.5A	<3	17	6	23									<3	10	12	22
08/02/2015	PC6 0.3V	PC6	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
08/02/2015	PC6 0.5-1.0A	PC6	0.5-1.0A	<3	19	11	30									<3	8	17	25
08/02/2015	PC6 0.7V	PC6	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
08/02/2015	PC7 0.0-0.5A	PC7	0.0-0.5A	<3	14	<5	14									<3	7	7	14
08/02/2015	PC7 0.3V	PC7	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
08/02/2015	PC7 0.5-1.0A	PC7	0.5-1.0A	<3	16	8	24									<3	7	13	20
08/02/2015	PC7 0.7V	PC7	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
10/02/2015	PC8 0.0-0.5A	PC8	0.0-0.5A	<3	<3	<5	<3									4	<3	<5	4
10/02/2015	PC8 0.3V	PC8	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
10/02/2015	PC8 0.5-1.0 A	PC8	0.5-1.0 A	<3	4	<5	4									4	<3	<5	4
10/02/2015	PC8 0.7V	PC8	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
09/02/2015	PC9 0.0-0.3A	PC9	0.0-0.3A	<3	12	<5	12	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3	<3	8	8	16
16/02/2015	PC10 0.0-0.5A	PC10	0.0-0.5A	<3	<3	<5	<3									<3	<3	<5	<3
16/02/2015	PC10 0.3V	PC10	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
16/02/2015	PC10 0.5-1.0A	PC10	0.5-1.0A	<3	<3	6	6									<3	<3	9	9
16/02/2015	PC10 0.7V	PC10	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
08/02/2015	PC11 0.0-0.5A	PC11	0.0-0.5A	<3	20	7	27									<3	11	14	25
08/02/2015	PC11 0.3V	PC11	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
08/02/2015	PC11 0.7V	PC11	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
15/02/2015	WBE1 0.0-0.5A	WBE1	0.0-0.5A	<3	28	12	40									<3	12	23	35
15/02/2015	WBE1 0.3V	WBE1	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
15/02/2015	WBE1 0.5-1.0A	WBE1	0.5-1.0A	<3	20	10	30									<3	8	18	26
15/02/2015	WBE1 0.7V	WBE1	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
15/02/2015	WBE2 0.0-0.5A	WBE2	0.0-0.5A	<3	23	10	33									<3	8	19	27
15/02/2015	WBE2 0.3V	WBE2	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				

Summary DMPA Geochemical Results

Sample date	Sample ID	Borehole	Depth	Total recoverable hydrocarbons (NEPM 2013)				BTEX							Total petroleum hydrocarbons (NEPM 1999)				
				>C10 - C16 Fraction	>C16 - C34 Fraction	>C34 - C40 Fraction	>C10 - C40 Fraction (sum)	Benzene	Toluene	Ethylbenzene	meta- & para-Xylene	ortho-Xylene	Total Xylenes	Sum of BTEX	C6 - C9 Fraction	C10 - C14 Fraction	C15 - C28 Fraction	C29 - C36 Fraction	C10 - C36 Fraction (sum)
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
15/02/2015	WBE2 0.5-1.0A	WBE2	0.5-1.0A	<3	22	12	34									<3	10	19	29
15/02/2015	WBE2 0.7V	WBE2	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
15/02/2015	WBE3 0.0-0.5A	WBE3	0.0-0.5A	3	26	8	37									4	10	17	31
15/02/2015	WBE3 0.3V	WBE3	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
15/02/2015	WBE3 0.5-1.0A	WBE3	0.5-1.0A	<3	18	9	27									<3	6	17	23
15/02/2015	WBE3 0.7V	WBE3	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
11/02/2015	WBE4 0.0-0.5A	WBE4	0.0-0.5A	<3	4	<5	4									<3	<3	<5	<3
11/02/2015	WBE4 0.3V	WBE4	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
11/02/2015	WBE4 0.5-1.0A	WBE4	0.5-1.0A	<3	14	12	26									<3	6	17	23
11/02/2015	WBE4 0.7V	WBE4	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
11/02/2015	WBE5 0.0-0.5A	WBE5	0.0-0.5A	<3	10	8	18									<3	5	11	16
11/02/2015	WBE5 0.3V	WBE5	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
11/02/2015	WBE5 0.5-1.0A	WBE5	0.5-1.0A	3	35	20	58									<3	19	28	47
11/02/2015	WBE5 0.7V	WBE5	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
11/02/2015	WBE6 0.0-0.5A	WBE6	0.0-0.5A	<3	12	8	20									<3	5	11	16
11/02/2015	WBE6 0.3V	WBE6	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
11/02/2015	WBE6 0.5-1.0A	WBE6	0.5-1.0A	4	31	16	51									<3	21	22	43
11/02/2015	WBE6 0.7V	WBE6	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
08/02/2015	WBE7 0.0-0.5A	WBE7	0.0-0.5A	<3	16	6	22									<3	8	10	18
08/02/2015	WBE7 0.3V	WBE7	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
08/02/2015	WBE7 0.5-1.0A	WBE7	0.5-1.0A	<3	19	9	28									<3	8	16	24
08/02/2015	WBE7 0.7V	WBE7	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
11/02/2015	WBE8 0.0-0.5A	WBE8	0.0-0.5A	<3	22	12	34									<3	11	19	30
11/02/2015	WBE8 0.3V	WBE8	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
11/02/2015	WBE8 0.5-1.0A	WBE8	0.5-1.0A	<3	10	6	16									<3	4	10	14
11/02/2015	WBE8 0.7V	WBE8	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
15/02/2015	WBE9 0.0-0.5A	WBE9	0.0-0.5A	4	27	9	40									6	10	19	35
15/02/2015	WBE9 0.3V	WBE9	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
15/02/2015	WBE9 0.5-1.0A	WBE9	0.5-1.0A	<3	29	12	41									<3	13	24	37
15/02/2015	WBE9 0.7V	WBE9	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
08/02/2015	WBE10 0.0-0.5A	WBE10	0.0-0.5A	<3	24	15	39									<3	10	22	32
08/02/2015	WBE10 0.3V	WBE10	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
08/02/2015	WBE10 0.5-1.0A	WBE10	0.5-1.0A	3	52	11	66									<3	40	20	60
08/02/2015	WBE10 0.7V	WBE10	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
11/02/2015	WBE11 0.0-0.5A	WBE11	0.0-0.5A	4	67	50	121									3	33	70	106
11/02/2015	WBE11 0.3V	WBE11	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
11/02/2015	WBE11 0.5-1.0A	WBE11	0.5-1.0A	18	272	95	385									8	182	146	336
11/02/2015	WBE11 0.7V	WBE11	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
11/02/2015	WBE12 0.0-0.5A	WBE12	0.0-0.5A	<3	20	13	33									<3	8	19	27
11/02/2015	WBE12 0.3V	WBE12	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
11/02/2015	WBE12 0.5-1.0A	WBE12	0.5-1.0A	3	62	33	98									<3	39	39	78
11/02/2015	WBE12 0.7V	WBE12	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
11/02/2015	WBE13 0.0-0.5A	WBE13	0.0-0.5A	<3	28	21	49									4	11	31	46
11/02/2015	WBE13 0.3V	WBE13	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
11/02/2015	WBE13 0.5-1.0A	WBE13	0.5-1.0A	<3	31	18	49									<3	18	21	39
11/02/2015	WBE13 0.7V	WBE13	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
08/02/2015	WBE14 0.0-0.5A	WBE14	0.0-0.5A	<3	30	21	51									<3	11	31	42
08/02/2015	WBE14 0.3V	WBE14	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
08/02/2015	WBE14 0.5-1.0A	WBE14	0.5-1.0A	4	41	23	68									<3	23	33	56
08/02/2015	WBE14 0.7V	WBE14	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
08/02/2015	WBE14 0.7V	WBE14	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
08/02/2015	WBE15 0.0-0.5A	WBE15	0.0-0.5A	<3	25	13	38									<3	13	19	32
08/02/2015	WBE15 0.3V	WBE15	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
08/02/2015	WBE15 0.5-1.0A	WBE15	0.5-1.0A	<3	63	47	110									<3	22	70	92

Summary DMPA Geochemical Results

Sample date	Sample ID	Borehole	Depth	Total recoverable hydrocarbons (NEPM 2013)				BTEX							Total petroleum hydrocarbons (NEPM 1999)				
				>C10 - C16 Fraction	>C16 - C34 Fraction	>C34 - C40 Fraction	>C10 - C40 Fraction (sum)	Benzene	Toluene	Ethylbenzene	meta- & para-Xylene	ortho-Xylene	Total Xylenes	Sum of BTEX	C6 - C9 Fraction	C10 - C14 Fraction	C15 - C28 Fraction	C29 - C36 Fraction	C10 - C36 Fraction (sum)
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
15/02/2015	WBE16 0.0-0.5A	WBE16	0.0-0.5A	3	22	7	32									3	9	15	27
15/02/2015	WBE16 0.3V	WBE16	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
15/02/2015	WBE16 0.5-1.0A	WBE16	0.5-1.0A	<3	32	18	50									<3	12	31	43
15/02/2015	WBE16 0.7V	WBE16	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
15/02/2015	WBE17 0.0-0.5A	WBE17	0.0-0.5A	<3	17	10	27									<3	6	15	21
15/02/2015	WBE17 0.3V	WBE17	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
15/02/2015	WBE17 0.5-1.0A	WBE17	0.5-1.0A	5	54	38	97									5	19	57	81
15/02/2015	WBE17 0.7V	WBE17	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
15/02/2015	WBE18 0.0-0.5A	WBE18	0.0-0.5A	4	42	23	69									4	20	37	61
15/02/2015	WBE18 0.3V	WBE18	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
15/02/2015	WBE18 0.5-1.0A	WBE18	0.5-1.0A	3	47	31	81									<3	16	49	65
15/02/2015	WBE18 0.7V	WBE18	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
08/02/2015	WBE19 0.0-0.5A	WBE19	0.0-0.5A	<3	25	9	34									<3	12	18	30
08/02/2015	WBE19 0.3V	WBE19	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
08/02/2015	WBE20 0.0-0.5A	WBE20	0.0-0.5A	3	30	9	42									<3	12	19	31
08/02/2015	WBE20 0.3V	WBE20	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
08/02/2015	WBE20 0.5-1.0A	WBE20	0.5-1.0A	<3	6	<5	6									<3	3	<5	3
08/02/2015	WBE20 0.7V	WBE20	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
08/02/2015	WBE21 0.0-0.5A	WBE21	0.0-0.5A	<3	34	11	45									<3	12	24	36
08/02/2015	WBE21 0.3V	WBE21	0.3V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				
08/02/2015	WBE21 0.5-1.0A	WBE21	0.5-1.0A	<3	6	<5	6									<3	4	<5	4
08/02/2015	WBE21 0.7V	WBE21	0.7V					<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3				

Summary DMPA Geochemical Results

Sample date	Sample ID	Borehole	Depth	Total Polychlorinated biphenyls	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
				µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
23/02/2015	EB1 0.0-0.5A	EB1	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
23/02/2015	EB1 0.5-1.0A	EB1	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
23/02/2015	EB2 0.0-0.5A	EB2	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
23/02/2015	EB2 0.5-0.85A	EB2	0.5-0.85A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
23/02/2015	EB3 0.0-0.7A	EB3	0.0-0.7A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
23/02/2015	EB4 0.0-0.4A	EB4	0.0-0.4A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
23/02/2015	EB5 0.0-0.5A	EB5	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
23/02/2015	EB6 0.0-0.5A	EB6	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
23/02/2015	EB6 0.5-1.0A	EB6	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
23/02/2015	EB7 0.0-0.5A	EB7	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
23/02/2015	EB7 0.5-1.0A	EB7	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
22/02/2015	EB8 0.0-0.5A	EB8	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
22/02/2015	EB8 0.5-1.0A	EB8	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
23/02/2015	EB9 0.0-0.7A	EB9	0.0-0.7A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
22/02/2015	EB10 0.0-0.5A	EB10	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
22/02/2015	EB10 0.5-1.0A	EB10	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
23/02/2015	EB11 0.0-0.5A	EB11	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
23/02/2015	EB11 0.5-0.8A	EB11	0.5-0.8A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
24/02/2015	EB12 0.3V	EB12	0.3V	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
22/02/2015	EB13 0.0-0.7A	EB13	0.0-0.7A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
23/02/2015	EB14 0.0-0.5A	EB14	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
23/02/2015	EB14 0.5-1.0A	EB14	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
23/02/2015	EB15 0.0-0.6A	EB15	0.0-0.6A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
24/02/2015	EB16 0.3V	EB16	0.3V	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
24/02/2015	EB17 0.3V	EB17	0.3V	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
22/02/2015	EB18 0.0-0.5A	EB18	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
22/02/2015	EB18 0.5-0.85A	EB18	0.5-0.85A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
22/02/2015	EB19 0.0-0.5A	EB19	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
22/02/2015	EB19 0.5-0.8A	EB19	0.5-0.8A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
22/02/2015	EB20 0.0-0.6A	EB20	0.0-0.6A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
22/02/2015	EB21 0.0-0.5A	EB21	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
22/02/2015	EB21 0.5-1.0A	EB21	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
24/02/2015	EB22 0.3V	EB22	0.3V	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
22/02/2015	EB23 0.0-0.5A	EB23	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
22/02/2015	EB23 0.5-0.7A	EB23	0.5-0.7A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
22/02/2015	EB24 0.0-0.5A	EB24	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
22/02/2015	EB24 0.5-1.0A	EB24	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
22/02/2015	EB25 0.0-0.6A	EB25	0.0-0.6A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
23/02/2015	EB26 0.0-0.5A	EB26	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
23/02/2015	EB26 0.5-1.0A	EB26	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
24/02/2015	EB27 0.7V	EB27	0.7V	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
26/02/2015	EB28 0.0-0.4A	EB28	0.0-0.4A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
22/02/2015	EB29 0.0-0.5A	EB29	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
22/02/2015	EB30 0.0-0.5A	EB30	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
22/02/2015	EB30 0.5-0.8A	EB30	0.5-0.8A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
24/02/2015	EB31 0.3V	EB31	0.3V	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
24/02/2015	EB32 0.0-0.5A	EB32	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
24/02/2015	EB32 0.7V	EB32	0.7V	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
24/02/2015	EB33 0.0-0.5A	EB33	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
24/02/2015	EB33 0.7V	EB33	0.7V	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
24/02/2015	EB34 0.0-0.5A	EB34	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
24/02/2015	EB34 0.7V	EB34	0.7V	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
22/02/2015	EB35 0.0-0.5A	EB35	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
22/02/2015	EB35 0.5-1.0A	EB35	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0

Summary DMPA Geochemical Results

Sample date	Sample ID	Borehole	Depth	Total Polychlorinated biphenyls	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
				µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
24/02/2015	EB36 0.0-0.5A	EB36	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
24/02/2015	EB36 0.7V	EB36	0.7V	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
03/02/2015	WB1 0.0-0.5A	WB1	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
03/02/2015	WB1 0.51.0A	WB1	0.51.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
03/02/2015	WB2 0.0-0.5A	WB2	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
03/02/2015	WB2 0.5-1.0A	WB2	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
04/02/2015	WB3 0.0-0.5a	WB3	0.0-0.5a	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
04/02/2015	WB3 0.5-1.0a	WB3	0.5-1.0a	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
04/02/2015	WB4 0.0-0.5A	WB4	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
04/02/2015	WB4 0.5-1.0A	WB4	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
04/02/2015	WB5 0.0-0.5A	WB5	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
04/02/2015	WB5 0.5-1.0A	WB5	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
09/02/2015	WB6 0.0-0.5A	WB6	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
09/02/2015	WB6 0.5-1.0A	WB6	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
09/02/2015	WB7 0.0-0.5A	WB7	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
09/02/2015	WB7 0.5-1.0A	WB7	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
04/02/2015	WB8 0.0-0.5A	WB8	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
04/02/2015	WB8 0.5-1.0A	WB8	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
04/02/2015	WB9 0.0-0.5A	WB9	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
04/02/2015	WB9 0.5-1.0A	WB9	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
09/02/2015	WB10 0.0-0.5A	WB10	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
09/02/2015	WB10 0.5-1.0A	WB10	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
09/02/2015	WB11 0.0-0.5A	WB11	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
09/02/2015	WB11 0.5-1.0A	WB11	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
04/02/2015	WB12 0.0-0.5A	WB12	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
04/02/2015	WB12 0.5-1.0A	WB12	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
04/02/2015	WB12 0.0-0.5A	WB12	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
04/02/2015	WB12 0.5-1.0A	WB12	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
04/02/2015	WB13 0.0-0.5A	WB13	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
04/02/2015	WB13 0.5-1.0A	WB13	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
09/02/2015	WB14 0.0-0.5A	WB14	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
09/02/2015	WB14 0.5-1.0A	WB14	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
09/02/2015	WB15 0.0-0.5A	WB15	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
09/02/2015	WB15 0.5-1.0A	WB15	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
04/02/2015	WB16 0.0-0.5A	WB16	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
04/02/2015	WB16 0.5-1.0A	WB16	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
11/02/2015	WB17 0.0-0.5A	WB17	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
11/02/2015	WB17 0.5-1.0A	WB17	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
04/02/2015	WB18 0.0-0.5A	WB18	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
04/02/2015	WB18 0.5-1.0A	WB18	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
11/02/2015	WB19 0.0-0.5A	WB19	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
11/02/2015	WB19 0.5-1.0A	WB19	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
11/02/2015	WB20 0.0-0.5A	WB20	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
11/02/2015	WB20 0.5-1.0A	WB20	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
13/02/2015	WB21 0.0-0.5A	WB21	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
13/02/2015	WB21 0.5-1.0A	WB21	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
13/02/2015	WB22 0.0-0.5A	WB22	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
13/02/2015	WB22 0.5-1.0A	WB22	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
11/02/2015	WB23 0.0-0.5A	WB23	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
11/02/2015	WB23 0.5-1.0A	WB23	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
13/02/2015	WB24 0.0-0.5A	WB24	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
13/02/2015	WB24 0.5-0.8A	WB24	0.5-0.8A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
12/02/2015	WB25 0.0-0.5A	WB25	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
12/02/2015	WB25 0.5-1.0A	WB25	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
12/02/2015	WB26 0.0-0.5A	WB26	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
12/02/2015	WB26 0.5-1.0A	WB26	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0

Summary DMPA Geochemical Results

Sample date	Sample ID	Borehole	Depth	Total Polychlorinated biphenyls	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
				µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
12/02/2015	WB27 0.0-0.5A	WB27	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
12/02/2015	WB27 0.5-1.0A	WB27	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
03/02/2015	PC1 0.0-0.5A	PC1	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
03/02/2015	PC1 0.5-1.0A	PC1	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
03/02/2015	PC2 0.0-0.5A	PC2	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
03/02/2015	PC2 0.5-1.0A	PC2	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
03/02/2015	PC3 0.0-0.5A	PC3	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
03/02/2015	PC3 0.5-1.0A	PC3	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
03/02/2015	PC4 0.0-0.5A	PC4	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
03/02/2015	PC4 0.5-1.0A	PC4	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
05/02/2015	PC5 0.0-0.5A	PC5	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
05/02/2015	PC5 0.5-1.0A	PC5	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
08/02/2015	PC6 0.0-0.5A	PC6	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
08/02/2015	PC6 0.5-1.0A	PC6	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
08/02/2015	PC7 0.0-0.5A	PC7	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
08/02/2015	PC7 0.5-1.0A	PC7	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
10/02/2015	PC8 0.0-0.5 A	PC8	0.0-0.5 A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
10/02/2015	PC8 0.5-1.0 A	PC8	0.5-1.0 A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
09/02/2015	PC9 0.0-0.3A	PC9	0.0-0.3A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
16/02/2015	PC10 0.0-0.5A	PC10	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
16/02/2015	PC10 0.5-1.0A	PC10	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
08/02/2015	PC11 0.0-0.5A	PC11	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
15/02/2015	WBE1 0.0-0.5A	WBE1	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
15/02/2015	WBE1 0.5-1.0A	WBE1	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
15/02/2015	WBE2 0.0-0.5A	WBE2	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
15/02/2015	WBE2 0.5-1.0A	WBE2	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
15/02/2015	WBE3 0.0-0.5A	WBE3	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
15/02/2015	WBE3 0.5-1.0A	WBE3	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
11/02/2015	WBE4 0.0-0.5A	WBE4	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
11/02/2015	WBE4 0.5-1.0A	WBE4	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
11/02/2015	WBE5 0.0-0.5A	WBE5	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
11/02/2015	WBE5 0.5-1.0A	WBE5	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
11/02/2015	WBE6 0.0-0.5A	WBE6	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
11/02/2015	WBE6 0.5-1.0A	WBE6	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
08/02/2015	WBE7 0.0-0.5A	WBE7	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
08/02/2015	WBE7 0.5-1.0A	WBE7	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
11/02/2015	WBE8 0.0-0.5A	WBE8	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
11/02/2015	WBE8 0.5-1.0A	WBE8	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
15/02/2015	WBE9 0.0-0.5A	WBE9	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
15/02/2015	WBE9 0.5-1.0A	WBE9	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
08/02/2015	WBE10 0.0-0.5A	WBE10	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
08/02/2015	WBE10 0.5-1.0A	WBE10	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
11/02/2015	WBE11 0.0-0.5A	WBE11	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
11/02/2015	WBE11 0.5-1.0A	WBE11	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
11/02/2015	WBE12 0.0-0.5A	WBE12	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
11/02/2015	WBE12 0.5-1.0A	WBE12	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
11/02/2015	WBE13 0.0-0.5A	WBE13	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
11/02/2015	WBE13 0.5-1.0A	WBE13	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
08/02/2015	WBE14 0.0-0.5A	WBE14	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
08/02/2015	WBE14 0.5-1.0A	WBE14	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
08/02/2015	WBE15 0.0-0.5A	WBE15	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
08/02/2015	WBE15 0.5-1.0A	WBE15	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
15/02/2015	WBE16 0.0-0.5A	WBE16	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
15/02/2015	WBE16 0.5-1.0A	WBE16	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0

Summary DMPA Geochemical Results

Sample date	Sample ID	Borehole	Depth	Total Polychlorinated biphenyls	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
				µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
15/02/2015	WBE17 0.0-0.5A	WBE17	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
15/02/2015	WBE17 0.5-1.0A	WBE17	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
15/02/2015	WBE18 0.0-0.5A	WBE18	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
15/02/2015	WBE18 0.5-1.0A	WBE18	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
08/02/2015	WBE19 0.0-0.5A	WBE19	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
08/02/2015	WBE20 0.0-0.5A	WBE20	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
08/02/2015	WBE20 0.5-1.0A	WBE20	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
08/02/2015	WBE21 0.0-0.5A	WBE21	0.0-0.5A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
08/02/2015	WBE21 0.5-1.0A	WBE21	0.5-1.0A	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0

Summary DMPA Geochemical Results

Sample ID	Sample date	Borehole	Depth	WHO-TEQ (zero)	Group Total Conc pg/g
PC1 0.5D	3/02/2015	PC1	0.5D	0.36	653.8
WB4 0.2D	4/02/2015	WB4	0.2D	0.04	66
PC5 0.0-0.5D	5/02/2015	PC5	0.0-0.5D	1.22	1447.9
WB19 0.2D	11/02/2015	WB19	0.2D	0.08	98.3
BH28 0.2 - 0.7D	12/02/2015	BH28	0.2 - 0.7D	0.35	647.4
BH1 0.0 - 0.5 D	13/02/2015	BH1	0.0 - 0.5 D	0.13	307.5
BH6 0.0-0.8m D	13/02/2015	BH6	0.0-0.8m D	0.37	839.7
BH10 0.0-0.3m D	13/02/2015	BH10	0.0-0.3m D	1.37	3420.5
BH15 0.0-0.5m D	13/02/2015	BH15	0.0-0.5m D	0.16	298.1
BH21 0.0-0.6m D	13/02/2015	BH21	0.0-0.6m D	0.35	680
EB24 0.0-0.5D	22/02/2015	EB24	0.0-0.5D	0.12	250.8
EB1 0.0 - 0.5D	23/02/2015	EB1	0.0 - 0.5D	0.58	1029.8
EB6 0.0 - 0.5D	23/02/2015	EB6	0.0 - 0.5D	2.89	655.6
EB11 0.0 - 0.5D	23/02/2015	EB11	0.0 - 0.5D	0.16	395.1
BH7 0.0 - 0.4D	25/02/2015	BH7	0.0 - 0.4D	1.04	594
BH63 0.0 - 0.4D	25/02/2015	BH63	0.0 - 0.4D	1.67	1715.9
BH58 0.0 - 0.5D	25/02/2015	BH58	0.0 - 0.5D	0.16	269.7
BH48 0.0 - 0.6D	26/02/2015	BH48	0.0 - 0.6D	1.11	497.9
BH53 0.0 - 0.5D	26/02/2015	BH53	0.0 - 0.5D	0.35	628.6
EB28 0.0 - 0.5D	26/02/2015	EB28	0.0 - 0.5D	1.14	1488.8
BH31 0.0 - 0.5 D	27/02/2015	BH31	0.0 - 0.5 D	1.2	147.3
BH41 0.0 - 0.5 D	27/02/2015	BH41	0.0 - 0.5 D	0.18	384.1

Summary Statistics - All Dioxins	Count	Minimum	Maximum	Mean	SD	10%ile	20%ile	25%ile (Q1)	Median	75%ile (Q3)	80%ile	90%ile	95%ile	99%ile
WHO-TEQ (zero)	22	0.04	2.89	0.683	0.7	0.121	0.16	0.16	0.355	1.133	1.188	1.355	1.655	2.634
Group Total Conc pg/g	22	66	3421	750.8	747	157.7	275.4	300.5	611.3	799.8	991.8	1485	1705	3063

Summary Statistics - Dredge Area Dioxins	Count	Minimum	Maximum	Mean	SD	10%ile	20%ile	25%ile (Q1)	Median	75%ile (Q3)	80%ile	90%ile	95%ile	99%ile
WHO-TEQ (zero)	13	0.13	1.67	0.649	0.54	0.16	0.168	0.18	0.35	1.11	1.164	1.336	1.49	1.634
Group Total Conc pg/g	13	147.3	3421	802.4	880	275.4	301.9	307.5	594	680	775.8	1541	2398	3216

Appendix F
QAQC Summary Table

Sample	Metals																Nitrite as N	Nitrate as N	Nitrite + Nitrate as N	Total Kjeldahl Nitrogen as N	Total Nitrogen as N	Total Phosphorus as P	Ammonia as N	Total Organic Carbon	TRH (NEPM 2013 Fractions)			
	Aluminium	Iron	Antimony	Arsenic	Cadmium	Chromium	Copper	Cobalt	Lead	Manganese	Nickel	Selenium	Silver	Vanadium	Zinc	Mercury									>C10 - C16 Fraction	>C16 - C34 Fraction	>C34 - C40 Fraction	>C10 - C40 Fraction (sum)
Field Triplicate 1																												
PC3 0.0-0.5 m A	14500	20200	<0.50	11.7	<0.1	21.3	17.8	10.8	7.5	320	11.4	4.2	<0.1	46.3	44.2	0.02	<0.1	0.2	0.2	820	820	339	18.2	0.53	5	16	7	28
Triplicate 1A	12500	21800	<0.50	14.2	<0.1	19.3	13.8	14.2	6.6	377	10.5	3.9	<0.1	41.3	40.9	0.02	<0.1	0.2	0.2	560	560	287	1.1	0.69	4	13	<5	17
Triplicate 1B	10600	17700	<0.50	9.85	<0.1	19.2	13.9	8.6	6.6	297	9.5	0.7	0.2	39.4	36.2	0.02	<0.1	<0.1	<0.1	650	650	299	12.7	0.72	<3	13	<5	13
RSD (%)	15.6%	10.4%	n/a	18.3%	n/a	5.9%	15.0%	25.2%	7.5%	12.4%	9.1%	66.1%	n/a	8.4%	9.9%	0.0%	n/a	n/a	n/a	19.5%	19.5%	8.8%	81.8%	15.8%	n/a	12.4%	n/a	40.2%
Field Triplicate 2																												
WB3 0.5-1.0 m A	3930	10000	<0.50	22.1	<0.1	7.3	2.8	6.3	2.6	1400	3.6	0.3	<0.1	27.7	13.5	<0.01	<0.1	0.4	0.4	60	60	205	3.6	0.06	<3	8	<5	8
Triplicate 2A	4250	10500	<0.50	22.5	<0.1	8.2	2.8	6.5	2.8	1600	4	0.4	<0.1	30.5	14.2	<0.01	<0.1	0.2	0.2	50	50	197	3.3	0.04	<3	6	<5	6
Triplicate 2B	4060	9300	<0.50	20.5	<0.1	7.5	2.6	6	2.6	1500	3.8	0.4	<0.1	26.2	13.9	<0.01	<0.1	0.2	0.2	60	60	215	2.6	0.04	<3	4	<5	4
RSD (%)	3.9%	6.1%	n/a	4.9%	n/a	6.2%	4.2%	4.0%	4.3%	6.7%	5.3%	15.7%	n/a	7.8%	2.5%	n/a	n/a	43.3%	43.3%	10.2%	10.2%	4.4%	16.2%	24.7%	n/a	33.3%	n/a	33.3%
Field Triplicate 3																												
PC6 0.0-0.5 m A	13000	21800	<0.50	11.1	<0.1	22.3	12.9	8.5	7	290	10.5	0.7	0.2	38.1	32.4	0.03	<0.1	<0.1	<0.1	320	320	191	2.3	0.55	<3	17	6	23
Triplicate 3A	12200	17100	<0.50	7.59	<0.1	24.5	13.1	8.7	7.4	226	10.7	0.7	1.1	38.3	32.8	0.02	<0.1	<0.1	<0.1	300	300	164	1.7	0.53	<3	18	8	26
Triplicate 3B	12400	16900	<0.50	7.89	<0.1	22.4	15	8.3	6.6	226	9.9	0.7	0.2	37.7	32.8	0.02	<0.1	<0.1	<0.1	280	280	210	2.2	0.7	<3	13	<5	13
RSD (%)	3.3%	14.9%	n/a	22.0%	n/a	5.4%	8.5%	2.4%	5.7%	14.9%	4.0%	0.0%	103.9%	0.8%	0.7%	24.7%	n/a	n/a	n/a	6.7%	6.7%	12.3%	15.6%	15.7%	n/a	16.5%	n/a	32.9%
Field Triplicate 4																												
WB15 0.5-1.0 m A, B	4660	9450	<0.50	9.91	<0.1	10.4	3.2	6.2	2.7	466	4.5	0.4	<0.1	23.5	13.8	<0.01	<0.1	<0.1	<0.1	120	120	166	4.6	0.39	<3	3	<5	3
Triplicate 4A	5520	12000	<0.50	11.4	<0.1	12.6	4.1	8.2	3.5	615	5.5	0.4	<0.1	31	17.9	<0.01	<0.1	<0.1	<0.1	320	320	242	9.2	0.24	<3	5	<5	5
Triplicate 4B	5880	11200	<0.50	15.3	<0.1	12.2	4.5	7.4	3.4	691	5.6	0.5	<0.1	29.3	16.7	<0.01	<0.1	0.1	0.1	290	290	233	8.6	0.13	<3	4	<5	4
RSD (%)	11.7%	12.0%	n/a	22.8%	n/a	10.0%	16.9%	13.9%	13.6%	19.4%	11.7%	13.3%	n/a	14.1%	13.1%	n/a	n/a	n/a	n/a	44.3%	44.3%	19.4%	33.5%	51.5%	n/a	25.0%	n/a	25.0%
Field Triplicate 5																												
BH9 0.0-0.45 m A	13300	13600	<0.50	6.15	<0.1	25.7	21.8	3.7	7.8	50	6.5	0.8	<0.1	61	30.1	0.05	<0.1	0.1	0.1	180	180	467	3.6	0.07	<3	<3	<5	<3
Triplicate 5A	13500	22500	<0.50	16.4	<0.1	19.5	22	7.8	7	107	11	0.8	0.2	62.2	39.3	0.04	<0.1	<0.1	<0.1	170	170	250	1.2	0.12	<3	<3	<5	<3
Triplicate 5B	12600	14800	<0.50	5.88	<0.1	24.3	30.7	3.5	7.1	62	5.7	0.8	0.1	70.1	25.5	0.03	<0.1	<0.1	<0.1	140	140	162	1.2	0.09	<3	<3	<5	<3
RSD (%)	3.6%	28.5%	n/a	63.3%	n/a	14.0%	20.5%	48.5%	6.0%	41.2%	36.9%	0.0%	47.1%	7.7%	22.2%	25.0%	n/a	n/a	n/a	12.7%	12.7%	53.6%	69.3%	27.0%	n/a	n/a	n/a	n/a
Field Triplicate 6																												
WB23 0.0-0.5 m A	5010	11600	<0.50	16.3	<0.1	10.1	4	6.3	2.8	646	4.8	0.3	<0.5	29.6	15.2	<0.01	<0.1	<0.1	<0.1	160	160	247	7.7	0.08	<3	3	<5	3
Triplicate 6A	4430	10800	<0.50	16.9	<0.1	8.4	3.2	5.9	2.5	793	4.3	0.3	<0.5	27	14.1	<0.01	<0.1	0.4	0.4	70	70	232	3.6	0.04	<3	4	<5	4
Triplicate 6B	4280	10600	<0.50	16.9	<0.1	8.1	2.9	6	2.2	666	4.1	0.2	<0.5	27	13.5	<0.01	<0.1	1	1	70	70	206	2.1	0.04	<3	8	<5	8
RSD (%)	8.4%	4.8%	n/a	2.1%	n/a	12.2%	16.9%	3.4%	12.0%	11.4%	8.2%	21.7%	n/a	5.4%	6.0%	n/a	n/a	60.6%	60.6%	52.0%	52.0%	9.1%	64.9%	43.3%	n/a	52.9%	n/a	52.9%
Field Triplicate 7																												
WBE6 0.0-0.5 m A	13300	15600	<0.50	8.72	<0.1	17.8	18.6	9.3	7.3	118	8.6	0.7	<0.5	48.5	29.7	0.02	<0.1	<0.1	<0.1	360	360	154	4.5	0.63	<3	12	8	20
Triplicate 7A	13200	20000	<0.50	9.24	<0.1	19.5	19.8	9.5	7.5	167	9.5	0.7	<0.5	47.4	32.4	0.02	<0.1	0.1	0.1	360	360	157	1.2	0.68	<3	5	<5	5
Triplicate 7B	11800	25000	<0.50	14.8	<0.1	20	15.4	12.2	7.1	208	10.4	0.7	<0.5	43.7	34	0.02	<0.1	<0.1	<0.1	990	990	666	1.9	0.56	<3	14	7	21
RSD (%)	6.6%	23.3%	n/a	30.9%	n/a	6.0%	12.7%	15.7%	2.7%	27.4%	9.5%	0.0%	n/a	5.4%	6.8%	0.0%	n/a	n/a	n/a	63.8%	63.8%	90.5%	68.6%	9.7%	n/a	45.7%	9.4%	58.5%
Field Triplicate 8																												
WBE12 0.0-0.5 m A	12900	21000	<0.50	13.3	<0.1	18.4	24	10.2	7.8	205	9.6	0.9	<0.5	47.7	32.2	0.02	<0.1	0.5	0.5	480	480	186	3.1	2.92	<3	20	13	33
Triplicate 8A	13200	24000	<0.50	13.1	<0.1	18.2	22.1	11.5	7.5	166	9.9	0.8	<0.5	51.5	31.6	0.02	<0.1	<0.1	<0.1	720	720	259	3.3	1.04	<3	14	6	20
Triplicate 8B	12900	23400	<0.50	14.6	<0.1	17.4	26.4	14.5	8	174	10.6	0.8	<0.5	46.9	31.2	0.02	<0.1	<0.1	<0.1	560	560	242	4.5	1.51	<3	20	8	28
RSD (%)	1.3%	7.0%	n/a	6.0%	n/a	2.9%	8.9%	18.3%	3.2%	11.3%	5.1%	6.9%	n/a	5.0%	1.6%	0.0%	n/a	n/a	n/a	20.8%	20.8%	16.7%	20.8%	53.7%	n/a	19.2%	40.1%	24.3%
Field Triplicate 9																												
BH25 0.0-0.5 m A	4020	8000	<0.50	3.41	<0.1	7.3	5.1	2.6	2.2	134	3.2	0.2	<0.5	18.3	13.6	<0.01	<0.1	<0.1	<0.1	30	30	190	0.3	0.07	<3	12	<5	12
Triplicate 9A	3790	8240	<0.50	3.39	<0.1	7.1	5.7	3	2.4	106	3.5	0.2	<0.1	19.4	14.2	<0.01	<0.1	<0.1	<0.1	30	30	186	0.4	0.04	<3	11	<5	11
Triplicate 9B	2570	5410	<0.50	4.95	<0.1	4	2.5	2.6	1.9	87	2.1	0.2	<0.1	13.4	7.6	<0.01	<0.1	<0.1	<0.1	130	130	250	1.5	0.09	<3	15	5	20
RSD (%)	22.5%	21.7%	n/a	22.8%	n/a	30.2%	38.4%	8.4%	11.6%	21.7%	25.1%	0.0%	n/a	18.8%	30.9%	n/a	n/a	n/a	n/a	91.2%	91.2%	17.2%	90.8%	37.7%	n/a	16.4%	n/a	34.4%
Field Triplicate 10																												
BH38 0.0-0.5 m	5370	10700	<0.50	9.1	<0.1	10.8	4.6	5.1	3.3	449	5	0.4	<0.1	28.6	15.4	<0.01	<0.1	<0.1	<0.1	140	140	222	0.8	0.16	<3	<3	<5	<3
Triplicate 10A	3930	9200	<0.50	10.4	<0.1	7.2	3.8	4.7	2.5	459	3.8	0.2	<0.1	23.7	12.3	<0.01	<0.1	<0.1	<0.1	130	130	190	1.2	0.14	<3	<3	<5	<3
Triplicate 10B	5080	11400	<0.50	11.7	<0.1	8.6	4.6	5.3	3.3	388	4.8	0.6	<0.1	27.5	17.1	<0.01	<0.1	<0.1	<0.1	120	120	158	1.4	0.18	<3	<3	<5	<3
RSD (%)	15.9%	10.8%	n/a	12.5%	n/a	20.5%	10.7%	6.1%	15.2%	8.9%	14.2%	50.0%	n/a	9.7%	16.3%	n/a	n/a	n/a	n/a	7.7%	7.7%	16.8%	27.0%	12.5%	n/a	n/a	n/a	n/a
Field Triplicate 11																												
BH37 0.0-0.3 m A	4960	12800	<0.50	12	<0.1	9.4	4.7	5.5	3.1	533	5	0.4	<0.1	29.1	16.1	<0.01	<0.1	<0.1	<0.1	130	130	188	1.5	0.14	<3	<3	<5	<3
Triplicate 11A	4700	10600	<0.50	9.41	<0.1	8.1	4.3	4.5	3.7	346	4.3	0.2	<0.1	25.9	13.7	<0.01	<0.1	<0.1	<0.1	150	150	184	1.2	0.16	<3	<3	<5	<3
Triplicate 11B	7530	13600	<0.50	6.43	<0.1	14.9	8.3	6.2	5.6	176	6.8	0.3	<0.1	36.2	24.1	<0.01	<0.1	<0.1	<0.1	90	90	124	1.1	0.06	<3	<3	<5	<3
RSD (%)	27.3%	12.6%	n/a	30.0%	n/a	33.4%	38.2%	15.8%	31.6%	50.8%	24.0%	33.3%	n/a	17.3%	30.3%	n/a	n/a	n/a	n/a	24.8%	24.8%	21.7%	16.4%	44.1%	n/a	n/a	n/a	n/a
Field Triplicate 12																												
EB10 0.0-0.5 m A	7840	14000	<0.50	18.6	<0.1	13.1	3.6	5.8	3.9	312	5.9	0.4	<0.1	27.2	13.6	<0.01	<0.1	<0.1	<0.1	180	180	274	0.6	0.16	<3	6	<5	6
Triplicate 12A	9010	17200	<0.50	20.2	<0.1	14.7	4.6	6.3	4.5	342	6.4	0.5	<0.1	30.5	16.3	0.01	<0.1	<0.1	<0.1	160	160	357	1	0.18	<3	<3	<5	<3
Triplicate 12B	6310	13100	<0.50	13	<0.1	13.4	3	5.6	3	421	5.1	0.4	<0.1	24	12.4	<0.01	<0.1	<0.1	<0.1	110	110	176	0.8	0.12	<3	4	<5	4
RSD (%)	17.5%	14.6%	n/a	21.9%	n/a	6.2%	21.7%	6.1%	19.9%	15.7%	11.3%	13.3%	n/a	11.9%	14.2%	n/a	n/a	n/a	n/a	24.0%	24.0%	33.7%	25.0%	19.9%	n/a	28.3%	n/a	35.3%
Field Triplicate 13																												
EB26 0.0-0.5 m A	5600	11000	<0.50	6.88	<0.1	9.6	7.5	5	2.8	234	5.7	0.2	<0.1	29	14.8	<0.01	<0.1	0.1	0.1	60	60	188	0.7	0.04	<3	4	<5	4
Triplicate 13A	5130	8860	<0.50	8.16	<0.1	8.1	9.8	6.3	2.5	176	6.9	0.2	<0.1	32	16.2	<0.01	<0.1	0.1	0.1	40	40	144	0.9	0.09	<3	<3	<5	<3
Triplicate 13B	4210	8810	<0.50	4.38	<0.1	6.5	7.6	4.2	1.8	132	4.3	0.2	0.2	23	12.1	<0.01	<0.1	0.1	0.1	30	30	115	0.5	0.03	<3	<3	<5	<3
RSD (%)	14.2%	13.1%	n/a	29.7%	n/a	19.2%	15.7%	20.5%	21.7%	28.3%	23.1%	0.0%	n/a	16.4%	14.5%	n/a	n/a	0.0%	0.0%	35.3%	35.3%	24.7%	28.6%	60.3%	n/a	n/a	n/a	n/a
Field Triplicate 14																												
EB32 0.0-0.5 m A	7090	24600	<0.50	9.23	<0.1	19.9	9.1	8.6	10.1	301	8.2	0.5	<0.1	74.4	23.1	<0.01	<0.1	<0.1	<0.1	180	180	161	0.9	0.08	<3	<3	<5	<3
Triplicate 14A	5490	12500	<0.50	13.3	<0.1	14	3.5	6	3.5	324	6.2	1.9	<0.1	22	14.3	<0.01	<0.1	<0.1	<0.1	150	150	186	1	0.09	<3	<3	<5	<3
Triplicate 14B	6610	15500	<0.50	12.2	<0.1	14.7	7.6	7.8	4.5	556	7.8	3.2	<0.1	31.1	21.2	<0.01	<0.1	<0.1	<0.1	100	100	242	1.1	0.07	<3	<3	<5	<3
RSD (%)	12.8%	35.9%	n/a	18.2%	n/a	19.9%	43.1%	17.8%	59.0%	35.8%	14.3%	72.3%	n/a	65.9%	23.7%	n/a	n/a	n/a	n/a	28.2%	28.2%	21.1%	10.0%	12.5%	n/a	n/a	n/a	n/a
Field Triplicate 15																												
BH54 0.0-0.5 m A	10300	21900	<0.50	8.91	<0.1	19.9	16.9	10.8	6.6	772	11.7	0.5	<0.1	49.1	33.4	<0.01	<0.1	<0.1	<0.1	130	130	270	4	0.11	<3	<3	<5	<3
Triplicate 15A	6930	16400	<0.50	26.5	<0.1	14.5	6.7	8.6	4.4	467	7.7	0.6	<0.1	35.1	20.4	<0.01	<0.1	<0.1	<0.1	210	210	246	4.8	0.29	<3	4	<5	4
Triplicate 15B	6510	14400	<0.50	12.8	<0.1	12.7	5.4	7.2	3.9	537	6.5	0.5	<0.1	27.7	17.8	<0.01	<0.1	<0.1	<0.1	180	180	215	4.3	0.6	<3	<3	<5	<3
RSD (%)	26.3%	22.1%	n/a	57.5%	n/a	23.9%	65.2%	20.5%	28.9%	27.0%	31.5%	10.8%	n/a	29.1%	35.0%	n/a	n/a	n/a	n/a	23.3%	23.3%	11.3%	9.3%	74.4%	n/a	n/a	n/a	n/a
Field Triplicate 16																												
BH44 0.0-0.5 m A	19300	37500	<0.50	8.91	<0.1	27.4	35.4	22.5	11	543	25	0.8	<0.1	68.1	62.3	0.03	<0.1	<0.1	<0.1	210	210	337	4	0.12	<3	4	<5	4
Triplicate 16A	13900	29800	<0.50	9.2	<0.1	22.5	35	18.6	10.5	422	17.9	0.8	<0.1	64.2	53	0.01	<0.1	<0.1	<0.1	180	180	288	4.1	0.17	<3	6	<5	6
Triplicate 16B	7260	16600	<0.50	10.3	<0.1	13.5	10	7.9	4.7	340	8	0.5	<0.1	36.3	23.5	<0.01	<0.1	<0.1	<0.1	280	280	268	4	0.23	<3	4	<5	4
RSD (%)	44.7%	37.8%	n/a	7.7%	n/a	33.4%	54.3%	46.3%	40.1%	23.5%	50.3%	24.7%	n/a	30.9%	43.8%	70.7%	n/a	n/a	n/a	23.0%	23.0%	11.9%	1.4%	31.8%	n/a	24.7%	n/a	24.7%

Appendix F
QAQC Summary Table

Sample	TPH (NEPM 1999 Fractions)				Organotins			Polycyclic Aromatic Hydrocarbons															
	C10 - C14 Fraction	C15 - C28 Fraction	C29 - C36 Fraction	C10 - C36 Fraction (sum)	Monobutyltin	Dibutyltin	Tributyltin	Naphthalene	2-Methylnaphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benz(a) anthracene	Chrysene	Benzo(b+j) fluoranthene	Benzo(k) fluoranthene	Benzo€ pyrene	Benzo(a) pyrene	Perylene
Field Triplicate 1																							
PC3 0.0-0.5 m A	5	11	10	26	<1	<1	<0.5	<5	<5	<4	<4	<4	8	<4	8	9	5	10	4	<4	<4	<4	7
Triplicate 1A	4	8	6	18	<1	<1	<0.5	<5	<5	<4	<4	<4	7	<4	8	9	4	5	<4	<4	<4	<4	<4
Triplicate 1B	<3	9	7	16	<1	<1	<0.5	<5	<5	<4	<4	<4	5	<4	7	7	6	8	8	7	<4	<4	<4
RSD (%)	n/a	16.4%	27.2%	26.5%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	22.9%	n/a	7.5%	13.9%	20.0%	32.8%	n/a	n/a	n/a	n/a	n/a
Field Triplicate 2																							
WB3 0.5-1.0 m A	<3	5	<5	5	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Triplicate 2A	<3	3	<5	3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Triplicate 2B	<3	3	<5	3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
RSD (%)	n/a	31.5%	n/a	31.5%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Field Triplicate 3																							
PC6 0.0-0.5 m A	<3	10	12	22	<1	<1	<0.5	<5	<5	<4	<4	<4	5	<4	9	8	4	5	5	<4	<4	<4	4
Triplicate 3A	<3	8	12	20	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Triplicate 3B	<3	7	9	16	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
RSD (%)	n/a	18.3%	15.7%	15.8%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Field Triplicate 4																							
WB15 0.5-1.0 m A, B	<3	<3	<5	<3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Triplicate 4A	<3	<3	<5	<3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Triplicate 4B	<3	<3	<5	<3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
RSD (%)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Field Triplicate 5																							
BH9 0.0-0.45 m A	<3	<3	<5	<3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Triplicate 5A	<3	<3	<5	<3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Triplicate 5B	<3	<3	<5	<3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
RSD (%)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Field Triplicate 6																							
WB23 0.0-0.5 m A	<3	<3	<5	<3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Triplicate 6A	<3	<3	<5	<3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Triplicate 6B	<3	6	<5	6	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
RSD (%)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Field Triplicate 7																							
WBE6 0.0-0.5 m A	<3	5	11	16	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Triplicate 7A	<3	<3	<5	<3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Triplicate 7B	<3	8	10	18	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
RSD (%)	n/a	32.6%	6.7%	8.3%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Field Triplicate 8																							
WBE12 0.0-0.5 m A	<3	8	19	27	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Triplicate 8A	<3	8	10	18	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Triplicate 8B	<3	12	13	25	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
RSD (%)	n/a	24.7%	32.7%	20.3%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Field Triplicate 9																							
BH25 0.0-0.5 m A	<3	8	7	15	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Triplicate 9A	<3	7	6	13	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Triplicate 9B	<3	9	10	19	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
RSD (%)	n/a	12.5%	27.2%	19.5%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Field Triplicate 10																							
BH38 0.0-0.5 m	<3	<3	<5	<3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Triplicate 10A	<3	<3	<5	<3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Triplicate 10B	<3	<3	<5	<3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
RSD (%)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Field Triplicate 11																							
BH37 0.0-0.3 m A	<3	<3	<5	<3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Triplicate 11A	<3	<3	<5	<3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Triplicate 11B	<3	<3	<5	<3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
RSD (%)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Field Triplicate 12																							
EB10 0.0-0.5 m A	4	3	<5	7	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Triplicate 12A	<3	<3	<5	<3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Triplicate 12B	<3	<3	<5	<3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
RSD (%)	n/a	n/a	n/a	53.3%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Field Triplicate 13																							
EB26 0.0-0.5 m A	<3	<3	<5	<3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Triplicate 13A	<3	<3	<5	<3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Triplicate 13B	<3	<3	<5	<3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
RSD (%)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Field Triplicate 14																							
EB32 0.0-0.5 m A	<3	<3	<5	<3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Triplicate 14A	<3	<3	<5	<3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Triplicate 14B	<3	<3	<5	<3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
RSD (%)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Field Triplicate 15																							
BH54 0.0-0.5 m A	<3	<3	<5	<3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Triplicate 15A	<3	<3	<5	<3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Triplicate 15B	<3	<3	<5	<3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
RSD (%)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Field Triplicate 16																							
BH44 0.0-0.5 m A	<3	<3	<5	<3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Triplicate 16A	<3	3	<5	3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Triplicate 16B	<3	<3	<5	<3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
RSD (%)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Appendix F
QAQC Summary Table

Sample						Particle sizing						>50%
	Benzo(g.h.i) perylene	Dibenz(a.h) anthracene	Indeno(1.2.3.cd) pyrene	Coronene	Sum of PAHs	Clay (<2 µm)	Silt (2-60 µm)	Sand (0.06-2.00 mm)	Gravel (>2mm)	Cobbles (>6cm)	Soil Particle Density (Clay/Silt/Sand)	
Field Triplicate 1												
PC3 0.0-0.5 m A	5	<5	<5	<5	56							
Triplicate 1A	4	<4	<4	<5	37							
Triplicate 1B	<4	<4	<4	<5	48							
RSD (%)	15.7%	n/a	n/a	n/a	20.3%							2
Field Triplicate 2												
WB3 0.5-1.0 m A	<4	<4	<4	<5	<4							
Triplicate 2A	<4	<4	<4	<5	<4							
Triplicate 2B	<4	<4	<4	<5	<4							
RSD (%)	n/a	n/a	n/a	n/a	n/a							0
Field Triplicate 3												
PC6 0.0-0.5 m A	<4	<4	<4	<5	40							
Triplicate 3A	<4	<4	<4	<5	<4							
Triplicate 3B	<4	<4	<4	<5	<4							
RSD (%)	n/a	n/a	n/a	n/a	n/a							1
Field Triplicate 4												
WB15 0.5-1.0 m A, B	<4	<4	<4	<5	<4	17	13	70	<1	<1	2.69	
Triplicate 4A	5	6	<4	<5	11	4	<1	96	<1	<1	2.68	
Triplicate 4B	<4	<4	<4	<5	<4	3	<1	97	<1	<1	2.69	
RSD (%)	n/a	n/a	n/a	n/a	n/a	97.6%	n/a	17.5%	n/a	n/a	0.2%	2
Field Triplicate 5												
BH9 0.0-0.45 m A	<4	<4	<4	<5	<4							
Triplicate 5A	<4	<4	<4	<5	<4							
Triplicate 5B	<4	<4	<4	<5	<4							
RSD (%)	n/a	n/a	n/a	n/a	n/a							3
Field Triplicate 6												
WB23 0.0-0.5 m A	<4	<4	<4	<5	<4							
Triplicate 6A	<4	<4	<4	<5	<4							
Triplicate 6B	<4	<4	<4	<5	<4							
RSD (%)	n/a	n/a	n/a	n/a	n/a							7
Field Triplicate 7												
WBE6 0.0-0.5 m A	<4	<4	<4	<5	<4							
Triplicate 7A	<4	<4	<4	<5	<4							
Triplicate 7B	<4	<4	<4	<5	<4							
RSD (%)	n/a	n/a	n/a	n/a	n/a							5
Field Triplicate 8												
WBE12 0.0-0.5 m A	<4	<4	<4	<5	<4							
Triplicate 8A	<4	<4	<4	<5	<4							
Triplicate 8B	<4	<4	<4	<5	<4							
RSD (%)	n/a	n/a	n/a	n/a	n/a							1
Field Triplicate 9												
BH25 0.0-0.5 m A	<4	<4	<4	<5	<4							
Triplicate 9A	<4	<4	<4	<5	<4							
Triplicate 9B	<4	<4	<4	<5	<4							
RSD (%)	n/a	n/a	n/a	n/a	n/a							3
Field Triplicate 10												
BH38 0.0-0.5 m	<4	<4	<4	<5	<4							
Triplicate 10A	<4	<4	<4	<5	<4							
Triplicate 10B	<4	<4	<4	<5	<4							
RSD (%)	n/a	n/a	n/a	n/a	n/a							1
Field Triplicate 11												
BH37 0.0-0.3 m A	<4	<4	<4	<5	<4							
Triplicate 11A	<4	<4	<4	<5	<4							
Triplicate 11B	<4	<4	<4	<5	<4							
RSD (%)	n/a	n/a	n/a	n/a	n/a							1
Field Triplicate 12												
EB10 0.0-0.5 m A	<4	<4	<4	<5	<4							
Triplicate 12A	<4	<4	<4	<5	<4							
Triplicate 12B	<4	<4	<4	<5	<4							
RSD (%)	n/a	n/a	n/a	n/a	n/a							1
Field Triplicate 13												
EB26 0.0-0.5 m A	<4	<4	<4	<5	<4							
Triplicate 13A	<4	<4	<4	<5	<4							
Triplicate 13B	<4	<4	<4	<5	<4							
RSD (%)	n/a	n/a	n/a	n/a	n/a							1
Field Triplicate 14												
EB32 0.0-0.5 m A	<4	<4	<4	<5	<4							
Triplicate 14A	<4	<4	<4	<5	<4							
Triplicate 14B	<4	<4	<4	<5	<4							
RSD (%)	n/a	n/a	n/a	n/a	n/a							3
Field Triplicate 15												
BH54 0.0-0.5 m A	<4	<4	<4	<5	<4							
Triplicate 15A	<4	<4	<4	<5	<4							
Triplicate 15B	<4	<4	<4	<5	<4							
RSD (%)	n/a	n/a	n/a	n/a	n/a							3
Field Triplicate 16												
BH44 0.0-0.5 m A	<4	<4	<4	<5	<4							
Triplicate 16A	<4	<4	<4	<5	<4							
Triplicate 16B	<4	<4	<4	<5	<4							
RSD (%)	n/a	n/a	n/a	n/a	n/a							

Appendix F
QAQC Summary Table

Sample	Metals																Nitrite as N	Nitrate as N	Nitrite + Nitrate as N	Total Kjeldahl Nitrogen as N	Total Nitrogen as N	Total Phosphorus as P	Ammonia as N	Total Organic Carbon	TRH (NEPM 2013 Fractions)			
	Aluminium	Iron	Antimony	Arsenic	Cadmium	Chromium	Copper	Cobalt	Lead	Manganese	Nickel	Selenium	Silver	Vanadium	Zinc	Mercury									>C10 - C16 Fraction	>C16 - C34 Fraction	>C34 - C40 Fraction	>C10 - C40 Fraction (sum)
Duplicate 1																												
PC4 0.0-0.5 m A	21800	27500	<0.50	13	<0.1	27.6	29.1	13	9.5	471	14.7	1	<0.1	65.9	55.2	0.04	<0.1	0.1	0.1	830	830	412	15.2	1.02	4	20	10	34
Duplicate 1A	18900	25000	<0.50	13.7	<0.1	27.4	22.4	11.6	9.5	468	13.6	1.1	1.1	58.1	50.6	0.03	<0.1	0.1	0.1	940	940	369	19.1	1.16	5	16	8	29
Duplicate 1B			< 0.5	14	< 0.1	24	20		6	310	8.7		0.1		42	< 0.01	0.4	0.8		820	820	430	16		57	<100	<100	
RSD (%)	10.1%	6.7%	n/a	3.8%	n/a	7.7%	19.8%	11.4%	24.2%	22.1%	25.9%	9.5%	117.9%	12.6%	13.6%	20.2%	n/a	121.2%	0.0%	7.7%	7.7%	7.8%	12.3%	9.1%	137.8%	15.7%	15.7%	15.9%
Duplicate 2																												
WB18 0.0-0.5 m A	5320	11400	<0.50	13.3	<0.1	9	3.4	6	2.6	551	4.3	0.4	<0.1	25.1	13.7	<0.01	<0.1	0.2	0.2	70	70	210	1.8	0.06	<3	5	<5	5
Duplicate 2A	5120	10600	<0.50	15.5	<0.1	10.4	3.8	6.6	2.9	559	4.7	0.4	<0.1	29.1	14.7	<0.01	<0.1	0.2	0.2	80	80	240	1.8	0.08	<3	<3	<5	<3
Duplicate 2B			0.7	12	<0.1	8.1	2.8		14	570	2.4		<0.1		12	0.01	<0.1	0.3		88	88	210	6.4		<50	<100	<100	
RSD (%)	2.7%	5.1%	n/a	13.0%	n/a	12.6%	15.1%	9.5%	######	1.7%	32.3%	0.0%	n/a	14.8%	10.1%	n/a	n/a	24.7%	0.0%	11.4%	11.4%	7.9%	79.7%	20.2%	n/a	n/a	n/a	n/a
Duplicate 3																												
BH20 0.0-0.4 m A	4880	17000	<0.50	7.26	<0.1	7.4	6.4	5	2.7	170	5.6	0.3	<0.1	32.2	19	<0.01	<0.1	<0.1	<0.1	90	90	381	0.9	0.07	<3	<3	<5	<3
Duplicate 3A	5840	11700	<0.50	9.08	<0.1	10.9	5.8	5.2	3	216	5.8	0.5	<0.1	31.3	16.7	<0.01	<0.1	<0.1	<0.1	140	140	218	2.4	0.15	<3	<3	<5	<3
Duplicate 3B			0.6	5.4	< 0.1	6.5	4.2		1.2	230	2.1		< 0.1		9.6	< 0.01	< 0.1	0.4	0.4	36	36	180	9.3		<50	<100	<100	
RSD (%)	12.7%	26.1%	n/a	25.4%	n/a	28.1%	20.8%	3.9%	41.9%	15.3%	46.2%	50.0%	n/a	2.8%	32.5%	n/a	n/a	n/a	n/a	58.7%	58.7%	41.1%	106.7%	73%	n/a	n/a	n/a	n/a
Duplicate 4																												
WBE18 0.5-1.0 m A	16700	29900	<0.50	8.22	<0.1	22.8	35.6	11	8.4	322	11.4	1	<0.1	63.6	40.5	0.02	<0.1	<0.1	<0.1	520	520	129	5	1.37	3	47	31	81
Duplicate 4A	15900	34900	<0.50	15.2	<0.1	23.6	41.8	18.9	9	365	14.4	1.1	<0.1	80.9	43.4	0.02	<0.1	0.1	0.1	670	670	131	5.8	1.92	<3	30	20	50
Duplicate 4B			< 10	12	< 0.1	26	50		< 5	300	12		< 1		49	0.03	0.6	0.9		1300	1300	180	5.5		<50	<100	<100	
RSD (%)	3.5%	10.9%	n/a	29.6%	n/a	6.9%	17.0%	52.8%	4.9%	10.0%	12.6%	9.5%	n/a	23.9%	9.8%	24.7%	n/a	113.1%	n/a	49.9%	49.9%	19.7%	7.4%	23.6%	n/a	31.2%	30.5%	47.3%
Duplicate 5																												
EB25 0.0-0.6 m A	18700	28400	<0.50	10	<0.1	21.8	25.6	10.2	9.5	278	13.5	0.5	<0.1	61.4	37.1	0.02	<0.1	<0.1	<0.1	170	170	265	1	0.08	<3	4	<5	4
Duplicate 5A	4930	13000	<0.50	19	<0.1	10.5	2.4	5.5	3	826	4.3	0.3	<0.1	26.2	11.1	<0.01	<0.1	<0.1	<0.1	170	170	303	1	0.15	<3	<3	<5	<3
Duplicate 5B			< 0.5	20	< 0.1	11	2.8		3	790	4.9		< 0.1		13	0.01	< 0.1	< 0.1		200	200	400	0.7		<50	<100	<100	
RSD (%)	116.5%	74.4%	n/a	33.7%	n/a	44.2%	129.4%	59.9%	72.6%	48.6%	68.0%	50.0%	n/a	80.4%	71.0%	47.1%	n/a	n/a	n/a	9.6%	9.6%	21.6%	19.2%	43.0%	n/a	n/a	n/a	n/a
Duplicate 6																												
EB14 0.0-0.5 m A	21200	34100	<0.50	3.28	<0.1	27.7	35.8	13.1	9	168	21.3	0.9	<0.1	73	67.1	<0.01	<0.1	<0.1	<0.1	180	180	335	2.2	0.17	<3	<3	<5	<3
Duplicate 6A	7800	14500	<0.50	9.64	<0.1	15.8	8.1	5.8	4.8	237	6.9	0.4	<0.1	35	19.5	<0.01	<0.1	<0.1	<0.1	220	220	247	0.2	0.09	<3	<3	<5	<3
Duplicate 6B			< 20	6.3	< 0.8	21	24		< 10	180	< 10		< 10		40	0.02	0.2	0.4		150	150	270	3.8		<50	<100	<100	
RSD (%)	92.4%	80.7%	n/a	49.7%	n/a	27.7%	61.4%	77.2%	43.0%	18.9%	59.5%	76.9%	n/a	70.4%	56.6%	n/a	n/a	n/a	n/a	19.2%	19.2%	16.1%	87.3%	43.5%	n/a	n/a	n/a	n/a
Duplicate 7																												
BH62 0.0-0.3 m A	11500	22700	<0.50	6.65	<0.1	19	25.3	10.7	7.9	168	13.5	3.2	<0.1	47.2	43.1	0.01	<0.1	1.1	1.1	190	190	209	1.4	0.16	<3	4	<5	4
Duplicate 7A	10800	19800	<0.50	5.16	<0.1	16.5	29	14	14.4	220	10.6	4.8	<0.1	39.1	37.4	<0.01	<0.1	<0.1	<0.1	170	170	148	1.5	0.2	<3	<3	<5	<3
Duplicate 7B			< 20	5.9	< 0.1	23	25		< 10	260	< 10		< 10		44	0.01	0.2	0.6		23	24	160	4.7		<50	<100	<100	
RSD (%)	6.3%	13.6%	n/a	12.6%	n/a	16.8%	8.4%	26.7%	41.2%	21.4%	17.0%	40.0%	n/a	18.8%	8.6%	0.0%	n/a	41.6%	n/a	71.4%	70.8%	18.8%	74.1%	15.7%	n/a	n/a	n/a	n/a
Duplicate 8																												
BH49 0.0-0.5 m A	14000	26700	<0.50	7.97	<0.1	22.1	23.1	7.9	7.4	179	12.5	0.6	<0.1	60	36.4	<0.01	<0.1	<0.1	<0.1	120	120	328	3.6	0.11	<3	7	<5	7
Duplicate 8A	12900	25600	<0.50	6.83	<0.1	22.1	29.8	10.3	7.4	228	16.5	0.6	<0.1	58.9	40.9	<0.01	<0.1	<0.1	<0.1	210	210	352	4.7	0.22	<3	5	<5	5
Duplicate 8B			< 50	22	< 2	67	43		< 25	680	< 25		< 25		110	< 0.01	0.2	0.4		310	310	890	1.6		<50	<100	<100	
RSD (%)	8.2%	4.2%	n/a	68.9%	n/a	69.9%	31.7%	26.4%	0.0%	76.2%	19.5%	0.0%	n/a	1.3%	66.1%	n/a	43.3%	86.6%	n/a	44.6%	44.6%	60.7%	47.6%	66.7%	n/a	23.6%	n/a	33.3%

Appendix F
QAQC Summary Table

Sample	TPH (NEPM 1999 Fractions)				Organotins			Polycyclic Aromatic Hydrocarbons															
	C10 - C14 Fraction	C15 - C28 Fraction	C29 - C36 Fraction	C10 - C36 Fraction (sum)	Monobutyltin	Dibutyltin	Tributyltin	Naphthalene	2-Methylnaphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benz(a) anthracene	Chrysene	Benzo(b+j) fluoranthene	Benzo(k) fluoranthene	Benzo€ pyrene	Benzo(a) pyrene	Perylene
Duplicate 1																							
PC4 0.0-0.5 m A	4	14	11	29	<1	<1	<0.5	7	<5	<4	<4	<4	7	<4	8	9	<4	6	4	<4	<4	<4	7
Duplicate 1A	4	12	10	26	<1	<1	<0.5	6	<5	<4	<4	<4	8	<4	8	8	5	6	5	<4	4	<4	4
Duplicate 1B	<20	87	52	140	<1.04	<1.04	<1.04	< 2		< 2	< 2	< 2	8	< 2	8	8	8	6	6	4		5	
RSD (%)	0.0%	113.5%	98.5%	100.0%	n/a	n/a	n/a	10.9%	n/a	n/a	n/a	n/a	7.5%	n/a	0.0%	6.9%	32.6%	0.0%	20.0%	n/a	n/a	n/a	38.6%
Duplicate 2																							
WB18 0.0-0.5 m A	<3	4	<5	4	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Duplicate 2A	<3	<3	<5	<3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Duplicate 2B	<20	<50	<50	<50	<0.664	<0.664	<0.664	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<1	
RSD (%)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Duplicate 3																							
BH20 0.0-0.4 m A	<3	<3	<5	<3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Duplicate 3A	4	<3	<5	4	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Duplicate 3B	<50	<50	<50	<50	<0.596	<0.596	<0.596	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<1	
RSD (%)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Duplicate 4																							
WBE18 0.5-1.0 m A	<3	16	49	65	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	4
Duplicate 4A	<3	12	31	43	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Duplicate 4B	<50	<50	75	75	<0.877	<0.877	<0.877	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<1	
RSD (%)	n/a	20.2%	42.8%	26.8%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Duplicate 5																							
EB25 0.0-0.6 m A	<3	<3	<5	<3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Duplicate 5A	<3	<3	<5	<3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Duplicate 5B	<50	<50	<50	<50	<0.635	<0.635	<0.635	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<1	
RSD (%)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Duplicate 6																							
EB14 0.0-0.5 m A	<3	<3	<5	<3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Duplicate 6A	<3	<3	<5	<3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Duplicate 6B	<50	<50	<50	<50	<0.62	<0.62	<0.62	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<1	
RSD (%)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Duplicate 7																							
BH62 0.0-0.3 m A	<3	<3	<5	<3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Duplicate 7A	<3	<3	<5	<3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Duplicate 7B	<50	<50	<50	<50	< 0.621	< 0.621	< 0.621	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<1	
RSD (%)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Duplicate 8																							
BH49 0.0-0.5 m A	<3	3	<5	3	<1	<1	<0.5	<5	<5	4	<4	<4	<4	<4	<4	<4	<4	<4	5	<4	<4	<4	<4
Duplicate 8A	<3	<3	<5	<3	<1	<1	<0.5	<5	<5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Duplicate 8B	<50	<50	<50	<50	< 0.598	< 0.598	< 0.598	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<1	
RSD (%)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Appendix F
QAQC Summary Table

Sample	Benzo(g.h.i) perylene	Dibenz(a.h) anthracene	Indeno(1.2.3.cd) pyrene	Coronene	Sum of PAHs	>50%
Duplicate 1						
PC4 0.0-0.5 m A	4	<4	<4	<5	52	
Duplicate 1A	5	<4	<4	<5	59	
Duplicate 1B	6	8	7		74	
RSD (%)	20.0%	n/a	n/a	n/a	18.2%	6
Duplicate 2						
WB18 0.0-0.5 m A	<4	<4	<4	<5	<4	
Duplicate 2A	<4	<4	<4	<5	<4	
Duplicate 2B	<1	<1	<1		<1	
RSD (%)	n/a	n/a	n/a	n/a	n/a	2
Duplicate 3						
BH20 0.0-0.4 m A	<4	<4	<4	<5	<4	
Duplicate 3A	<4	<4	<4	<5	<4	
Duplicate 3B	<1	<1	<1		<1	
RSD (%)	n/a	n/a	n/a	n/a	n/a	5
Duplicate 4						
WBE18 0.5-1.0 m A	<4	<4	<4	<5	4	
Duplicate 4A	<4	<4	<4	<5	<4	
Duplicate 4B	<1	<1	<1		<1	
RSD (%)	n/a	n/a	n/a	n/a	n/a	2
Duplicate 5						
EB25 0.0-0.6 m A	<4	<4	<4	<5	<4	
Duplicate 5A	<4	<4	<4	<5	<4	
Duplicate 5B	<1	<1	<1		<1	
RSD (%)	n/a	n/a	n/a	n/a	n/a	9
Duplicate 6						
EB14 0.0-0.5 m A	<4	<4	<4	<5	<4	
Duplicate 6A	<4	<4	<4	<5	<4	
Duplicate 6B	<1	<1	<1		<1	
RSD (%)	n/a	n/a	n/a	n/a	n/a	9
Duplicate 7						
BH62 0.0-0.3 m A	<4	<4	<4	<5	<4	
Duplicate 7A	<4	<4	<4	<5	<4	
Duplicate 7B	<1	<1	<1		<1	
RSD (%)	n/a	n/a	n/a	n/a	n/a	3
Duplicate 8						
BH49 0.0-0.5 m A	6	<4	4	<5	19	
Duplicate 8A	<4	<4	<4	<5	<4	
Duplicate 8B	<1	<1	<1		<1	
RSD (%)	68.6%	n/a	n/a	n/a	120.5%	9
					Total (RSD	**45**

Appendix F
QAQC Summary Table

Sample	pH Measurements		Acidity Trail						Sulfur Trail				Calcium Values					Magnesium Values					Excess Acid Neutralising Capacity	
	pH KCl (23A)	pH OX (23B)	Titratable Actual Acidity (23F)	Titratable Peroxide Acidity (23G)	Titratable Sulfidic Acidity (23H)	sulfidic - Titratable Actual Acidity (s-23F)	sulfidic - Titratable Peroxide Acidity (s-23G)	sulfidic - Titratable Sulfidic Acidity (s-23H)	KCl Extractable Sulfur (23Ce)	Peroxide Sulfur (23De)	Peroxide Oxidisable Sulfur (23E)	acidity - Peroxide Oxidisable Sulfur (a-23E)	KCl Extractable Calcium (23Vh)	Peroxide Calcium (23Wh)	Acid Reacted Calcium (23X)	acidity - Acid Reacted Calcium (a-23X)	sulfidic - Acid Reacted Calcium (s-23X)	KCl Extractable Magnesium (23Sm)	Peroxide Magnesium (23Tm)	Acid Reacted Magnesium (23U)	Acidity - Acid Reacted Magnesium (a-23U)	sulfidic - Acid Reacted Magnesium (s-23U)	Excess Acid Neutralising Capacity (23Q)	acidity - Excess Acid Neutralising Capacity (a-23Q)
ASS Duplicate 22B																								
BH17 0.0 m	9.7	8.4	<2	<2	<2	<0.02	<0.02	<0.02	<0.02	0.03	0.03	19	0.13	3.64	3.51	1750	2.81	<0.02	0.03	0.03	22	0.04	8.88	1780
Duplicate	9.7	8.6	<2	<2	<2	<0.02	<0.02	<0.02	<0.02	0.03	0.03	18	0.14	3.26	3.12	1560	2.5	0.02	0.02	<0.02	<10	<0.02	8.51	1700
RPD (%)	0.0%	2.4%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.0%	0.0%	5.4%	7.4%	11.0%	11.8%	11.5%	11.7%	0.0%	40.0%	40.0%	75.0%	66.7%	4.3%	4.6%
ASS Duplicate 25																								
BH38 1.0 m	9.4	8.4	<2	<2	<2	<0.02	<0.02	<0.02	0.07	0.22	0.15	96	0.16	1.77	1.6	798	1.28	0.05	0.1	0.04	35	0.06	3.75	750
Duplicate	9.3	8.3	<2	<2	<2	<0.02	<0.02	<0.02	0.09	0.32	0.23	144	0.21	1.94	1.72	861	1.38	0.07	0.18	0.11	91	0.15	3.82	762
RPD (%)	1.1%	1.2%	n/a	n/a	n/a	n/a	n/a	n/a	25.0%	37.0%	42.1%	40.0%	27.0%	9.2%	7.2%	7.6%	7.5%	33.3%	57.1%	93.3%	88.9%	85.7%	1.8%	1.6%
ASS Duplicate 26																								
BH12 0.5 m	9	8.3	<2	<2	<2	<0.02	<0.02	<0.02	0.09	0.3	0.2	127	0.21	0.73	0.51	256	0.41	0.09	0.16	0.07	61	0.1	1.26	251
Duplicate	9.1	8.6	<2	<2	<2	<0.02	<0.02	<0.02	0.07	0.18	0.11	69	0.18	0.66	0.48	238	0.38	0.06	0.11	0.04	37	0.06	1.16	232
RPD (%)	1.1%	3.6%	n/a	n/a	n/a	n/a	n/a	n/a	25.0%	50.0%	58.1%	59.2%	15.4%	10.1%	6.1%	7.3%	7.6%	40.0%	37.0%	54.5%	49.0%	50.0%	8.3%	7.9%
ASS Duplicate 36																								
BH8 1.0 m	9.4	7.6	<2	<2	<2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<10	0.12	0.25	0.13	63	0.1	0.02	0.04	0.02	18	0.03	0.67	134
Duplicate	9.4	7.7	<2	<2	<2	<0.02	<0.02	<0.02	0.04	0.05	<0.02	<10	0.14	0.46	0.32	161	0.26	0.04	0.07	0.03	25	0.04	1.33	265
RPD (%)	0.0%	1.3%	n/a	n/a	n/a	n/a	n/a	n/a	66.7%	85.7%	n/a	n/a	15.4%	59.2%	84.4%	87.5%	88.9%	66.7%	54.5%	40.0%	32.6%	28.6%	66.0%	65.7%
ASS Duplicate 37																								
BH59 0.5 m	8.7	9	<2	<2	<2	<0.02	<0.02	<0.02	0.03	0.06	0.02	13	0.24	0.4	0.16	78	0.12	0.11	0.16	0.05	39	0.06	1.12	223
Duplicate	8.8	9.2	<2	<2	<2	<0.02	<0.02	<0.02	<0.02	0.04	0.04	24	0.21	0.5	0.29	143	0.23	0.1	0.17	0.07	55	0.09	1.96	391
RPD (%)	1.1%	2.2%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	40.0%	66.7%	59.5%	13.3%	22.2%	57.8%	58.8%	62.9%	9.5%	6.1%	33.3%	34.0%	40.0%	54.5%	54.7%
ASS Duplicate 38																								
BH54 0.0 m	9.5	8.3	<2	<2	<2	<0.02	<0.02	<0.02	0.08	0.12	0.05	30	0.19	2.42	2.23	1110	1.79	0.05	0.08	0.03	27	0.04	6.04	1210
Duplicate	9.4	8.3	<2	<2	<2	<0.02	<0.02	<0.02	0.08	0.15	0.07	44	0.19	2.94	2.75	1370	2.2	0.05	0.18	0.13	108	0.17	7.63	1520
RPD (%)	1.1%	0.0%	n/a	n/a	n/a	n/a	n/a	n/a	0.0%	22.2%	33.3%	37.8%	0.0%	19.4%	20.9%	21.0%	20.6%	0.0%	76.9%	125.0%	120.0%	123.8%	23.3%	22.7%
ASS Duplicate 39																								
BH56 0.5 m	9.5	8.4	<2	<2	<2	<0.02	<0.02	<0.02	0.08	0.13	0.05	30	0.2	4.35	4.14	2070	3.32	0.05	0.08	0.04	31	0.05	12.8	2560
Duplicate	9.4	8.1	<2	<2	<2	<0.02	<0.02	<0.02	0.09	0.17	0.08	53	0.2	3.21	3.02	1500	2.41	0.05	0.09	0.04	30	0.05	7.51	1500
RPD (%)	1.1%	3.6%	n/a	n/a	n/a	n/a	n/a	n/a	11.8%	26.7%	46.2%	55.4%	0.0%	30.2%	31.3%	31.9%	31.8%	0.0%	11.8%	0.0%	3.3%	0.0%	52.1%	52.2%
ASS Duplicate 40																								
BH40 0.5 m	8.9	8.2	<2	<2	<2	<0.02	<0.02	<0.02	0.12	0.34	0.23	141	0.18	1.45	1.27	632	1.01	0.05	0.18	0.12	103	0.16	3.39	678
Duplicate	9	8.8	<2	<2	<2	<0.02	<0.02	<0.02	0.12	0.22	0.1	66	0.18	1.63	1.45	723	1.16	0.07	0.18	0.11	93	0.15	4.23	846
RPD (%)	1.1%	7.1%	n/a	n/a	n/a	n/a	n/a	n/a	0.0%	42.9%	78.8%	72.5%	0.0%	11.7%	13.2%	13.4%	13.8%	33.3%	0.0%	8.7%	10.2%	6.5%	22.0%	22.0%
ASS Duplicate 27																								
EB8 0.0 m	9.4	9	<2	<2	<2	<0.02	<0.02	<0.02	0.06	0.16	0.1	60	0.19	4.32	4.13	2060	3.3	0.06	0.24	0.18	148	0.24	10.6	2120
Duplicate	9.4	8.7	<2	<2	<2	<0.02	<0.02	<0.02	0.05	0.16	0.11	68	0.17	3.78	3.61	1800	2.89	0.05	0.23	0.18	146	0.23	9.88	1980
RPD (%)	0.0%	3.4%	n/a	n/a	n/a	n/a	n/a	n/a	18.2%	0.0%	9.5%	12.5%	11.1%	13.3%	13.4%	13.5%	13.2%	18.2%	4.3%	0.0%	1.4%	4.3%	7.0%	6.8%
ASS Duplicate 28																								
EB19 0.0 m	9.3	8.7	<2	<2	<2	<0.02	<0.02	<0.02	0.07	0.2	0.13	83	0.2	4.36	4.16	2080	3.33	0.07	0.27	0.21	172	0.28	10.6	2120
Duplicate	9.3	8.8	<2	<2	<2	<0.02	<0.02	<0.02	0.07	0.2	0.13	81	0.19	3.91	3.71	1850	2.97	0.06	0.29	0.23	187	0.3	10.1	2020
RPD (%)	0.0%	1.1%	n/a	n/a	n/a	n/a	n/a	n/a	0.0%	0.0%	0.0%	2.4%	5.1%	10.9%	11.4%	11.7%	11.4%	15.4%	7.1%	9.1%	8.4%	6.9%	4.8%	4.8%
ASS Duplicate 29																								
EB13 0.5 m	9	9.5	<2	<2	<2	<0.02	<0.02	<0.02	0.03	0.05	<0.02	<10	0.2	1.84	1.64	819	1.31	0.12	0.24	0.12	101	0.16	4.99	996
Duplicate	9	9.2	<2	<2	<2	<0.02	<0.02	<0.02	0.03	0.05	<0.02	<10	0.21	1.74	1.54	766	1.23	0.12	0.18	0.07	57	0.09	4.97	992
RPD (%)	0.0%	3.2%	n/a	n/a	n/a	n/a	n/a	n/a	0.0%	0.0%	n/a	n/a	4.9%	5.6%	6.3%	6.7%	6.3%	0.0%	28.6%	52.6%	55.7%	56.0%	0.4%	0.4%
ASS Duplicate 30																								
EB21 0.5 m	9.6	9.4	<2	<2	<2	<0.02	<0.02	<0.02	0.02	0.06	0.04	23	0.15	4.84	4.69	2340	3.75	0.04	0.21	0.18	146	0.23	13.5	2700
Duplicate	9.6	10	<2	<2	<2	<0.02	<0.02	<0.02	0.03	0.09	0.06	38	0.16	7.63	7.47	3720	5.97	0.04	0.4	0.36	296	0.48	20.5	4100
RPD (%)	0.0%	6.2%	n/a	n/a	n/a	n/a	n/a	n/a	40.0%	40.0%	40.0%	49.2%	6.5%	44.7%	45.7%	45.5%	45.7%	0.0%	62.3%	66.7%	67.9%	70.4%	41.2%	41.2%
ASS Duplicate 31																								
EB1 0.0 m	9.6	10	<2	<2	<2	<0.02	<0.02	<0.02	0.05	0.12	0.07	44	0.16	13.4	13.3	6620	10.6	0.04	0.48	0.44	362	0.58	33.8	6760
Duplicate	9.6	8.8	<2	<2	<2	<0.02	<0.02	<0.02	0.04	0.09	0.05	34	0.17	9.85	9.69	4830	7.75	0.04	0.29	0.25	206	0.33	24.1	4810
RPD (%)	0.0%	12.8%	n/a	n/a	n/a	n/a	n/a	n/a	22.2%	28.6%	33.3%	25.6%	6.1%	30.5%	31.4%	31.3%	31.1%	0.0%	49.4%	55.1%	54.9%	54.9%	33.5%	33.7%
ASS Duplicate 32																								
EB6 1.0 m	8.6	8.6	<2	<2	<2	<0.02	<0.02	<0.02	0.04	0.04	<0.02	<10	0.26	0.84	0.57	287	0.46	0.12	0.15	0.02	21	0.03	2.15	430
Duplicate	8.6	8.6	<2	<2	<2	<0.02	<0.02	<0.02	0.04	0.04	<0.02	<10	0.24	0.6	0.35	177	0.28	0.12	0.17	0.05	38	0.06	1.4	281
RPD (%)	0.0%	0.0%	n/a	n/a	n/a	n/a	n/a	n/a	0.0%	0.0%	n/a	n/a	8.0%	33.3%	47.8%	47.4%	48.6%	0.0%	12.5%	85.7%	57.6%	66.7%	42.3%	41.9%
ASS Duplicate 33																								
EB14 0.0 m	9.3	8.4	<2	<2	<2	<0.02	<0.02	<0.02	0.05	0.13	0.08	50	0.18	3.54	3.36	1680	2.69	0.05	0.15	0.1	81	0.13	8.51	1700
Duplicate	9.3	8.2	<2	<2	<2	<0.02	<0.02	<0.02	0.06	0.13	0.08	49	0.19	4.21	4.02	2010	3.22	0.06	0.16	0.1	86	0.14	9.72	1940
RPD (%)	0.0%	2.4%	n/a	n/a	n/a	n/a	n/a	n/a	18.2%	0.0%	0.0%	2.0%	5.4%	17.3%	17.9%	17.9%	17.9%	18.2%	6.5%	0.0%	6.0%	7.4%	13.3%	13.2%
ASS Duplicate 34																								
EB33 0.0 m	9.2	9.2	<2	<2	<2	<0.02	<0.02	<0.02	0.12	0.11	<0.02	<10	0.2	2.19	1.99	991	1.59	0.05	0.14	0.09	78	0.12	12.1	2420
Duplicate	9.2	8.6	<2	<2	<2	<0.02	<0.02	<0.02	0.12	0.27	0.15	92	0.19	2.1	1.91	953	1.53	0.06	0.14	0.08	70	0.11	4.74	947
RPD (%)	0.0%	6.7%	n/a	n/a	n/a	n/a	n/a	n/a	0.0%	84.2%	n/a	n/a	5.1%	4.2%	4.1%	3.9%	3.8%	18.2%	0.0%	11.8%	10.8%	8.7%	87.4%	87.5%
ASS Duplicate 35																								
EB17 0.0 m	9	9	<2	<2	<2	<0.02	<0.02	<0.02	0.05	0.1	0.04	28	0.22	3.95	3.74	1860	2.99	0.09	0.31	0.22	181	0.29	11	2200
Duplicate	8.9	8.3	<2	<2	<2	<0.02	<0.02	<0.02	0.06	0.1	0.04	25	0.22	2.06	1.84	916	1.47	0.1	0.2	0.1	79	0.13	5.22	1040
RPD (%)	1.1%	8.1%	n/a	n/a	n/a	n/a	n/a	n/a	18.2%	0.0%	0.0%	11.3%	0.0%	62.9%	68.1%	68.0%	68.2%	10.5%	43.1%	75.0%	78.5%	76.2%	71.3%	71.6%
ASS Duplicate 3																								
WB2 1.0 m	9.6	9.7	<2	<2	<2	<0.02	<0.02	<0.02	0.06	0.07	<0.02	<10	0.17	2.18	2.02	1010	1.61	0.04	0.08	0.05	39	0.06	5	1000
Duplicate	9.6	9.1	<2	<2	<2	<0.02	<0.02	<0.02	0.08	0.08	<0.02	<10	0.17	2.52	2.34	1170	1.88	0.04	0.12	0.08	69	0.11	6.13	1220
RPD (%)	0.0%	6.4%	n/a	n/a	n/a	n/a	n/a	n/a	28.6%	13.3%	n/a	n/a	0.0%	14.5%	14.7%	14.7%	15.5%	0.0%	40.0%	46.2%	55.6%	58.8%	20.3%	19.8%
ASS Duplicate 4																								
WB4 1.0 m	9.6	8	<2	<2	<2	<0.02	<0.02	<0.02	0.05	0.06	<0.02	<10	0.16	3.57	3.41	1700	2.73	0.03	0.16	0.14	113	0.18	9.04	1800
Duplicate	9.6	9	<2	<2	<2	<0.02	<0.02	<0.02	0.06	0.07	<0.02	10	0.16	4.58	4.42	2210	3.54	0.02	0.14	0.11	92	0.15	14.7	2940
RPD (%)	0.0%	11.8%	n/a	n/a	n/a	n/a	n/a	n/a	18.2%	15.4%	n/a	n/a	0.0%	24.8%	25.8%	26.1%	25.8%	40.0%	13.3%	24.0%	20.5%	18.2%	47.7%	48.1%
ASS Duplicate 5																								
WB9 0.0 m	9.4	8.5	<2	<2	<2	<0.02	<0.02	<0.02	0.08	0.11	0.04	24	0.2	2.91	2.71	1350	2.17	0.05	0.22	0.17	138	0.22	8.26	1650
Duplicate	9.5	8.6	<2	<2	<2	<0.02	<0.02	<0.02	0.04	0.08	0.03	20	0.17	2.68	2.51	1250	2.01	0.03	0.19	0.16	131	0.21	8.06	1610
RPD (%)	1.1%	1.2%	n/a	n/a	n/a	n/a	n/a	n/a	66.7%	31.6%	28.6%	18.2%	16.2%	8.2%	7.7%	7.7%	7.7%	50.0%	14.6%	6.1%	5.2%	4.7%	2.5%	2.5%
ASS Duplicate 6																								
WB13 0.0 m	9.6	8.5	<2	<2	<2	<0.02	<0.02	<0.02	0.04	0.05	<0.02	<10	0.16	1.72	1.57	782	1.25	0.04	0.1	0.06	54	0.08	3.88	775
Duplicate	9.6	8.7	<2	<2	<2	<0.02	<0.02	<0.02	0.03	0.04	<0.02	<10	0.14	1.53	1.39	692	1.11	0.03	0.11	0.08	71	0.11	4	800
RPD (%)	0.0%	2.3%	n/a	n/a	n/a	n/a	n/a	n/a	28.6%	22.2%	n/a	n/a	13.3%	11.7%	12.2%	12.2%	11.9%	28.6%	9.5%	28.6%	27.2%	31.6%	3.0%	3.2%
ASS Duplicate 13																								
WB10 1.0 m	9.4	8.8	<2	<2	<2	<0.02	<0.02	<0.02	0.16	0.13	<0.02	<10	0.2	2.42	2.23	1110	1.78	0.05	0.19	0.14	113	0.18	6.63	1320
Duplicate	9.6	8.9	<2	<2	<2	<0.02	<0.02	<0.02	0.05	0.07	<0.02	12	0.16	2.46	2.3	1140	1.84	0.04	0.18	0.14	119	0.19	6.68	1340
RPD (%)	2.1%	1.1%	n/a	n/a	n/a	n/a	n/a	n/a	104.8%	60.0%	n/a	n/a	22.2%	1.6%	3.1%	2.7%	3.3%	22.2%	5.4%	0.0%	5.2%	5.4%	0.8%	1.5%
ASS Duplicate 14																								
WB14 0.5 m	9.5	9	<2	<2	<2	<0.02	<0.02	<0.02	0.07	0.07	<0.02	<10	0.18	3.03	2.85	1420	2.28	0.04	0.19	0.15	123	0.2	8.13	1620
Duplicate	9.5	9.1	<2	<2	<2	<0.02	<0.02	<0.02	0.1	0.1	<0.02	<10	0.18	2.69	2.51	1250	2.01	0.04	0.12	0.08	65	0.1	6.38	1280

Appendix F
QAQC Summary Table

Sample	pH Measurements		Acidity Trail						Sulfur Trail				Calcium Values					Magnesium Values					Excess Acid Neutralising Capacity	
	pH KCl (23A)	pH OX (23B)	Titratable Actual Acidity (23F)	Titratable Peroxide Acidity (23G)	Titratable Sulfidic Acidity (23H)	sulfidic - Titratable Actual Acidity (s-23F)	sulfidic - Titratable Peroxide Acidity (s-23G)	sulfidic - Titratable Sulfidic Acidity (s-23H)	KCl Extractable Sulfur (23Ce)	Peroxide Sulfur (23De)	Peroxide Oxidisable Sulfur (23E)	acidity - Peroxide Oxidisable Sulfur (a-23E)	KCl Extractable Calcium (23Vh)	Peroxide Calcium (23Wh)	Acid Reacted Calcium (23X)	acidity - Acid Reacted Calcium (a-23X)	sulfidic - Acid Reacted Calcium (s-23X)	KCl Extractable Magnesium (23Sm)	Peroxide Magnesium (23Tm)	Acid Reacted Magnesium (23U)	Acidity - Acid Reacted Magnesium (a-23U)	sulfidic - Acid Reacted Magnesium (s-23U)	Excess Acid Neutralising Capacity (23Q)	acidity - Excess Acid Neutralising Capacity (a-23Q)
RPD (%)	0.0%	1.1%	n/a	n/a	n/a	n/a	n/a	n/a	35.3%	35.3%	n/a	n/a	0.0%	11.9%	12.7%	12.7%	12.6%	0.0%	45.2%	60.9%	61.7%	66.7%	24.1%	23.4%
ASS Duplicate 15																								
WB6 0.0 m	9.4	9.6	<2	<2	<2	<0.02	<0.02	<0.02	0.04	0.05	<0.02	<10	0.2	2.26	2.06	1030	1.65	0.04	0.12	0.07	60	0.1	5.57	1110
Duplicate	9.7	9.6	<2	<2	<2	<0.02	<0.02	<0.02	0.04	0.05	<0.02	<10	0.15	2.69	2.54	1270	2.03	0.04	0.12	0.08	63	0.1	6.76	1350
RPD (%)	3.1%	0.0%	n/a	n/a	n/a	n/a	n/a	n/a	0.0%	0.0%	n/a	n/a	28.6%	17.4%	20.9%	20.9%	20.7%	0.0%	0.0%	13.3%	4.9%	0.0%	19.3%	19.5%
ASS Duplicate 16																								
WB17 0.0 m	9.4	8.6	<2	<2	<2	<0.02	<0.02	<0.02	0.07	0.08	<0.02	<10	0.16	1.6	1.44	720	1.15	0.04	0.13	0.09	75	0.12	4.16	831
Duplicate	9.5	8.6	<2	<2	<2	<0.02	<0.02	<0.02	0.06	0.07	<0.02	<10	0.16	1.85	1.69	843	1.35	0.04	0.12	0.08	69	0.11	4.66	931
RPD (%)	1.1%	0.0%	n/a	n/a	n/a	n/a	n/a	n/a	15.4%	13.3%	n/a	n/a	0.0%	14.5%	16.0%	15.7%	16.0%	0.0%	8.0%	11.8%	8.3%	8.7%	11.3%	11.4%
ASS Duplicate 19																								
WB27 0.0 m	9.6	8.2	<2	<2	<2	<0.02	<0.02	<0.02	0.04	0.03	<0.02	<10	0.22	1.75	1.53	765	1.23	0.05	0.04	<0.02	<10	<0.02	3.75	750
Duplicate	9.6	8.9	<2	<2	<2	<0.02	<0.02	<0.02	0.04	0.04	<0.02	<10	0.15	1.75	1.6	798	1.28	0.04	0.06	0.02	20	0.03	4.38	875
RPD (%)	0.0%	8.2%	n/a	n/a	n/a	n/a	n/a	n/a	0.0%	28.6%	n/a	n/a	37.8%	0.0%	4.5%	4.2%	4.0%	22.2%	40.0%	0.0%	66.7%	40.0%	15.5%	15.4%
ASS Duplicate 20																								
WB25 1.0 m	9.6	9	<2	<2	<2	<0.02	<0.02	<0.02	0.04	0.06	<0.02	12	0.16	2.3	2.13	1060	1.71	0.04	0.13	0.09	73	0.12	6.38	1280
Duplicate	9.6	8.9	<2	<2	<2	<0.02	<0.02	<0.02	0.04	0.05	<0.02	<10	0.19	2.23	2.04	1020	1.63	0.04	0.13	0.09	71	0.11	6.38	1280
RPD (%)	0.0%	1.1%	n/a	n/a	n/a	n/a	n/a	n/a	0.0%	18.2%	n/a	n/a	17.1%	3.1%	4.3%	3.8%	4.8%	0.0%	0.0%	0.0%	2.8%	8.7%	0.0%	0.0%
ASS Duplicate 21B																								
WB22 1.0 m	9.6	8.5	<2	<2	<2	<0.02	<0.02	<0.02	0.04	0.06	0.02	13	0.15	1.71	1.56	776	1.24	0.03	0.05	<0.02	16	0.03	3.75	750
Duplicate	9.6	8.2	<2	<2	<2	<0.02	<0.02	<0.02	0.05	0.07	0.02	13	0.16	1.92	1.75	875	1.4	0.04	0.05	<0.02	<10	<0.02	3.88	775
RPD (%)	0.0%	3.6%	n/a	n/a	n/a	n/a	n/a	n/a	22.2%	15.4%	0.0%	0.0%	6.5%	11.6%	11.5%	12.0%	12.1%	28.6%	0.0%	n/a	46.2%	40.0%	3.4%	3.3%
ASS Duplicate 1																								
PC2 0.0 m	9	8.2	<2	<2	<2	<0.02	<0.02	<0.02	0.15	0.38	0.24	147	0.3	3.44	3.14	1560	2.51	0.12	0.39	0.28	227	0.36	8.92	1780
Duplicate	9	8.2	<2	<2	<2	<0.02	<0.02	<0.02	0.14	0.39	0.25	158	0.26	3.67	3.41	1700	2.72	0.1	0.37	0.26	216	0.35	8.76	1750
RPD (%)	0.0%	0.0%	n/a	n/a	n/a	n/a	n/a	n/a	6.9%	2.6%	4.1%	7.2%	14.3%	6.5%	8.2%	8.6%	8.0%	18.2%	5.3%	7.4%	5.0%	2.8%	1.8%	1.7%
ASS Duplicate 2																								
PC4 0.5 m	9	8	<2	<2	<2	<0.02	<0.02	<0.02	0.11	0.39	0.28	172	0.28	3.64	3.37	1680	2.69	0.12	0.39	0.26	215	0.34	9.26	1850
Duplicate	9	8.2	<2	<2	<2	<0.02	<0.02	<0.02	0.11	0.33	0.22	136	0.27	3.98	3.71	1850	2.96	0.11	0.38	0.28	228	0.36	10	2000
RPD (%)	0.0%	2.5%	n/a	n/a	n/a	n/a	n/a	n/a	0.0%	16.7%	24.0%	23.4%	3.6%	8.9%	9.6%	9.6%	9.6%	8.7%	2.6%	7.4%	5.9%	5.7%	7.7%	7.8%
ASS Duplicate 7																								
PC5 0.0 m	8.7	7.8	<2	<2	<2	<0.02	<0.02	<0.02	0.17	0.56	0.39	245	0.39	1.85	1.46	728	1.17	0.23	0.41	0.18	149	0.24	3.97	793
Duplicate	9.1	7.9	<2	<2	<2	<0.02	<0.02	<0.02	0.12	0.38	0.27	168	0.29	4.01	3.72	1860	2.98	0.12	0.41	0.29	237	0.38	10	2000
RPD (%)	4.5%	1.3%	n/a	n/a	n/a	n/a	n/a	n/a	34.5%	38.3%	36.4%	37.3%	29.4%	73.7%	87.3%	87.5%	87.2%	62.9%	0.0%	46.8%	45.6%	45.2%	86.3%	86.4%
ASS Duplicate 8																								
PC6 0.0 m	9.1	7.7	<2	<2	<2	<0.02	<0.02	<0.02	0.13	0.53	0.39	246	0.23	5.34	5.11	2550	4.09	0.08	0.29	0.21	173	0.28	12.4	2470
Duplicate	9.1	8.5	<2	<2	<2	<0.02	<0.02	<0.02	0.13	0.39	0.26	162	0.23	4.33	4.09	2040	3.27	0.07	0.24	0.16	136	0.22	11.6	2320
RPD (%)	0.0%	9.9%	n/a	n/a	n/a	n/a	n/a	n/a	0.0%	30.4%	40.0%	41.2%	0.0%	20.9%	22.2%	22.2%	22.3%	13.3%	18.9%	27.0%	23.9%	24.0%	6.7%	6.3%
ASS Duplicate 24																								
PC10 1.0 m	8.7	2.8	<2	272	272	<0.02	0.44	0.44	0.17	1.67	1.5	936	0.31	1.18	0.87	436	0.7	0.16	0.24	0.09	73	0.12	-	-
Duplicate	8.7	2.5	<2	332	332	<0.02	0.53	0.53	0.16	1.52	1.36	849	0.28	0.85	0.57	287	0.46	0.13	0.22	0.09	75	0.12	-	-
RPD (%)	0.0%	11.3%	n/a	19.9%	19.9%	n/a	18.6%	18.6%	6.1%	9.4%	9.8%	9.7%	10.2%	32.5%	41.7%	41.2%	41.4%	20.7%	8.7%	0.0%	2.7%	0.0%	n/a	n/a
ASS Duplicate 9																								
WBE21 0.5 m	8.6	8.2	<2	<2	<2	<0.02	<0.02	<0.02	0.13	0.44	0.31	192	0.3	1.05	0.75	373	0.6	0.19	0.29	0.1	83	0.13	1.85	369
Duplicate	8.6	7.8	<2	<2	<2	<0.02	<0.02	<0.02	0.11	0.51	0.4	251	0.27	0.96	0.69	345	0.55	0.16	0.27	0.11	91	0.14	1.47	294
RPD (%)	0.0%	5.0%	n/a	n/a	n/a	n/a	n/a	n/a	16.7%	14.7%	25.4%	26.6%	10.5%	9.0%	8.3%	7.8%	8.7%	17.1%	7.1%	9.5%	9.2%	7.4%	22.9%	22.6%
ASS Duplicate 10																								
WBE15 1.0 m	6.9	2.1	<2	1780	1780	<0.02	2.86	2.86	0.26	3.37	3.11	1940	0.22	0.21	<0.02	<10	<0.02	0.33	0.35	<0.02	14	0.02	-	-
Duplicate	8.2	2.4	<2	1320	1320	<0.02	2.12	2.12	0.21	3.03	2.82	1760	0.4	0.6	0.2	98	0.16	0.29	0.37	0.08	63	0.1	-	-
RPD (%)	17.2%	13.3%	n/a	29.7%	29.7%	n/a	29.7%	29.7%	21.3%	10.6%	9.8%	9.7%	58.1%	96.3%	n/a	n/a	n/a	12.9%	5.6%	n/a	127.3%	133.3%	n/a	n/a
ASS Duplicate 11																								
WBE14 0.0 m	9	8.1	<2	<2	<2	<0.02	<0.02	<0.02	0.16	0.74	0.58	360	0.3	11.9	11.6	5790	9.28	0.11	0.25	0.14	119	0.19	31.3	6250
Duplicate	8.4	7.6	<2	<2	<2	<0.02	<0.02	<0.02	0.24	2.05	1.8	1120	0.4	4.45	4.05	2020	3.24	0.22	0.33	0.11	90	0.14	5.83	1160
RPD (%)	6.9%	6.4%	n/a	n/a	n/a	n/a	n/a	n/a	40.0%	93.9%	102.5%	102.7%	28.6%	91.1%	96.5%	96.5%	96.5%	66.7%	27.6%	24.0%	27.8%	30.3%	137.2%	137.4%
ASS Duplicate 12																								
WBE7 0.0 m	8.8	7.5	<2	<2	<2	<0.02	<0.02	<0.02	0.14	0.77	0.63	393	0.27	2.55	2.28	1140	1.82	0.11	0.25	0.14	114	0.18	4.81	961
Duplicate	8.9	7.8	<2	<2	<2	<0.02	<0.02	<0.02	0.13	0.81	0.68	426	0.27	5.94	5.68	2830	4.54	0.1	0.26	0.16	134	0.21	12.7	2540
RPD (%)	1.1%	3.9%	n/a	n/a	n/a	n/a	n/a	n/a	7.4%	5.1%	7.6%	8.1%	0.0%	79.9%	85.4%	85.1%	85.5%	9.5%	3.9%	13.3%	16.1%	15.4%	90.1%	90.2%
ASS Duplicate 17																								
WBE4 1.0 m	8.4	6.4	<2	<2	<2	<0.02	<0.02	<0.02	0.19	2.23	2.04	1270	0.37	2.38	2	1000	1.6	0.21	0.34	0.13	108	0.17	-	-
Duplicate	8.5	7.3	<2	<2	<2	<0.02	<0.02	<0.02	0.18	2.24	2.06	1280	0.33	3.36	3.02	1510	2.42	0.18	0.36	0.18	149	0.24	3.11	622
RPD (%)	1.2%	13.1%	n/a	n/a	n/a	n/a	n/a	n/a	5.4%	0.4%	1.0%	0.8%	11.4%	34.1%	40.6%	40.6%	40.8%	15.4%	5.7%	32.3%	31.9%	34.1%	n/a	n/a
ASS Duplicate 18																								
WBE5 0.0 m	8.8	7.8	<2	<2	<2	<0.02	<0.02	<0.02	0.13	0.44	0.31	194	0.28	1.94	1.66	830	1.33	0.15	0.16	<0.02	12	<0.02	5.04	1010
Duplicate	8.8	7.7	<2	<2	<2	<0.02	<0.02	<0.02	0.14	0.75	0.61	381	0.29	3.16	2.86	1430	2.29	0.14	0.25	0.11	89	0.14	6.08	1210
RPD (%)	0.0%	1.3%	n/a	n/a	n/a	n/a	n/a	n/a	7.4%	52.1%	65.2%	65.0%	3.5%	47.8%	53.1%	53.1%	53.0%	6.9%	43.9%	n/a	152.5%	n/a	18.7%	18.0%
ASS Duplicate 21A																								
WBE2 0.0 m	8.8	7.8	<2	<2	<2	<0.02	<0.02	<0.02	0.16	0.94	0.77	482	0.35	4.79	4.44	2210	3.55	0.15	0.26	0.11	89	0.14	10.2	2030
Duplicate	8.8	7.8	<2	<2	<2	<0.02	<0.02	<0.02	0.14	1.01	0.87	541	0.29	3.7	3.42	1700	2.73	0.13	0.27	0.14	112	0.18	6.11	1220
RPD (%)	0.0%	0.0%	n/a	n/a	n/a	n/a	n/a	n/a	13.3%	7.2%	12.2%	11.5%	18.8%	25.7%	26.0%	26.1%	26.1%	14.3%	3.8%	24.0%	22.9%	25.0%	50.2%	49.8%
ASS Duplicate 22A																								
WBE18 1.0 m	8.1	2.4	<2	361	361	<0.02	0.58	0.58	0.21	1.91	1.7	1060	0.42	1.23	0.81	403	0.65	0.23	0.3	0.06	53	0.08	-	-
Duplicate	7.3	2.1	<2	699	699	<0.02	1.12	1.12	0.14	1.65	1.5	939	0.19	0.21	<0.02	<10	<0.02	0.26	0.3	0.03	27	0.04	-	-
RPD (%)	10.4%	13.3%	n/a	63.8%	63.8%	n/a	63.5%	63.5%	40.0%	14.6%	12.5%	12.1%	75.4%	141.7%	n/a	n/a	n/a	12.2%	0.0%	66.7%	65.0%	66.7%	n/a	n/a
ASS Duplicate 23																								
WBE16 0.0 m	9	8.3	<2	<2	<2	<0.02	<0.02	<0.02	0.11	0.38	0.27	168	0.29	8.16	7.87	3930	6.3	0.11	0.2	0.09	73	0.12	19.1	3820
Duplicate	8.7	7.9	<2	<2	<2	<0.02	<0.02	<0.02	0.14	0.8	0.66	411	0.36	4.46	4.1	2050	3.28	0.15	0.24	0.09	72	0.12	11.7	2330
RPD (%)	3.4%	4.9%	n/a	n/a	n/a	n/a	n/a	n/a	24.0%	71.2%	83.9%	83.9%	21.5%	58.6%	63.0%	62.9%	63.0%	30.8%	18.2%	0.0%	1.4%	0.0%	48.1%	48.5%

Appendix F
QAQC Summary Table

Sample		Acid Base Accounting				
	sulfidic - Excess Acid Neutralising Capacity (s-23Q)	ANC Fineness Factor	Net Acidity (sulfur units)	Net Acidity (acidity units)	Liming Rate	RPD >50%
ASS Duplicate 22B						
BH17 0.0 m	2.84	1.5	<0.02	<10	<1	
Duplicate	2.72	1.5	<0.02	<10	<1	
RPD (%)	4.3%	0.0%	n/a	n/a	n/a	2
ASS Duplicate 25						
BH38 1.0 m	1.2	1.5	<0.02	<10	<1	
Duplicate	1.22	1.5	<0.02	<10	<1	
RPD (%)	1.7%	0.0%	n/a	n/a	n/a	4
ASS Duplicate 26						
BH12 0.5 m	0.4	1.5	<0.02	<10	<1	
Duplicate	0.37	1.5	<0.02	<10	<1	
RPD (%)	7.8%	0.0%	n/a	n/a	n/a	5
ASS Duplicate 36						
BH8 1.0 m	0.21	1.5	<0.02	<10	<1	
Duplicate	0.42	1.5	<0.02	<10	<1	
RPD (%)	66.7%	0.0%	n/a	n/a	n/a	11
ASS Duplicate 37						
BH59 0.5 m	0.36	1.5	<0.02	<10	<1	
Duplicate	0.63	1.5	<0.02	<10	<1	
RPD (%)	54.5%	0.0%	n/a	n/a	n/a	8
ASS Duplicate 38						
BH54 0.0 m	1.93	1.5	<0.02	<10	<1	
Duplicate	2.44	1.5	<0.02	<10	<1	
RPD (%)	23.3%	0.0%	n/a	n/a	n/a	4
ASS Duplicate 39						
BH56 0.5 m	4.1	1.5	<0.02	<10	<1	
Duplicate	2.4	1.5	<0.02	<10	<1	
RPD (%)	52.3%	0.0%	n/a	n/a	n/a	4
ASS Duplicate 40						
BH40 0.5 m	1.08	1.5	<0.02	<10	<1	
Duplicate	1.35	1.5	<0.02	<10	<1	
RPD (%)	22.2%	0.0%	n/a	n/a	n/a	2
ASS Duplicate 27						
EB8 0.0 m	3.4	1.5	<0.02	<10	<1	
Duplicate	3.16	1.5	<0.02	<10	<1	
RPD (%)	7.3%	0.0%	n/a	n/a	n/a	0
ASS Duplicate 28						
EB19 0.0 m	3.4	1.5	<0.02	<10	<1	
Duplicate	3.24	1.5	<0.02	<10	<1	
RPD (%)	4.8%	0.0%	n/a	n/a	n/a	0
ASS Duplicate 29						
EB13 0.5 m	1.6	1.5	<0.02	<10	<1	
Duplicate	1.59	1.5	<0.02	<10	<1	
RPD (%)	0.6%	0.0%	n/a	n/a	n/a	3
ASS Duplicate 30						
EB21 0.5 m	4.32	1.5	<0.02	<10	<1	
Duplicate	6.56	1.5	<0.02	<10	<1	
RPD (%)	41.2%	0.0%	n/a	n/a	n/a	4
ASS Duplicate 31						
EB1 0.0 m	10.8	1.5	<0.02	<10	<1	
Duplicate	7.71	1.5	<0.02	<10	<1	
RPD (%)	33.4%	0.0%	n/a	n/a	n/a	3
ASS Duplicate 32						
EB6 1.0 m	0.69	1.5	<0.02	<10	<1	
Duplicate	0.45	1.5	<0.02	<10	<1	
RPD (%)	42.1%	0.0%	n/a	n/a	n/a	3
ASS Duplicate 33						
EB14 0.0 m	2.72	1.5	<0.02	<10	<1	
Duplicate	3.11	1.5	<0.02	<10	<1	
RPD (%)	13.4%	0.0%	n/a	n/a	n/a	0
ASS Duplicate 34						
EB33 0.0 m	3.87	1.5	<0.02	<10	<1	
Duplicate	1.52	1.5	<0.02	<10	<1	
RPD (%)	87.2%	0.0%	n/a	n/a	n/a	4
ASS Duplicate 35						
EB17 0.0 m	3.52	1.5	<0.02	<10	<1	
Duplicate	1.67	1.5	<0.02	<10	<1	
RPD (%)	71.3%	0.0%	n/a	n/a	n/a	10
ASS Duplicate 3						
WB2 1.0 m	1.6	1.5	<0.02	<10	<1	
Duplicate	1.96	1.5	<0.02	<10	<1	
RPD (%)	20.2%	0.0%	n/a	n/a	n/a	2
ASS Duplicate 4						
WB4 1.0 m	2.89	1.5	<0.02	<10	<1	
Duplicate	4.7	1.5	<0.02	<10	<1	
RPD (%)	47.7%	0.0%	n/a	n/a	n/a	0
ASS Duplicate 5						
WB9 0.0 m	2.64	1.5	<0.02	<10	<1	
Duplicate	2.58	1.5	<0.02	<10	<1	
RPD (%)	2.3%	0.0%	n/a	n/a	n/a	2
ASS Duplicate 6						
WB13 0.0 m	1.24	1.5	<0.02	<10	<1	
Duplicate	1.28	1.5	<0.02	<10	<1	
RPD (%)	3.2%	0.0%	n/a	n/a	n/a	0
ASS Duplicate 13						
WB10 1.0 m	2.12	1.5	<0.02	<10	<1	
Duplicate	2.14	1.5	<0.02	<10	<1	
RPD (%)	0.9%	0.0%	n/a	n/a	n/a	2
ASS Duplicate 14						
WB14 0.5 m	2.6	1.5	<0.02	<10	<1	
Duplicate	2.04	1.5	<0.02	<10	<1	

Appendix F
QAQC Summary Table

Sample		Acid Base Accounting				
	sulfidic - Excess Acid Neutralising Capacity (s-23Q)	ANC Fineness Factor	Net Acidity (sulfur units)	Net Acidity (acidity units)	Liming Rate	RPD >50%
RPD (%)	24.1%	0.0%	n/a	n/a	n/a	3
ASS Duplicate 15						
WB6 0.0 m	1.78	1.5	<0.02	<10	<1	
Duplicate	2.16	1.5	<0.02	<10	<1	
RPD (%)	19.3%	0.0%	n/a	n/a	n/a	0
ASS Duplicate 16						
WB17 0.0 m	1.33	1.5	<0.02	<10	<1	
Duplicate	1.49	1.5	<0.02	<10	<1	
RPD (%)	11.3%	0.0%	n/a	n/a	n/a	0
ASS Duplicate 19						
WB27 0.0 m	1.2	1.5	<0.02	<10	<1	
Duplicate	1.4	1.5	<0.02	<10	<1	
RPD (%)	15.4%	0.0%	n/a	n/a	n/a	1
ASS Duplicate 20						
WB25 1.0 m	2.04	1.5	<0.02	<10	<1	
Duplicate	2.04	1.5	<0.02	<10	<1	
RPD (%)	0.0%	0.0%	n/a	n/a	n/a	0
ASS Duplicate 21B						
WB22 1.0 m	1.2	1.5	<0.02	<10	<1	
Duplicate	1.24	1.5	<0.02	<10	<1	
RPD (%)	3.3%	0.0%	n/a	n/a	n/a	0
ASS Duplicate 1						
PC2 0.0 m	2.85	1.5	<0.02	<10	<1	
Duplicate	2.8	1.5	<0.02	<10	<1	
RPD (%)	1.8%	0.0%	n/a	n/a	n/a	0
ASS Duplicate 2						
PC4 0.5 m	2.96	1.5	<0.02	<10	<1	
Duplicate	3.2	1.5	<0.02	<10	<1	
RPD (%)	7.8%	0.0%	n/a	n/a	n/a	0
ASS Duplicate 7						
PC5 0.0 m	1.27	1.5	<0.02	<10	<1	
Duplicate	3.21	1.5	<0.02	<10	<1	
RPD (%)	86.6%	0.0%	n/a	n/a	n/a	8
ASS Duplicate 8						
PC6 0.0 m	3.96	1.5	<0.02	<10	<1	
Duplicate	3.72	1.5	<0.02	<10	<1	
RPD (%)	6.2%	0.0%	n/a	n/a	n/a	0
ASS Duplicate 24						
PC10 1.0 m	-	1.5	0.79	493	37	
Duplicate	-	1.5	0.81	504	38	
RPD (%)	n/a	0.0%	2.5%	2.2%	2.7%	0
ASS Duplicate 9						
WBE21 0.5 m	0.59	1.5	<0.02	<10	<1	
Duplicate	0.47	1.5	<0.02	<10	<1	
RPD (%)	22.6%	0.0%	n/a	n/a	n/a	0
ASS Duplicate 10						
WBE15 1.0 m	-	1.5	2.95	1840	138	
Duplicate	-	1.5	2.35	1470	110	
RPD (%)	n/a	0.0%	22.6%	22.4%	22.6%	4
ASS Duplicate 11						
WBE14 0.0 m	10	1.5	<0.02	<10	<1	
Duplicate	1.86	1.5	<0.02	<10	<1	
RPD (%)	137.3%	0.0%	n/a	n/a	n/a	11
ASS Duplicate 12						
WBE7 0.0 m	1.54	1.5	<0.02	<10	<1	
Duplicate	4.08	1.5	<0.02	<10	<1	
RPD (%)	90.4%	0.0%	n/a	n/a	n/a	7
ASS Duplicate 17						
WBE4 1.0 m	-	1.5	0.68	423	32	
Duplicate	1	1.5	0.02	13	1	
RPD (%)	n/a	0.0%	188.6%	188.1%	187.9%	3
ASS Duplicate 18						
WBE5 0.0 m	1.61	1.5	<0.02	<10	<1	
Duplicate	1.94	1.5	<0.02	<10	<1	
RPD (%)	18.6%	0.0%	n/a	n/a	n/a	7
ASS Duplicate 21A						
WBE2 0.0 m	3.25	1.5	<0.02	<10	<1	
Duplicate	1.95	1.5	<0.02	<10	<1	
RPD (%)	50.0%	0.0%	n/a	n/a	n/a	2
ASS Duplicate 22A						
WBE18 1.0 m	-	1.5	0.95	594	44	
Duplicate	-	1.5	1.25	779	58	
RPD (%)	n/a	0.0%	27.3%	26.9%	27.5%	9
ASS Duplicate 23						
WBE16 0.0 m	6.13	1.5	<0.02	<10	<1	
Duplicate	3.74	1.5	<0.02	<10	<1	
RPD (%)	48.4%	0.0%	n/a	n/a	n/a	7

Appendix F
QAQC Summary Table

Sample ID	ALS Sample Reference	Date	>C10 - C16 Fraction	>C16 - C34 Fraction	>C34 - C40 Fraction	>C10 - C40 Fraction (sum)	Benzene	Toluene	Ethylbenzene	meta- & para-Xylene	ortho-Xylene	Total Xylenes	Sum of BTEX	C6 - C9 Fraction	C10 - C14 Fraction	C15 - C28 Fraction	C29 - C36 Fraction	C10 - C36 Fraction (sum)	C6 - C10 Fraction
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
TRIP BLANK	ES1502604009	03/02/2015	<3	<3	<5	<3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3	<3	<3	<5	<3	<3
TRIP BLANK 1	ES1502737011	04/02/2015	<3	<3	<5	<3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3	<3	<3	<5	<3	<3
TRIP BLANK 2	ES1502737012	04/02/2015	<3	<3	<5	<3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3	<3	<3	<5	<3	<3
Trip Blank 3	ES1502902007	05/02/2015	<3	<3	<5	<3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3	<3	<3	<5	<3	<3
TRIP BLANK 4	ES1503000058	08/02/2015	<3	<3	<5	<3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3	<3	<3	<5	<3	<3
TRIP BLANK	ES1503080043	09/02/2015	<3	<3	<5	<3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3	<3	<3	<5	<3	<3
Trip Blank 6	ES1503240019	10/02/2015	<3	<3	<5	<3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3	<3	<3	<5	<3	<3
TRIP BLANK 8	ES1503461073	11/02/2015	<3	<3	<5	<3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3	<3	<3	<5	<3	<3
TRIP BLANK 9	ES1503599041	12/02/2015	<3	<3	<5	<3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3	<3	<3	<5	<3	<3
TRIP BLANK 10	ES1503683047	13/02/2015	<3	<3	<5	<3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3	<3	<3	<5	<3	<3
TRIP BLANK	ES1503684013	14/02/2015	<3	<3	<5	<3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3	<3	<3	<5	<3	<3
TRIP BLANK 12	ES1503685044	15/02/2015	<3	**5**	<5	**5**	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3	<3	<3	<5	<3	<3
TRIP BLANK 13	ES1503806019	16/02/2015	<3	<3	<5	<3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3	<3	<3	<5	<3	<3
TRIP BLANK 13	ES1503916020	17/02/2015	<3	<3	<5	<3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3	<3	<3	<5	<3	<3
TRIP BLANK 14	ES1504426060	23/02/2015	<3	<3	<5	<3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3	<3	<3	<5	<3	<3
TRIP BLANK 15	ES1504596057	23/02/2015	<3	<3	<5	<3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3	<3	<3	<5	<3	<3
TRIP BLANK 16	ES1504618036	25/02/2015	<3	<3	<5	<3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3	<3	<3	<5	<3	<3
TRIP BLANK 17	ES1504836074	26/02/2015	<3	<3	<5	<3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3	<3	<3	<5	<3	<3
TRIP BLANK	ES1504998070	27/02/2015	<3	<3	<5	<3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<3	<3	<3	<5	<3	<3

Appendix F
QAQC Summary Table

Analyte	Units	RINSATE 1	RINSATE 2	RINSATE 3	RINSATE 4	Rinsate 5	RINSATE 7	RINSATE 8	RINSATE 10	RINSATE 11	RINSATE 12	RINSATE 12	RINSATE 14	RINSATE 15	RINSATE 16	RINSATE 17	RINSATE 18
		ES1502604010	ES1502737013	ES1503000059	ES1503080044	ES1503240020	ES1503461074	ES1503599042	ES1503683048	ES1503684014	ES1503806020	ES1504301069	ES1504426061	ES1504596058	ES1504618037	ES1504836075	ES1504998071
		03/02/2015	04/02/2015	08/02/2015	09/02/2015	10/02/2015	11/02/2015	12/02/2015	13/02/2015	14/02/2015	16/02/2015	22/02/2015	23/02/2015	24/02/2015	25/02/2015	26/02/2015	27/02/2015
Metals																	
Antimony	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cadmium	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0002
Chromium	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Lead	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001
Nickel	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Mercury	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nutrients																	
Ammonia as N	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	0.02	0.02	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrite as N	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrate as N	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrite + Nitrate as N	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Total Kjeldahl Nitrogen as N	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Nitrogen as N	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Phosphorus as P	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
PCBs																	
Total Polychlorinated biphenyls	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Organochlorine pesticides																	
alpha-BHC	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobenzene (HCB)	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
beta-BHC	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
gamma-BHC	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
delta-BHC	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Heptachlor	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Aldrin	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Heptachlor epoxide	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-Chlordane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
alpha-Endosulfan	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
cis-Chlordane	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dieldrin	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDE	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Endrin	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
beta-Endosulfan	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDD	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Endrin aldehyde	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Endosulfan sulfate	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4.4`-DDT	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Endrin ketone	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Methoxychlor	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Chlordane (sum)	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Sum of DDD + DDE + DDT	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Sum of Aldrin + Dieldrin	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Organophosphorus pesticides																	
Dichlorvos	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Demeton-S-methyl	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Monocrotophos	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dimethoate	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos-methyl	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Parathion-methyl	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Malathion	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenthion	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorpyrifos	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Parathion	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Pirimphos-ethyl	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorfenvinphos	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromophos-ethyl	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenamiphos	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Prothiofos	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbophenothion	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Azinphos Methyl	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Appendix F
QAQC Summary Table

Analyte	Units	RINSATE 1	RINSATE 2	RINSATE 3	RINSATE 4	Rinsate 5	RINSATE 7	RINSATE 8	RINSATE 10	RINSATE 11	RINSATE 12	RINSATE 12	RINSATE 14	RINSATE 15	RINSATE 16	RINSATE 17	RINSATE 18
		ES1502604010	ES1502737013	ES1503000059	ES1503080044	ES1503240020	ES1503461074	ES1503599042	ES1503683048	ES1503684014	ES1503806020	ES1504301069	ES1504426061	ES1504596058	ES1504618037	ES1504836075	ES1504998071
		03/02/2015	04/02/2015	08/02/2015	09/02/2015	10/02/2015	11/02/2015	12/02/2015	13/02/2015	14/02/2015	16/02/2015	22/02/2015	23/02/2015	24/02/2015	25/02/2015	26/02/2015	27/02/2015
Polycyclic aromatic hydrocarbons																	
Naphthalene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Sum of polycyclic aromatic hydrocarbons	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ (zero)	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BTEX																	
Benzene	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	µg/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Ethylbenzene	µg/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
meta- & para-Xylene	µg/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
ortho-Xylene	µg/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Total Xylenes	µg/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Sum of BTEX	µg/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Naphthalene	µg/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Total petroleum hydrocarbons																	
C6 - C9 Fraction	µg/L	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
C10 - C14 Fraction	µg/L	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C15 - C28 Fraction	µg/L	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
C29 - C36 Fraction	µg/L	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
C10 - C36 Fraction (sum)	µg/L	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Total recoverable hydrocarbons																	
C6 - C10 Fraction	µg/L	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
C6 - C10 Fraction minus BTEX (F1)	µg/L	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
>C10 - C16 Fraction	µg/L	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C16 - C34 Fraction	µg/L	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C34 - C40 Fraction	µg/L	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10 - C40 Fraction (sum)	µg/L	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10 - C16 Fraction minus Naphthalene (F2)	µg/L	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Organotins																	
Monobutyltin	ngSn/L	<5	**34**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Dibutyltin	ngSn/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Tributyltin	ngSn/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2

Appendix G
Summary PSD Results

Appendix G
Summary PSD Results - East Banks PSD

					Particle sizing												Soil classification					
Sample ID	ALS Sample number	Sample date	Borehole	Depth	+75µm	+150µm	+300µm	+425µm	+600µm	+1180µm	+2.36mm	+4.75mm	+9.5mm	+19.0mm	+37.5mm	+75.0mm	Clay (<2 µm)	Silt (2-60 µm)	Sand (0.06-2.00 mm)	Gravel (>2mm)	Cobbles (>6cm)	Soil Particle Density (Clay/Silt/Sand)
EB1 0.0-0.5B	ES1504426003	23/02/2015	EB1	0.0-0.5B	94	84	57	41	27	10	3	1	<1	<1	<1	<1	4	2	89	5	<1	2.64
EB1 0.5-1.0B	ES1504426004	23/02/2015	EB1	0.5-1.0B	56	31	21	19	16	13	10	8	3	<1	<1	<1	18	21	50	11	<1	2.65
EB2 0.0-0.5B	ES1504426009	23/02/2015	EB2	0.0-0.5B	73	53	38	31	25	16	6	3	<1	<1	<1	<1	16	6	69	9	<1	2.6
EB2 0.5-0.85B	ES1504426010	23/02/2015	EB2	0.5-0.85B	5	4	3	2	2	<1	<1	<1	<1	<1	<1	<1	69	25	6	<1	<1	2.68
EB3 0.0-0.7B	ES1504426014	23/02/2015	EB3	0.0-0.7B	38	17	6	5	3	1	<1	<1	<1	<1	<1	<1	30	27	42	1	<1	2.62
EB4 0.0-0.4B	ES1504426017	23/02/2015	EB4	0.0-0.4B	20	10	5	3	2	<1	<1	<1	<1	<1	<1	<1	47	31	22	<1	<1	2.6
EB5 0.0-0.5B	ES1504426020	23/02/2015	EB5	0.0-0.5B	24	15	8	6	4	2	1	<1	<1	<1	<1	<1	44	34	21	1	<1	2.62
EB6 0.0-0.5B	ES1504426024	23/02/2015	EB6	0.0-0.5B	8	5	4	4	3	3	2	2	2	<1	<1	<1	61	32	4	3	<1	2.65
EB6 0.5-1.0B	ES1504426025	23/02/2015	EB6	0.5-1.0B	8	4	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	56	35	9	<1	<1	2.62
EB8 0.0-0.5B	ES1504301003	22/02/2015	EB8	0.0-0.5B	79	51	34	23	13	9	8	5	5	5	<1	<1	8	5	79	8	<1	2.64
EB8 0.5-1.0B	ES1504301004	22/02/2015	EB8	0.5-1.0B	49	25	6	2	<1	<1	<1	<1	<1	<1	<1	<1	24	17	59	<1	<1	2.64
EB9 0.0-0.7B	ES1504426033	23/02/2015	EB9	0.0-0.7B	11	8	5	3	2	1	<1	<1	<1	<1	<1	<1	58	25	16	1	<1	2.64
EB10 0.0-0.5B	ES1504301009	22/02/2015	EB10	0.0-0.5B	77	64	47	40	33	17	5	<1	<1	<1	<1	<1	8	3	81	8	<1	2.65
EB10 0.5-1.0B	ES1504301010	22/02/2015	EB10	0.5-1.0B	82	64	39	31	24	14	8	4	3	<1	<1	<1	8	3	79	10	<1	2.64
EB11 0.0-0.5B	ES1504426037	23/02/2015	EB11	0.0-0.5B	18	6	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	40	38	22	<1	<1	2.6
EB11 0.5-0.8B	ES1504426038	23/02/2015	EB11	0.5-0.8B	18	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	34	40	26	<1	<1	2.61
EB12 0.0-0.3B	ES1504596013	24/02/2015	EB12	0.0-0.3B	4	3	3	2	2	2	2	<1	<1	<1	<1	<1	40	53	5	2	<1	2.65
EB13 0.0-0.7B	ES1504301014	22/02/2015	EB13	0.0-0.7B	40	12	8	6	4	2	1	<1	<1	<1	<1	<1	27	19	52	2	<1	2.65
EB14 0.0-0.5B	ES1504426043	23/02/2015	EB14	0.0-0.5B	38	23	12	9	7	5	4	3	3	<1	<1	<1	30	29	37	4	<1	2.64
EB14 0.5-1.0B	ES1504426044	23/02/2015	EB14	0.5-1.0B	4	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	45	52	3	<1	<1	2.47
EB15 0.0-0.6B	ES1504426048	23/02/2015	EB15	0.0-0.6B	16	9	4	4	3	2	<1	<1	<1	<1	<1	<1	51	30	18	1	<1	2.59
EB16 0.0-0.4B	ES1504596016	24/02/2015	EB16	0.0-0.4B	25	13	4	3	2	1	<1	<1	<1	<1	<1	<1	39	32	28	1	<1	2.66
EB17 0.0-0.5B	ES1504596019	24/02/2015	EB17	0.0-0.5B	6	3	2	2	1	<1	<1	<1	<1	<1	<1	<1	61	35	4	<1	<1	2.63
EB18 0.0-0.5B	ES1504301018	22/02/2015	EB18	0.0-0.5B	42	13	8	7	6	5	4	3	<1	<1	<1	<1	31	20	45	4	<1	2.62
EB18 0.5-1.0B	ES1504301019	22/02/2015	EB18	0.5-1.0B	23	5	2	2	2	1	<1	<1	<1	<1	<1	<1	32	36	31	1	<1	2.56
EB19 0.0-0.5B	ES1504301024	22/02/2015	EB19	0.0-0.5B	80	13	3	2	2	<1	<1	<1	<1	<1	<1	<1	7	5	87	1	<1	2.67
EB19 0.5-0.8B	ES1504301025	22/02/2015	EB19	0.5-0.8B	22	6	3	3	2	1	<1	<1	<1	<1	<1	<1	46	25	28	1	<1	2.6
EB20 0.0-0.6B	ES1504301029	22/02/2015	EB20	0.0-0.6B	11	6	4	3	2	1	<1	<1	<1	<1	<1	<1	53	35	11	1	<1	2.63
EB21 0.0-0.5B	ES1504301033	22/02/2015	EB21	0.0-0.5B	97	90	71	56	30	5	1	<1	<1	<1	<1	<1	2	<1	95	3	<1	2.64
EB21 0.5-1.0B	ES1504301034	22/02/2015	EB21	0.5-1.0B	93	71	45	38	25	7	2	<1	<1	<1	<1	<1	3	2	92	3	<1	2.66
EB22 0.0-0.5B	ES1504596022	24/02/2015	EB22	0.0-0.5B	11	4	2	2	1	<1	<1	<1	<1	<1	<1	<1	58	28	14	<1	<1	2.7
EB23 0.0-0.5B	ES1504301039	22/02/2015	EB23	0.0-0.5B	88	30	15	12	10	8	7	6	6	6	<1	<1	6	4	83	7	<1	2.68
EB23 0.5-1.0B	ES1504301040	22/02/2015	EB23	0.5-1.0B	10	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	53	37	10	<1	<1	2.61
EB24 0.0-0.5B	ES1504301045	22/02/2015	EB24	0.0-0.5B	90	36	16	10	5	2	<1	<1	<1	<1	<1	<1	4	2	93	1	<1	2.67
EB24 0.5-1.0B	ES1504301046	22/02/2015	EB24	0.5-1.0B	29	8	4	2	1	<1	<1	<1	<1	<1	<1	<1	42	26	32	<1	<1	2.6
EB25 0.0-0.6B	ES1504301050	22/02/2015	EB25	0.0-0.6B	37	22	16	14	12	9	8	7	3	<1	<1	<1	33	27	31	9	<1	2.59
EB26 0.0-0.5B	ES1504426052	23/02/2015	EB26	0.0-0.5B	91	84	61	44	30	15	8	5	2	<1	<1	<1	6	3	81	10	<1	2.68
EB26 0.5-1.0B	ES1504426053	23/02/2015	EB26	0.5-1.0B	64	54	40	32	25	16	9	6	6	<1	<1	<1	19	15	55	11	<1	2.65
EB27 0.0-0.7B	ES1504596025	24/02/2015	EB27	0.0-0.7B	11	8	6	4	3	1	<1	<1	<1	<1	<1	<1	52	31	16	1	<1	2.71
EB29 0.0-0.5B	ES1504301053	22/02/2015	EB29	0.0-0.5B	57	9	3	2	1	<1	<1	<1	<1	<1	<1	<1	22	14	63	1	<1	2.66
EB30 0.0-0.5B	ES1504301057	22/02/2015	EB30	0.0-0.5B	66	16	11	9	7	4	1	<1	<1	<1	<1	<1	12	12	74	2	<1	2.65
EB30 0.5-1.0B	ES1504301058	22/02/2015	EB30	0.5-1.0B	35	29	22	15	9	4	3	3	3	<1	<1	<1	31	33	32	4	<1	2.61
EB31 0.0-0.5B	ES1504596029	24/02/2015	EB31	0.0-0.5B	12	8	5	4	3	2	<1	<1	<1	<1	<1	<1	51	38	10	1	<1	2.61
EB32 0.0-0.5B	ES1504596033	24/02/2015	EB32	0.0-0.5B	78	47	17	11	8	4	2	<1	<1	<1	<1	<1	6	12	80	2	<1	2.67
EB32 0.5-1.0B	ES1504596034	24/02/2015	EB32	0.5-1.0B	86	62	8	2	<1	<1	<1	<1	<1	<1	<1	<1	7	6	87	<1	<1	2.67
EB33 0.0-0.5B	ES1504596039	24/02/2015	EB33	0.0-0.5B	73	61	23	14	10	8	7	6	<1	<1	<1	<1	16	9	68	7	<1	2.68
EB33 0.5-1.0B	ES1504596040	24/02/2015	EB33	0.5-1.0B	78	51	9	4	2	2	1	1	<1	<1	<1	<1	13	6	80	1	<1	2.67
EB34 0.0-0.5B	ES1504596045	24/02/2015	EB34	0.0-0.5B	84	60	47	38	29	15	7	3	<1	<1	<1	<1	10	4	77	9	<1	2.62
EB34 0.5-1.0B	ES1504596046	24/02/2015	EB34	0.5-1.0B	94	74	54	40	30	15	5	1	<1	<1	<1	<1	4	1	87	8	<1	2.63
EB35 0.0-0.5B	ES1504301063	22/02/2015	EB35	0.0-0.5B	85	29	18	14	12	8	4	1	<1	<1	<1	<1	9	4	82	5	<1	2.67
EB35 0.5-1.0B	ES1504301064	22/02/2015	EB35	0.5-1.0B	78	46	37	36	34	30	21	13	6	<1	<1	<1	10	9	57	24	<1	2.65
EB36 0.0-0.5B	ES1504596051	24/02/2015	EB36	0.0-0.5B	80	46	26	21	17	13	10	8	6	<1	<1	<1	11	7	71	11	<1	2.63
EB36 0.5-1.0B	ES1504596052	24/02/2015	EB36	0.5-1.0B	49	34	14	8	6	3	2	1	<1	<1	<1	<1	33	16	49	2	<1	2.68

Appendix G
Summary PSD Results - West Banks PSD

					Particle sizing											Soil classification					
Sample ID	ALS Sample number	Sample date	Borehole	Depth	+75µm	+150µm	+300µm	+425µm	+600µm	+1180µm	+2.36mm	+4.75mm	+9.5mm	+19.0mm	+37.5mm	+75.0mm	Clay (<2 µm)	Silt (2-60 µm)	Sand (0.06-2.00 mm)	Gravel (>2mm)	Cobbles (>6cm)	Soil Particle Density (Clay/Silt/Sand)
WB1 0.5-1.0B	ES1502604035	03/02/2015	WB1	0.5-1.0B	**91**	**87**	**68**	**57**	**49**	**39**	**33**	**26**	**9**	<1	<1	<1	**5**	**2**	**58**	**35**	<1	**2.69**
WB1 0.0-0.5B	ES1502604036	03/02/2015	WB1	0.0-0.5B	**94**	**90**	**58**	**44**	**33**	**23**	**16**	**12**	**2**	<1	<1	<1	**5**	<1	**77**	**18**	<1	**2.68**
WB2 0.0-0.5B	ES1502604037	03/02/2015	WB2	0.0-0.5B	**97**	**93**	**21**	**6**	**4**	**2**	<1	<1	<1	<1	<1	<1	**2**	**1**	**96**	**1**	<1	**2.68**
WB2 0.5-1.0B	ES1502604038	03/02/2015	WB2	0.5-1.0B	**96**	**80**	**14**	**6**	**5**	**5**	**4**	**3**	<1	<1	<1	<1	**3**	<1	**92**	**5**	<1	**2.68**
WB3 0.0-0.5B	ES1502737005	04/02/2015	WB3	0.0-0.5B	**98**	**97**	**30**	**5**	**1**	<1	<1	<1	<1	<1	<1	<1	**1**	<1	**99**	<1	<1	**2.7**
WB3 0.5-1.0B	ES1502737006	04/02/2015	WB3	0.5-1.0B	**96**	**93**	**25**	**9**	**6**	**3**	**2**	<1	<1	<1	<1	<1	**2**	**1**	**95**	**2**	<1	**2.72**
WB4 0.5-1.0B	ES1502737018	04/02/2015	WB4	0.5-1.0B	**92**	**86**	**24**	**10**	**4**	**1**	<1	<1	<1	<1	<1	<1	**3**	**1**	**95**	**1**	<1	**2.69**
WB4 0.0-0.5B	ES1502737019	04/02/2015	WB4	0.0-0.5B	**93**	**86**	**30**	**16**	**10**	**6**	**3**	**2**	**1**	<1	<1	<1	**4**	**1**	**91**	**4**	<1	**2.7**
WB5 0.5-1.0B	ES1502737020	04/02/2015	WB5	0.5-1.0B	**76**	**53**	**26**	**23**	**21**	**17**	**11**	**7**	**3**	<1	<1	<1	**12**	**7**	**68**	**13**	<1	**2.7**
WB5 0.0-0.5B	ES1502737021	04/02/2015	WB5	0.0-0.5B	**95**	**87**	**24**	**16**	**12**	**8**	**6**	**4**	<1	<1	<1	<1	**4**	<1	**89**	**7**	<1	**2.69**
WB6 0.0-0.5B	ES1503080003	09/02/2015	WB6	0.0-0.5B	**98**	**88**	**12**	**5**	**3**	**1**	<1	<1	<1	<1	<1	<1	**2**	<1	**97**	**1**	<1	**2.66**
WB6 0.5-1.0B	ES1503080004	09/02/2015	WB6	0.5-1.0B	**97**	**90**	**37**	**21**	**13**	**7**	**5**	**2**	<1	<1	<1	<1	**3**	<1	**91**	**6**	<1	**2.66**
WB7 0.0-0.5B	ES1503080009	09/02/2015	WB7	0.0-0.5B	**99**	**93**	**7**	**1**	<1	<1	<1	<1	<1	<1	<1	<1	**1**	<1	**99**	<1	<1	**2.68**
WB7 0.5-1.0B	ES1503080010	09/02/2015	WB7	0.5-1.0B	**97**	**84**	**1**	<1	<1	<1	<1	<1	<1	<1	<1	<1	**2**	<1	**98**	<1	<1	**2.7**
WB8 0.5-1.0B	ES1502737030	04/02/2015	WB8	0.5-1.0B	**97**	**65**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**3**	<1	**97**	<1	<1	**2.7**
WB8 0.0-0.5B	ES1502737031	04/02/2015	WB8	0.0-0.5B	**90**	**60**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**6**	**2**	**92**	<1	<1	**2.69**
WB9 0.5-1.0B	ES1502737036	04/02/2015	WB9	0.5-1.0B	**97**	**72**	**3**	**2**	**2**	**1**	**1**	**1**	<1	<1	<1	<1	**2**	<1	**97**	**1**	<1	**2.67**
WB9 0.0-0.5B	ES1502737037	04/02/2015	WB9	0.0-0.5B	**98**	**81**	**1**	<1	<1	<1	<1	<1	<1	<1	<1	<1	**2**	<1	**98**	<1	<1	**2.69**
WB10 0.0-0.5B	ES1503080015	09/02/2015	WB10	0.0-0.5B	**94**	**32**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**3**	**1**	**96**	<1	<1	**2.68**
WB10 0.5-1.0B	ES1503080016	09/02/2015	WB10	0.5-1.0B	**95**	**17**	**1**	<1	<1	<1	<1	<1	<1	<1	<1	<1	**3**	<1	**97**	<1	<1	**2.68**
WB11 0.0-0.5B	ES1503080021	09/02/2015	WB11	0.0-0.5B	**82**	**73**	**1**	<1	<1	<1	<1	<1	<1	<1	<1	<1	**12**	**6**	**82**	<1	<1	**2.68**
WB11 0.5-1.0B	ES1503080022	09/02/2015	WB11	0.5-1.0B	**97**	**94**	**23**	**18**	**14**	**8**	**4**	**2**	<1	<1	<1	<1	**3**	<1	**92**	**5**	<1	**2.69**
WB12 0.0-0.5B	ES1502737038	04/02/2015	WB12	0.0-0.5B	**96**	**5**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**1**	**1**	**98**	<1	<1	**2.66**
WB12 0.5-1.0B	ES1502737039	04/02/2015	WB12	0.5-1.0B	**94**	**2**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**3**	**1**	**96**	<1	<1	**2.69**
WB13 0.0-0.5B	ES1502737044	04/02/2015	WB13	0.0-0.5B	**98**	**30**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**1**	<1	**99**	<1	<1	**2.71**
WB13 0.5-1.0B	ES1502737045	04/02/2015	WB13	0.5-1.0B	**98**	**25**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**1**	**1**	**98**	<1	<1	**2.7**
WB14 0.0-0.5B	ES1503080027	09/02/2015	WB14	0.0-0.5B	**98**	**54**	**2**	<1	<1	<1	<1	<1	<1	<1	<1	<1	**2**	<1	**98**	<1	<1	**2.69**
WB14 0.5-1.0B	ES1503080028	09/02/2015	WB14	0.5-1.0B	**97**	**37**	**1**	<1	<1	<1	<1	<1	<1	<1	<1	<1	**1**	**1**	**98**	<1	<1	**2.68**
WB15 0.0-0.5B	ES1503080033	09/02/2015	WB15	0.0-0.5B	**96**	**27**	**2**	<1	<1	<1	<1	<1	<1	<1	<1	<1	**2**	**1**	**97**	<1	<1	**2.68**
WB15 0.5-1.0B	ES1503080034	09/02/2015	WB15	0.5-1.0B	**60**	**12**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**17**	**13**	**70**	<1	<1	**2.69**
WB16 0.0-0.5B	ES1502737050	04/02/2015	WB16	0.0-0.5B	**96**	**6**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**1**	<1	**99**	<1	<1	**2.66**
WB16 0.5-1.0B	ES1502737051	04/02/2015	WB16	0.5-1.0B	**98**	**4**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**1**	<1	**99**	<1	<1	**2.69**
WB17 0.0-0.5B	ES1503461063	11/02/2015	WB17	0.0-0.5B	**96**	**15**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**3**	**1**	**96**	<1	<1	**2.69**
WB17 0.5-1.0B	ES1503461064	11/02/2015	WB17	0.5-1.0B	**97**	**40**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**2**	<1	**98**	<1	<1	**2.56**
WB18 0.0-0.5B	ES1502737056	04/02/2015	WB18	0.0-0.5B	**97**	**38**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**1**	<1	**99**	<1	<1	**2.66**
WB18 0.5-1.0B	ES1502737057	04/02/2015	WB18	0.5-1.0B	**96**	**25**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**3**	<1	**97**	<1	<1	**2.67**
WB19 0.0-0.5B	ES1503461003	11/02/2015	WB19	0.0-0.5B	**95**	**24**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**1**	**1**	**98**	<1	<1	**2.65**
WB19 0.5-1.0B	ES1503461004	11/02/2015	WB19	0.5-1.0B	**97**	**13**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**1**	**2**	**97**	<1	<1	**2.49**
WB20 0.0-0.5B	ES1503461009	11/02/2015	WB20	0.0-0.5B	**96**	**66**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**1**	<1	**99**	<1	<1	**2.58**
WB20 0.5-1.0B	ES1503461010	11/02/2015	WB20	0.5-1.0B	**96**	**64**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**1**	**1**	**98**	<1	<1	**2.51**
WB21 0.0-0.5B	ES1503683031	13/02/2015	WB21	0.0-0.5B	**92**	**18**	**1**	<1	<1	<1	<1	<1	<1	<1	<1	<1	**2**	**2**	**96**	<1	<1	**2.68**
WB21 0.5-1.0B	ES1503683032	13/02/2015	WB21	0.5-1.0B	**95**	**14**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**3**	**1**	**96**	<1	<1	**2.69**
WB22 0.0-0.5B	ES1503683037	13/02/2015	WB22	0.0-0.5B	**95**	**18**	**1**	<1	<1	<1	<1	<1	<1	<1	<1	<1	**2**	<1	**98**	<1	<1	**2.68**
WB22 0.5-1.0B	ES1503683038	13/02/2015	WB22	0.5-1.0B	**95**	**22**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**1**	**2**	**97**	<1	<1	**2.69**
WB23 0.0-0.5B	ES1503461015	11/02/2015	WB23	0.0-0.5B	**96**	**70**	**3**	<1	<1	<1	<1	<1	<1	<1	<1	<1	**2**	**2**	**96**	<1	<1	**2.57**
WB23 0.5-1.0B	ES1503461016	11/02/2015	WB23	0.5-1.0B	**94**	**76**	**1**	<1	<1	<1	<1	<1	<1	<1	<1	<1	**5**	<1	**95**	<1	<1	**2.65**
WB24 0.0-0.5B	ES1503683043	13/02/2015	WB24	0.0-0.5B	**96**	**18**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**1**	**1**	**98**	<1	<1	**2.69**
WB24 0.5-0.8B	ES1503683044	13/02/2015	WB24	0.5-0.8B	**95**	**18**	**1**	<1	<1	<1	<1	<1	<1	<1	<1	<1	**1**	**1**	**98**	<1	<1	**2.69**
WB25 0.0-0.5B	ES1503599029	12/02/2015	WB25	0.0-0.5B	**96**	**18**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**3**	<1	**97**	<1	<1	**2.68**
WB25 0.5-1.0B	ES1503599030	12/02/2015	WB25	0.5-1.0B	**97**	**34**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**3**	<1	**97**	<1	<1	**2.69**
WB26 0.0-0.5B	ES1503599020	12/02/2015	WB26	0.0-0.5B	**96**	**36**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**3**	<1	**97**	<1	<1	**2.69**
WB26 0.5-1.0B	ES1503599021	12/02/2015	WB26	0.5-1.0B	**94**	**44**	**2**	**1**	<1	<1	<1	<1	<1	<1	<1	<1	**3**	**2**	**95**	<1	<1	**2.69**
WB27 0.0-0.5B	ES1503599035	12/02/2015	WB27	0.0-0.5B	**97**	**36**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**2**	**1**	**97**	<1	<1	**2.68**
WB27 0.5-1.0B	ES1503599036	12/02/2015	WB27	0.5-1.0B	**95**	**53**	**4**	**1**	<1	<1	<1	<1	<1	<1	<1	<1	**3**	<1	**97**	<1	<1	**2.7**
TRIPLICATE 4A, B	ES1503080041	09/02/2015	TRIPLICAT	4A, B	**94**	**12**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**4**	<1	**96**	<1	<1	**2.68**
TRIPLICATE 4B, B	ES1503080042	09/02/2015	TRIPLICAT	4B, B	**94**	**20**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**3**	<1	**97**	<1	<1	**2.69**

Appendix G
Summary PSD Results - Port Central PSD

					Particle sizing												Soil classification					
Sample ID	ALS Sample number	Sample date	Borehole	Depth	+75µm	+150µm	+300µm	+425µm	+600µm	+1180µm	+2.36mm	+4.75mm	+9.5mm	+19.0mm	+37.5mm	+75.0mm	Clay (<2 µm)	Silt (2-60 µm)	Sand (0.06-2.00 mm)	Gravel (>2mm)	Cobbles (>6cm)	Soil Particle Density (Clay/Silt/Sand)
PC1 0.0-0.5B	ES1502604005	03/02/2015	PC1	0.0-0.5B	**57**	**45**	**42**	**39**	**36**	**30**	**23**	**14**	<1	<1	<1	<1	**19**	**14**	**42**	**25**	<1	**2.67**
PC1 0.5-1.0B	ES1502604006	03/02/2015	PC1	0.5-1.0B	**67**	**64**	**52**	**44**	**37**	**24**	**14**	**7**	**2**	<1	<1	<1	**19**	**9**	**55**	**17**	<1	**2.7**
PC2 0.5-1.0B	ES1502604015	03/02/2015	PC2	0.5-1.0B	**36**	**4**	**3**	**3**	**2**	**2**	**2**	<1	<1	<1	<1	<1	**27**	**27**	**44**	**2**	<1	**2.67**
PC2 0.0-0.5B	ES1502604016	03/02/2015	PC2	0.0-0.5B	**57**	**36**	**25**	**22**	**19**	**13**	**6**	**2**	<1	<1	<1	<1	**22**	**11**	**59**	**8**	<1	**2.69**
PC3 0.5-1.0B	ES1502604017	03/02/2015	PC3	0.5-1.0B	**32**	**2**	**1**	**1**	<1	<1	<1	<1	<1	<1	<1	<1	**24**	**24**	**51**	**1**	<1	**2.67**
PC3 0.0-0.5B	ES1502604018	03/02/2015	PC3	0.0-0.5B	**39**	**20**	**16**	**14**	**11**	**7**	**3**	<1	<1	<1	<1	<1	**27**	**20**	**49**	**4**	<1	
PC4 0.5-1.0B	ES1502604029	03/02/2015	PC4	0.5-1.0B	**18**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**38**	**26**	**36**	<1	<1	**2.68**
PC4 0.0-0.5B	ES1502604030	03/02/2015	PC4	0.0-0.5B	**31**	**1**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**28**	**21**	**51**	<1	<1	**2.62**
PC5 0.0-0.5B	ES1502902003	05/02/2015	PC5	0.0-0.5B	**37**	**2**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**19**	**22**	**59**	<1	<1	**2.68**
PC5 0.5-1.0B	ES1502902004	05/02/2015	PC5	0.5-1.0B	**25**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**21**	**23**	**56**	<1	<1	**2.66**
PC6 0.0-0.5B	ES1503000003	10/02/2015	PC6	0.0-0.5B	**23**	**2**	**1**	**1**	<1	<1	<1	<1	<1	<1	<1	<1	**25**	**31**	**44**	<1	<1	**2.67**
PC6 0.5-1.0B	ES1503000004	10/02/2015	PC6	0.5-1.0B	**16**	**2**	**1**	**1**	<1	<1	<1	<1	<1	<1	<1	<1	**31**	**39**	**30**	<1	<1	**2.59**
PC7 0.0-0.5B	ES1503000009	10/02/2015	PC7	0.0-0.5B	**35**	**3**	**2**	**2**	**1**	**1**	<1	<1	<1	<1	<1	<1	**26**	**27**	**46**	**1**	<1	**2.65**
PC7 0.5-1.0B	ES1503000010	10/02/2015	PC7	0.5-1.0B	**17**	**2**	**1**	**1**	<1	<1	<1	<1	<1	<1	<1	<1	**28**	**41**	**31**	<1	<1	**2.57**
PC8 0.0-0.5B	ES1503240012	10/02/2015	PC8	0.0-0.5B	**67**	**4**	**1**	**1**	<1	<1	<1	<1	<1	<1	<1	<1	**13**	**11**	**76**	<1	<1	**2.71**
PC8 0.5-1.0B	ES1503240013	10/02/2015	PC8	0.5-1.0B	**48**	**4**	**1**	<1	<1	<1	<1	<1	<1	<1	<1	<1	**23**	**19**	**58**	<1	<1	**2.69**
PC10 0.0-0.5B	ES1503806011	16/02/2015	PC10	0.0-0.5B	**45**	**17**	**14**	**13**	**12**	**10**	**7**	**4**	<1	<1	<1	<1	**21**	**21**	**50**	**8**	<1	**2.6**
PC10 0.5-1.0B	ES1503806012	16/02/2015	PC10	0.5-1.0B	**36**	**6**	**3**	**2**	**2**	<1	<1	<1	<1	<1	<1	<1	**24**	**26**	**50**	<1	<1	**2.65**
PC11 0.0-0.5B	ES1503000026	10/02/2015	PC11	0.0-0.5B	**29**	**4**	**3**	**2**	**2**	**2**	**1**	<1	<1	<1	<1	<1	**22**	**28**	**49**	**1**	<1	**2.62**

Appendix G
Summary PSD Results - Western Basin PSD

					Particle sizing											Soil classification					
Sample ID	ALS Sample number	Sample date	Borehole	Depth	+75µm	+150µm	+300µm	+425µm	+600µm	+1180µm	+2.36mm	+4.75mm	+9.5mm	+19.0mm	+37.5mm	+75.0mm	Clay (<2 µm)	Silt (2-60 µm)	Sand (0.06-2.00 mm)	Gravel (>2mm)	Cobbles (>6cm)	Soil Particle Density (Clay/Silt/Sand)
WBE1 0.0-0.5B	ES1503685003	15/02/2015	WBE1	0.0-0.5B	**53**	**34**	**20**	**17**	**15**	**11**	**4**	**2**	<1	<1	<1	<1	**21**	**17**	**56**	**6**	<1	**2.74**
WBE1 0.5-1.0B	ES1503685004	15/02/2015	WBE1	0.5-1.0B	**8**	**5**	**3**	**2**	**2**	<1	<1	<1	<1	<1	<1	<1	**42**	**40**	**17**	**1**	<1	**2.76**
WBE2 0.0-0.5B	ES1503685009	15/02/2015	WBE2	0.0-0.5B	**39**	**19**	**12**	**11**	**10**	**9**	**6**	**4**	**2**	<1	<1	<1	**20**	**26**	**47**	**7**	<1	**2.7**
WBE2 0.5-1.0B	ES1503685010	15/02/2015	WBE2	0.5-1.0B	**14**	**3**	**2**	**2**	**2**	**1**	<1	<1	<1	<1	<1	<1	**38**	**35**	**26**	**1**	<1	**2.75**
WBE3 0.0-0.5B	ES1503685015	15/02/2015	WBE3	0.0-0.5B	**33**	**22**	**19**	**19**	**18**	**17**	**14**	**10**	**6**	<1	<1	<1	**23**	**28**	**34**	**15**	<1	**2.74**
WBE3 0.5-1.0B	ES1503685016	15/02/2015	WBE3	0.5-1.0B	**4**	**1**	**1**	**1**	**1**	<1	<1	<1	<1	<1	<1	<1	**38**	**42**	**20**	<1	<1	**2.74**
WBE4 0.0-0.5B	ES1503461021	11/02/2015	WBE4	0.0-0.5B	**60**	**28**	**19**	**18**	**18**	**17**	**14**	**12**	**9**	<1	<1	<1	**21**	**15**	**49**	**15**	<1	**2.42**
WBE4 0.5-1.0B	ES1503461022	11/02/2015	WBE4	0.5-1.0B	**48**	**18**	**5**	**4**	**3**	**2**	<1	<1	<1	<1	<1	<1	**24**	**19**	**56**	**1**	<1	**2.57**
WBE5 0.0-0.5B	ES1503461027	11/02/2015	WBE5	0.0-0.5B	**28**	**13**	**10**	**10**	**9**	**8**	**7**	**5**	<1	<1	<1	<1	**25**	**34**	**34**	**7**	<1	**2.6**
WBE5 0.5-1.0B	ES1503461028	11/02/2015	WBE5	0.5-1.0B	**1**	**1**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**74**	**20**	**6**	<1	<1	**2.67**
WBE6 0.0-0.5B	ES1503461033	11/02/2015	WBE6	0.0-0.5B	**31**	**18**	**14**	**13**	**13**	**11**	**9**	**6**	**2**	<1	<1	<1	**32**	**28**	**30**	**10**	<1	**2.68**
WBE6 0.5-1.0B	ES1503461034	11/02/2015	WBE6	0.5-1.0B	**12**	**4**	**2**	**1**	<1	<1	<1	<1	<1	<1	<1	<1	**49**	**32**	**19**	<1	<1	**2.69**
WBE7 0.0-0.5B	ES1503000015	10/02/2015	WBE7	0.0-0.5B	**33**	**9**	**6**	**5**	**5**	**4**	**3**	**2**	<1	<1	<1	<1	**28**	**29**	**39**	**4**	<1	**2.65**
WBE7 0.5-1.0B	ES1503000016	10/02/2015	WBE7	0.5-1.0B	**22**	**10**	**6**	**6**	**5**	**4**	**2**	**1**	<1	<1	<1	<1	**33**	**32**	**33**	**2**	<1	**2.64**
WBE8 0.0-0.5B	ES1503461039	11/02/2015	WBE8	0.0-0.5B	**39**	**31**	**28**	**27**	**26**	**24**	**20**	**13**	**3**	<1	<1	<1	**30**	**25**	**24**	**21**	<1	**2.67**
WBE8 0.5-1.0B	ES1503461040	11/02/2015	WBE8	0.5-1.0B	**2**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**73**	**22**	**5**	<1	<1	**2.63**
WBE9 0.0-0.5B	ES1503685021	15/02/2015	WBE9	0.0-0.5B	**42**	**30**	**26**	**24**	**22**	**18**	**13**	**9**	**3**	<1	<1	<1	**24**	**24**	**37**	**15**	<1	**2.74**
WBE9 0.5-1.0B	ES1503685022	15/02/2015	WBE9	0.5-1.0B	**33**	**30**	**26**	**25**	**23**	**19**	**13**	**8**	**2**	<1	<1	<1	**32**	**26**	**27**	**15**	<1	**2.75**
WBE10 0.0-0.5B	ES1503000021	10/02/2015	WBE10	0.0-0.5B	**23**	**12**	**8**	**7**	**7**	**6**	**5**	**4**	**2**	<1	<1	<1	**37**	**35**	**23**	**5**	<1	**2.62**
WBE10 0.5-1.0B	ES1503000022	10/02/2015	WBE10	0.5-1.0B	**5**	**2**	**1**	**1**	**1**	<1	<1	<1	<1	<1	<1	<1	**38**	**46**	**16**	<1	<1	**2.62**
WBE11 0.0-0.5B	ES1503461045	11/02/2015	WBE11	0.0-0.5B	**23**	**12**	**7**	**6**	**5**	**3**	**2**	**1**	<1	<1	<1	<1	**39**	**32**	**27**	**2**	<1	**2.63**
WBE11 0.5-1.0B	ES1503461046	11/02/2015	WBE11	0.5-1.0B	**9**	**8**	**7**	**5**	**4**	**2**	<1	<1	<1	<1	<1	<1	**71**	**14**	**14**	**1**	<1	
WBE12 0.0-0.5B	ES1503461051	11/02/2015	WBE12	0.0-0.5B	**30**	**16**	**11**	**9**	**8**	**7**	**5**	**3**	**2**	<1	<1	<1	**35**	**28**	**31**	**6**	<1	**2.69**
WBE12 0.5-1.0B	ES1503461052	11/02/2015	WBE12	0.5-1.0B	**4**	**3**	**2**	**2**	**1**	<1	<1	<1	<1	<1	<1	<1	**71**	**21**	**7**	**1**	<1	
WBE13 0.0-0.5B	ES1503461057	11/02/2015	WBE13	0.0-0.5B	**42**	**30**	**20**	**16**	**14**	**10**	**7**	**4**	<1	<1	<1	<1	**27**	**25**	**40**	**8**	<1	**2.71**
WBE13 0.5-1.0B	ES1503461058	11/02/2015	WBE13	0.5-1.0B	**7**	**2**	**1**	**1**	<1	<1	<1	<1	<1	<1	<1	<1	**48**	**37**	**15**	<1	<1	**2.71**
WBE14 0.0-0.5B	ES1503000031	10/02/2015	WBE14	0.0-0.5B	**4**	**3**	**2**	**2**	**1**	<1	<1	<1	<1	<1	<1	<1	**72**	**18**	**10**	<1	<1	
WBE14 0.5-1.0B	ES1503000032	10/02/2015	WBE14	0.5-1.0B	**2**	**1**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**70**	**21**	**9**	<1	<1	
WBE15 0.0-0.5B	ES1503000037	10/02/2015	WBE15	0.0-0.5B	**16**	**8**	**7**	**7**	**6**	**5**	**4**	**3**	<1	<1	<1	<1	**38**	**37**	**21**	**4**	<1	
WBE15 0.5-1.0B	ES1503000038	10/02/2015	WBE15	0.5-1.0B	**9**	**5**	**3**	**3**	**2**	**1**	<1	<1	<1	<1	<1	<1	**55**	**29**	**15**	**1**	<1	**2.65**
WBE16 0.0-0.5B	ES1503685027	15/02/2015	WBE16	0.0-0.5B	**16**	**12**	**9**	**9**	**8**	**7**	**4**	**3**	<1	<1	<1	<1	**44**	**32**	**19**	**5**	<1	**2.74**
WBE16 0.5-1.0B	ES1503685028	15/02/2015	WBE16	0.5-1.0B	**3**	**2**	**1**	**1**	<1	<1	<1	<1	<1	<1	<1	<1	**58**	**31**	**11**	<1	<1	**2.72**
WBE17 0.0-0.5B	ES1503685033	15/02/2015	WBE17	0.0-0.5B	**57**	**35**	**28**	**26**	**25**	**21**	**15**	**9**	**4**	<1	<1	<1	**21**	**15**	**47**	**17**	<1	**2.75**
WBE17 0.5-1.0B	ES1503685034	15/02/2015	WBE17	0.5-1.0B	**10**	**8**	**6**	**6**	**6**	**5**	**3**	**1**	<1	<1	<1	<1	**50**	**30**	**17**	**3**	<1	**2.75**
WBE18 0.0-0.5B	ES1503685039	15/02/2015	WBE18	0.0-0.5B	**45**	**36**	**34**	**34**	**33**	**32**	**31**	**29**	**28**	**28**	<1	<1	**26**	**22**	**21**	**31**	<1	**2.74**
WBE18 0.5-1.0B	ES1503685040	15/02/2015	WBE18	0.5-1.0B	**7**	**5**	**4**	**4**	**3**	**2**	**2**	**1**	<1	<1	<1	<1	**48**	**36**	**14**	**2**	<1	**2.74**
WBE19 0.0-0.5B	ES1503000042	10/02/2015	WBE19	0.0-0.5B	**61**	**58**	**55**	**53**	**49**	**35**	**20**	**6**	<1	<1	<1	<1	**28**	**8**	**40**	**24**	<1	**2.68**
WBE20 0.5-1.0B	ES1503000046	10/02/2015	WBE20	0.5-1.0B	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**52**	**46**	**2**	<1	<1	**2.52**
WBE20 0.0-0.5B	ES1503000047	10/02/2015	WBE20	0.0-0.5B	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**59**	**37**	**4**	<1	<1	
WBE21 0.0-0.5B	ES1503000052	10/02/2015	WBE21	0.0-0.5B	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**63**	**32**	**5**	<1	<1	
WBE21 0.5-1.0B	ES1503000053	10/02/2015	WBE21	0.5-1.0B	**42**	**39**	**36**	**35**	**34**	**32**	**29**	**22**	**11**	<1	<1	<1	**36**	**19**	**15**	**30**	<1	**2.7**

Appendix H
Summary ASS Results

Appendix H
Summary ASS Results - East Banks DMPA

Matrix: SOIL	Sample Type:			REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	ALS Sample number:			EB1513340001	EB1513340002	EB1513340003	EB1513340004	EB1513340005	EB1513340006	EB1513340007	EB1513340008	EB1513340009	EB1513340010	EB1513340011
Project name/number: GPC Geochemical Investigation	Sample date:			22/02/2015	22/02/2015	22/02/2015	22/02/2015	22/02/2015	22/02/2015	22/02/2015	22/02/2015	22/02/2015	22/02/2015	22/02/2015
	Client sample ID (1st):			EB8 0.0 C	EB8 0.25 C	EB8 0.5 C	EB8 0.75 C	EB8 1.0 C	EB10 0.0 C	EB10 0.25 C	EB10 0.5 C	EB10 0.75 C	EB10 1.0 C	EB13 0.0C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**											
EA003: pH (field/fox)														
pH (F)	pH Unit	0.1	<4	----	**9.4**	----	**8.6**	----	----	**9**	----	**9**	----	----
pH (Fox)	pH Unit	0.1	<4	----	**6.8**	----	**5.8**	----	----	**6.5**	----	**6.6**	----	----
pHF - pHFOX	pH Unit	-	2		**2.6**		**2.8**			**2.5**		**2.4**		
Reaction Rate	Reaction Unit	1	NV	----	**3**	----	**1**	----	----	**2**	----	**2**	----	----
EA029-A: pH Measurements														
pH KCl (23A)	pH Unit	0.1	<4	**9.4**	----	**9.4**	----	**9.3**	**9.4**	----	**9.5**	----	**9.1**	**9.3**
pH OX (23B)	pH Unit	0.1	<4	**9**	----	**8.1**	----	**7.7**	**9.2**	----	**9.3**	----	**9.3**	**8.7**
pHF - pHFOX	pH Unit	-	2	**0.4**		**1.3**		**1.6**	**0.2**		**0.2**		**-0.2**	**0.6**
EA029-B: Acidity Trail														
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	<2	----	<2	----	<2	<2	----	<2	----	<2	<2
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	<2	----	<2	----	<2	<2	----	<2	----	<2	<2
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	<2	----	<2	----	<2	<2	----	<2	----	<2	<2
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02	<0.02
EA029-C: Sulfur Trail														
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	**0.06**	----	**0.03**	----	**0.02**	**0.05**	----	**0.04**	----	**0.03**	**0.06**
Peroxide Sulfur (23De)	% S	0.02	NV	**0.16**	----	**0.05**	----	**0.03**	**0.15**	----	**0.16**	----	**0.08**	**0.18**
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	**0.1**	----	**0.02**	----	<0.02	**0.1**	----	**0.12**	----	**0.05**	**0.11**
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	**60**	----	**15**	----	<10	**62**	----	**72**	----	**34**	**72**
EA029-D: Calcium Values														
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	**0.19**	----	**0.12**	----	**0.14**	**0.19**	----	**0.18**	----	**0.21**	**0.2**
Peroxide Calcium (23Wh)	% Ca	0.02	NV	**4.32**	----	**0.3**	----	**0.25**	**8.18**	----	**13.9**	----	**4.38**	**4.61**
Acid Reacted Calcium (23X)	% Ca	0.02	NV	**4.13**	----	**0.17**	----	**0.11**	**7.99**	----	**13.8**	----	**4.17**	**4.4**
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	**2060**	----	**87**	----	**53**	**3990**	----	**6860**	----	**2080**	**2200**
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	**3.3**	----	**0.14**	----	**0.08**	**6.39**	----	**11**	----	**3.34**	**3.52**
EA029-E: Magnesium Values														
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	**0.06**	----	**0.04**	----	**0.06**	**0.06**	----	**0.05**	----	**0.09**	**0.07**
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	**0.24**	----	**0.1**	----	**0.08**	**0.3**	----	**0.51**	----	**0.33**	**0.31**
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	**0.18**	----	**0.06**	----	**0.02**	**0.24**	----	**0.46**	----	**0.24**	**0.23**
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	**148**	----	**52**	----	**19**	**196**	----	**381**	----	**196**	**192**
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	**0.24**	----	**0.08**	----	**0.03**	**0.31**	----	**0.61**	----	**0.32**	**0.31**
EA029-F: Excess Acid Neutralising Capacity														
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	**10.6**	----	**0.98**	----	**0.58**	**18.8**	----	**34.2**	----	**12**	**12.1**
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	**2120**	----	**196**	----	**116**	**3750**	----	**6840**	----	**2400**	**2420**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	**3.4**	----	**0.31**	----	**0.18**	**6.01**	----	**11**	----	**3.85**	**3.88**
EA029-H: Acid Base Accounting														
ANC Fineness Factor		0.5	NV	**1.5**	----	**1.5**	----	**1.5**	**1.5**	----	**1.5**	----	**1.5**	**1.5**
Net Acidity (sulfur units)	% S	0.02	0.03	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02	<0.02
Net Acidity (acidity units)	mole H+ / t	10	18	<10	----	<10	----	<10	<10	----	<10	----	<10	<10
Liming Rate	kg CaCO3/t	1	NV	<1	----	<1	----	<1	<1	----	<1	----	<1	<1

Appendix H
Summary ASS Results - East Banks DMPA

Matrix: SOIL	Sample Type:			REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	ALS Sample number:			EB1513340012	EB1513340013	EB1513340014	EB1513340015	EB1513340016	EB1513340017	EB1513340018	EB1513340019	EB1513340020	EB1513340021	EB1513340022
Project name/number: GPC Geochemical Investigation	Sample date:			22/02/2015	22/02/2015	22/02/2015	22/02/2015	22/02/2015	22/02/2015	22/02/2015	22/02/2015	22/02/2015	22/02/2015	22/02/2015
	Client sample ID (1st):			EB13 0.25C	EB13 0.5C	EB18 0.0 C	EB18 0.25C	EB18 0.5C	EB18 0.75C	EB19 0.0 C	EB19 0.25C	EB19 0.5C	EB19 0.75C	EB20 0.0 C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**											
EA003: pH (field/fox)														
pH (F)	pH Unit	0.1	<4	**9.4**	----	----	**9.1**	----	**8.7**	----	**9.1**	----	**8.4**	----
pH (Fox)	pH Unit	0.1	<4	**6.8**	----	----	**6.6**	----	**6.3**	----	**6.4**	----	**6.1**	----
pHF - pHFOX	pH Unit	-	2	**2.6**			**2.5**		**2.4**		**2.7**		**2.3**	
Reaction Rate	Reaction Unit	1	NV	**2**	----	----	**3**	----	**2**	----	**2**	----	**1**	----
EA029-A: pH Measurements														
pH KCl (23A)	pH Unit	0.1	<4	----	**9**	**9.5**	----	**9.3**	----	**9.3**	----	**9.4**	----	**9.3**
pH OX (23B)	pH Unit	0.1	<4	----	**9.5**	**9.1**	----	**9**	----	**8.7**	----	**8.9**	----	**9**
pHF - pHFOX	pH Unit	-	2		**-0.5**	**0.4**		**0.3**		**0.6**		**0.5**		**0.3**
EA029-B: Acidity Trail														
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	----	<2	<2	----	<2	----	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	----	<2	<2	----	<2	----	<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	----	<2	<2	----	<2	----	<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	----	<0.02	<0.02	----	<0.02	----	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	----	<0.02	<0.02	----	<0.02	----	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	----	<0.02	<0.02	----	<0.02	----	<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail														
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	----	**0.03**	**0.04**	----	**0.06**	----	**0.07**	----	**0.06**	----	**0.05**
Peroxide Sulfur (23De)	% S	0.02	NV	----	**0.05**	**0.1**	----	**0.2**	----	**0.2**	----	**0.16**	----	**0.12**
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	----	<0.02	**0.05**	----	**0.14**	----	**0.13**	----	**0.11**	----	**0.07**
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	----	<10	**33**	----	**89**	----	**83**	----	**66**	----	**41**
EA029-D: Calcium Values														
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	----	**0.2**	**0.18**	----	**0.19**	----	**0.2**	----	**0.19**	----	**0.19**
Peroxide Calcium (23Wh)	% Ca	0.02	NV	----	**1.84**	**3.5**	----	**4.55**	----	**4.36**	----	**6.54**	----	**3.52**
Acid Reacted Calcium (23X)	% Ca	0.02	NV	----	**1.64**	**3.32**	----	**4.37**	----	**4.16**	----	**6.36**	----	**3.33**
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	----	**819**	**1660**	----	**2180**	----	**2080**	----	**3170**	----	**1660**
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	----	**1.31**	**2.66**	----	**3.49**	----	**3.33**	----	**5.08**	----	**2.66**
EA029-E: Magnesium Values														
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	----	**0.12**	**0.05**	----	**0.06**	----	**0.07**	----	**0.05**	----	**0.08**
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	----	**0.24**	**0.18**	----	**0.2**	----	**0.27**	----	**0.3**	----	**0.23**
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	----	**0.12**	**0.12**	----	**0.13**	----	**0.21**	----	**0.25**	----	**0.15**
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	----	**101**	**102**	----	**110**	----	**172**	----	**203**	----	**125**
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	----	**0.16**	**0.16**	----	**0.18**	----	**0.28**	----	**0.32**	----	**0.2**
EA029-F: Excess Acid Neutralising Capacity														
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	----	**4.99**	**9.27**	----	**11.4**	----	**10.6**	----	**3.54**	----	**9.38**
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	----	**996**	**1850**	----	**2280**	----	**2120**	----	**708**	----	**1880**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	----	**1.6**	**2.97**	----	**3.64**	----	**3.4**	----	**1.13**	----	**3**
EA029-H: Acid Base Accounting														
ANC Fineness Factor		0.5	NV	----	**1.5**	**1.5**	----	**1.5**	----	**1.5**	----	**1.5**	----	**1.5**
Net Acidity (sulfur units)	% S	0.02	0.03	----	<0.02	<0.02	----	<0.02	----	<0.02	----	<0.02	----	<0.02
Net Acidity (acidity units)	mole H+ / t	10	18	----	<10	<10	----	<10	----	<10	----	<10	----	<10
Liming Rate	kg CaCO3/t	1	NV	----	<1	<1	----	<1	----	<1	----	<1	----	<1

Appendix H
Summary ASS Results - East Banks DMPA

Matrix: SOIL	Sample Type:			REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	ALS Sample number:			EB1513340023	EB1513340024	EB1513340025	EB1513340026	EB1513340027	EB1513340028	EB1513340029	EB1513340030	EB1513340031	EB1513340032	EB1513340033
Project name/number: GPC Geochemical Investigation	Sample date:			22/02/2015	22/02/2015	22/02/2015	22/02/2015	22/02/2015	22/02/2015	22/02/2015	22/02/2015	22/02/2015	22/02/2015	22/02/2015
	Client sample ID (1st):			EB20 0.25 C	EB20 0.5 C	EB21 0.0 C	EB21 0.25 C	EB21 0.5 C	EB21 0.75 C	EB21 1.0C	EB23 0.0 C	EB23 0.25 C	EB23 0.5 C	EB24 0.0 C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**											
EA003: pH (field/fox)														
pH (F)	pH Unit	0.1	<4	**9.1**	----	----	**8.8**	----	**9**	----	----	**10**	----	----
pH (Fox)	pH Unit	0.1	<4	**6.7**	----	----	**6.4**	----	**6.5**	----	----	**6.9**	----	----
pHF - pHFOX	pH Unit	-	2	**2.4**			**2.4**		**2.5**			**3.1**		
Reaction Rate	Reaction Unit	1	NV	**3**	----	----	**2**	----	**2**	----	----	**3**	----	----
EA029-A: pH Measurements														
pH KCl (23A)	pH Unit	0.1	<4	----	**9**	**9.7**	----	**9.6**	----	**9.7**	**9.6**	----	**8.9**	**9.7**
pH OX (23B)	pH Unit	0.1	<4	----	**9.2**	**10.1**	----	**9.4**	----	**9.3**	**9.2**	----	**8.7**	**10.2**
pHF - pHFOX	pH Unit	-	2		**-0.2**	**-0.4**		**0.2**		**0.4**	**0.4**		**0.2**	**-0.5**
EA029-B: Acidity Trail														
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	----	<2	<2	----	<2	----	<2	<2	----	<2	<2
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	----	<2	<2	----	<2	----	<2	<2	----	<2	<2
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	----	<2	<2	----	<2	----	<2	<2	----	<2	<2
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	----	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	----	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	----	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	<0.02
EA029-C: Sulfur Trail														
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	----	**0.03**	**0.02**	----	**0.02**	----	**0.04**	**0.04**	----	**0.03**	<0.02
Peroxide Sulfur (23De)	% S	0.02	NV	----	**0.04**	**0.05**	----	**0.06**	----	**0.08**	**0.1**	----	**0.04**	**0.04**
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	----	<0.02	**0.03**	----	**0.04**	----	**0.04**	**0.06**	----	<0.02	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	----	<10	**16**	----	**23**	----	**26**	**39**	----	<10	**12**
EA029-D: Calcium Values														
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	----	**0.21**	**0.15**	----	**0.15**	----	**0.16**	**0.16**	----	**0.21**	**0.14**
Peroxide Calcium (23Wh)	% Ca	0.02	NV	----	**0.87**	**4.72**	----	**4.84**	----	**5.08**	**4.75**	----	**0.7**	**2.34**
Acid Reacted Calcium (23X)	% Ca	0.02	NV	----	**0.66**	**4.57**	----	**4.69**	----	**4.92**	**4.58**	----	**0.49**	**2.2**
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	----	**332**	**2280**	----	**2340**	----	**2450**	**2290**	----	**246**	**1100**
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	----	**0.53**	**3.66**	----	**3.75**	----	**3.93**	**3.67**	----	**0.39**	**1.76**
EA029-E: Magnesium Values														
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	----	**0.11**	**0.03**	----	**0.04**	----	**0.04**	**0.05**	----	**0.14**	**0.03**
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	----	**0.18**	**0.22**	----	**0.21**	----	**0.19**	**0.2**	----	**0.2**	**0.12**
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	----	**0.07**	**0.18**	----	**0.18**	----	**0.15**	**0.16**	----	**0.06**	**0.1**
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	----	**58**	**150**	----	**146**	----	**124**	**128**	----	**53**	**79**
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	----	**0.09**	**0.24**	----	**0.23**	----	**0.2**	**0.2**	----	**0.08**	**0.13**
EA029-F: Excess Acid Neutralising Capacity														
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	----	**3.56**	**12.4**	----	**13.5**	----	**12.8**	**12**	----	**2**	**5.76**
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	----	**710**	**2480**	----	**2700**	----	**2560**	**2400**	----	**399**	**1150**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	----	**1.14**	**3.96**	----	**4.32**	----	**4.1**	**3.84**	----	**0.64**	**1.84**
EA029-H: Acid Base Accounting														
ANC Fineness Factor		0.5	NV	----	**1.5**	**1.5**	----	**1.5**	----	**1.5**	**1.5**	----	**1.5**	**1.5**
Net Acidity (sulfur units)	% S	0.02	0.03	----	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	<0.02
Net Acidity (acidity units)	mole H+ / t	10	18	----	<10	<10	----	<10	----	<10	<10	----	<10	<10
Liming Rate	kg CaCO3/t	1	NV	----	<1	<1	----	<1	----	<1	<1	----	<1	<1

Appendix H
Summary ASS Results - East Banks DMPA

Matrix: SOIL	**Sample Type:**			REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	**ALS Sample number:**			EB1513340034	EB1513340035	EB1513340036	EB1513340037	EB1513340038	EB1513340039	EB1513340040	EB1513340041	EB1513340042	EB1513340043	EB1513340044
Project name/number: GPC Geochemical Investigation	**Sample date:**			22/02/2015	22/02/2015	22/02/2015	22/02/2015	22/02/2015	22/02/2015	22/02/2015	22/02/2015	22/02/2015	22/02/2015	22/02/2015
	Client sample ID (1st):			EB24 0.25 C	EB24 0.5 C	EB24 0.75 C	EB24 1.0 C	EB25 0.0 C	EB25 0.25 C	EB25 0.5 C	EB29 0.0 C	EB29 0.25 C	EB29 0.5 C	EB30 0.0 C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**											
EA003: pH (field/fox)														
pH (F)	pH Unit	0.1	<4	**9**	----	**9.3**	----	----	**9**	----	----	**9.2**	----	----
pH (Fox)	pH Unit	0.1	<4	**6.4**	----	**6.6**	----	----	**6.5**	----	----	**6.6**	----	----
pHF - pHFOX	pH Unit	-	2	**2.6**		**2.7**			**2.5**			**2.6**		
Reaction Rate	Reaction Unit	1	NV	**2**	----	**3**	----	----	**2**	----	----	**3**	----	----
EA029-A: pH Measurements														
pH KCl (23A)	pH Unit	0.1	<4	----	**9.5**	----	**9.1**	**9.5**	----	**9.1**	**9.4**	----	**8.7**	**9.4**
pH OX (23B)	pH Unit	0.1	<4	----	**8.9**	----	**8.8**	**9.7**	----	**9**	**9.1**	----	**8.8**	**9**
pHF - pHFOX	pH Unit	-	2		**0.6**		**0.3**	**-0.2**		**0.1**	**0.3**		**-0.1**	**0.4**
EA029-B: Acidity Trail														
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	----	<2	----	<2	<2	----	<2	<2	----	<2	<2
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	----	<2	----	<2	<2	----	<2	<2	----	<2	<2
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	----	<2	----	<2	<2	----	<2	<2	----	<2	<2
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	----	<0.02	----	<0.02	<0.02	----	<0.02	<0.02	----	<0.02	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	----	<0.02	----	<0.02	<0.02	----	<0.02	<0.02	----	<0.02	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	----	<0.02	----	<0.02	<0.02	----	<0.02	<0.02	----	<0.02	<0.02
EA029-C: Sulfur Trail														
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	----	**0.05**	----	**0.04**	**0.04**	----	**0.02**	**0.05**	----	**0.03**	**0.05**
Peroxide Sulfur (23De)	% S	0.02	NV	----	**0.14**	----	**0.06**	**0.1**	----	**0.04**	**0.13**	----	**0.03**	**0.14**
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	----	**0.09**	----	**0.03**	**0.07**	----	<0.02	**0.08**	----	<0.02	**0.09**
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	----	**55**	----	**18**	**42**	----	<10	**49**	----	<10	**58**
EA029-D: Calcium Values														
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	----	**0.18**	----	**0.2**	**0.16**	----	**0.19**	**0.19**	----	**0.16**	**0.18**
Peroxide Calcium (23Wh)	% Ca	0.02	NV	----	**3.4**	----	**1.07**	**5.27**	----	**0.87**	**4.21**	----	**0.2**	**3.58**
Acid Reacted Calcium (23X)	% Ca	0.02	NV	----	**3.22**	----	**0.87**	**5.11**	----	**0.69**	**4.02**	----	**0.04**	**3.4**
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	----	**1610**	----	**436**	**2550**	----	**343**	**2000**	----	**23**	**1700**
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	----	**2.58**	----	**0.7**	**4.09**	----	**0.55**	**3.22**	----	**0.04**	**2.72**
EA029-E: Magnesium Values														
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	----	**0.05**	----	**0.11**	**0.04**	----	**0.1**	**0.06**	----	**0.11**	**0.06**
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	----	**0.23**	----	**0.19**	**0.3**	----	**0.16**	**0.22**	----	**0.15**	**0.22**
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	----	**0.18**	----	**0.08**	**0.25**	----	**0.06**	**0.17**	----	**0.04**	**0.16**
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	----	**150**	----	**69**	**206**	----	**48**	**139**	----	**36**	**133**
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	----	**0.24**	----	**0.11**	**0.33**	----	**0.08**	**0.22**	----	**0.06**	**0.21**
EA029-F: Excess Acid Neutralising Capacity														
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	----	**8.51**	----	**2.83**	**13.6**	----	**2.44**	**11**	----	**0.9**	**8.88**
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	----	**1700**	----	**565**	**2720**	----	**488**	**2200**	----	**180**	**1780**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	----	**2.72**	----	**0.9**	**4.36**	----	**0.78**	**3.52**	----	**0.29**	**2.84**
EA029-H: Acid Base Accounting														
ANC Fineness Factor		0.5	NV	----	**1.5**	----	**1.5**	**1.5**	----	**1.5**	**1.5**	----	**1.5**	**1.5**
Net Acidity (sulfur units)	% S	0.02	0.03	----	<0.02	----	<0.02	<0.02	----	<0.02	<0.02	----	<0.02	<0.02
Net Acidity (acidity units)	mole H+ / t	10	18	----	<10	----	<10	<10	----	<10	<10	----	<10	<10
Liming Rate	kg CaCO3/t	1	NV	----	<1	----	<1	<1	----	<1	<1	----	<1	<1

Appendix H
Summary ASS Results - East Banks DMPA

Matrix: SOIL	Sample Type:			REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	ALS Sample number:			EB1513340045	EB1513340046	EB1513340047	EB1513340048	EB1513340049	EB1513340050	EB1513340051	EB1513340052	EB1513340053	EB1513340054
Project name/number: GPC Geochemical Investigation	Sample date:			22/02/2015	22/02/2015	22/02/2015	22/02/2015	22/02/2015	22/02/2015	22/02/2015	22/02/2015	22/02/2015	22/02/2015
	Client sample ID (1st):			EB30 0.25 C	EB30 0.5 C	EB30 0.75 C	EB35 0.0 C	EB35 0.25 C	EB35 0.5 C	EB35 0.75 C	EB35 1.0 C	ASS DUPLICATE 27	ASS DUPLICATE 28
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**										
EA003: pH (field/fox)													
pH (F)	pH Unit	0.1	<4	**9.2**	----	**9.2**	----	**8.7**	----	**8.8**	----	----	----
pH (Fox)	pH Unit	0.1	<4	**6.6**	----	**6.3**	----	**6.4**	----	**6**	----	----	----
pHF - pHFOX	pH Unit	-	2	**2.6**		**2.9**		**2.3**		**2.8**			
Reaction Rate	Reaction Unit	1	NV	**2**	----	**1**	----	**3**	----	**3**	----	----	----
EA029-A: pH Measurements													
pH KCl (23A)	pH Unit	0.1	<4	----	**9.3**	----	**9.5**	----	**9.1**	----	**8.9**	**9.4**	**9.3**
pH OX (23B)	pH Unit	0.1	<4	----	**9.4**	----	**9.2**	----	**8.2**	----	**7.9**	**8.7**	**8.8**
pHF - pHFOX	pH Unit	-	2		**-0.1**		**0.3**		**0.9**		**1.0**	**0.7**	**0.5**
EA029-B: Acidity Trail													
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	----	<2	----	<2	----	<2	----	<2	<2	<2
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	----	<2	----	<2	----	<2	----	<2	<2	<2
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	----	<2	----	<2	----	<2	----	<2	<2	<2
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	----	<0.02	----	<0.02	----	<0.02	----	<0.02	<0.02	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	----	<0.02	----	<0.02	----	<0.02	----	<0.02	<0.02	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	----	<0.02	----	<0.02	----	<0.02	----	<0.02	<0.02	<0.02
EA029-C: Sulfur Trail													
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	----	**0.04**	----	**0.04**	----	**0.07**	----	**0.07**	**0.05**	**0.07**
Peroxide Sulfur (23De)	% S	0.02	NV	----	**0.12**	----	**0.09**	----	**0.5**	----	**0.29**	**0.16**	**0.2**
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	----	**0.08**	----	**0.05**	----	**0.43**	----	**0.22**	**0.11**	**0.13**
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	----	**51**	----	**32**	----	**268**	----	**138**	**68**	**81**
EA029-D: Calcium Values													
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	----	**0.19**	----	**0.17**	----	**0.16**	----	**0.21**	**0.17**	**0.19**
Peroxide Calcium (23Wh)	% Ca	0.02	NV	----	**6.67**	----	**3.9**	----	**4.63**	----	**0.51**	**3.78**	**3.91**
Acid Reacted Calcium (23X)	% Ca	0.02	NV	----	**6.48**	----	**3.73**	----	**4.47**	----	**0.3**	**3.61**	**3.71**
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	----	**3230**	----	**1860**	----	**2230**	----	**150**	**1800**	**1850**
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	----	**5.18**	----	**2.99**	----	**3.58**	----	**0.24**	**2.89**	**2.97**
EA029-E: Magnesium Values													
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	----	**0.06**	----	**0.05**	----	**0.09**	----	**0.1**	**0.05**	**0.06**
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	----	**0.27**	----	**0.25**	----	**0.4**	----	**0.17**	**0.23**	**0.29**
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	----	**0.21**	----	**0.2**	----	**0.31**	----	**0.06**	**0.18**	**0.23**
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	----	**170**	----	**169**	----	**256**	----	**53**	**146**	**187**
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	----	**0.27**	----	**0.27**	----	**0.41**	----	**0.08**	**0.23**	**0.3**
EA029-F: Excess Acid Neutralising Capacity													
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	----	**17.6**	----	**11.3**	----	**11.3**	----	**0.96**	**9.88**	**10.1**
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	----	**3520**	----	**2260**	----	**2250**	----	**193**	**1980**	**2020**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	----	**5.64**	----	**3.61**	----	**3.6**	----	**0.31**	**3.16**	**3.24**
EA029-H: Acid Base Accounting													
ANC Fineness Factor		0.5	NV	----	**1.5**	----	**1.5**	----	**1.5**	----	**1.5**	**1.5**	**1.5**
Net Acidity (sulfur units)	% S	0.02	0.03	----	<0.02	----	<0.02	----	<0.02	----	<0.02	<0.02	<0.02
Net Acidity (acidity units)	mole H+ / t	10	18	----	<10	----	<10	----	<10	----	<10	<10	<10
Liming Rate	kg CaCO3/t	1	NV	----	<1	----	<1	----	<1	----	<1	<1	<1

Appendix H
Summary ASS Results - East Banks DMPA

Matrix: SOIL	Sample Type:			REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	ALS Sample number:			EB1513340055	EB1513340056	EB1513443001	EB1513443002	EB1513443003	EB1513443004	EB1513443005	EB1513443006	EB1513443007	EB1513443008
Project name/number: GPC Geochemical Investigation	Sample date:			22/02/2015	22/02/2015	23/02/2015	23/02/2015	23/02/2015	23/02/2015	23/02/2015	23/02/2015	23/02/2015	23/02/2015
	Client sample ID (1st):			ASS DUPLICATE 29	ASS DUPLICATE 30	EB1 0.0 C	EB1 0.25 C	EB1 0.5 C	EB1 0.75 C	EB1 1.0 C	EB2 0.0 C	EB2 0.25 C	EB2 0.5 C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**										
EA003: pH (field/fox)													
pH (F)	pH Unit	0.1	<4	----	----	----	**8.5**	----	**8.9**	----	----	**8.8**	----
pH (Fox)	pH Unit	0.1	<4	----	----	----	**7**	----	**7.9**	----	----	**6.8**	----
pHF - pHFOX	pH Unit	-	2				**1.5**		**1.0**			**2.0**	
Reaction Rate	Reaction Unit	1	NV	----	----	----	**2**	----	**3**	----	----	**2**	----
EA029-A: pH Measurements													
pH KCl (23A)	pH Unit	0.1	<4	**9**	**9.6**	**9.6**	----	**9.4**	----	**9.1**	**9.3**	----	**8.8**
pH OX (23B)	pH Unit	0.1	<4	**9.2**	**10**	**10**	----	**9.1**	----	**8.2**	**8.5**	----	**8**
pHF - pHFOX	pH Unit	-	2	**-0.2**	**-0.4**	**-0.4**		**0.3**		**0.9**	**0.8**		**0.8**
EA029-B: Acidity Trail													
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	<2	<2	<2	----	<2	----	<2	<2	----	<2
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	<2	<2	<2	----	<2	----	<2	<2	----	<2
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	<2	<2	<2	----	<2	----	<2	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	<0.02	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	<0.02	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	<0.02	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02
EA029-C: Sulfur Trail													
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	**0.03**	**0.03**	**0.05**	----	**0.11**	----	**0.04**	**0.06**	----	**0.04**
Peroxide Sulfur (23De)	% S	0.02	NV	**0.05**	**0.09**	**0.12**	----	**0.16**	----	**0.07**	**0.22**	----	**0.05**
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	<0.02	**0.06**	**0.07**	----	**0.05**	----	**0.03**	**0.15**	----	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	<10	**38**	**44**	----	**33**	----	**18**	**96**	----	<10
EA029-D: Calcium Values													
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	**0.21**	**0.16**	**0.16**	----	**0.19**	----	**0.17**	**0.21**	----	**0.23**
Peroxide Calcium (23Wh)	% Ca	0.02	NV	**1.74**	**7.63**	**13.4**	----	**12.6**	----	**1.25**	**11**	----	**1.17**
Acid Reacted Calcium (23X)	% Ca	0.02	NV	**1.54**	**7.47**	**13.3**	----	**12.4**	----	**1.08**	**10.8**	----	**0.94**
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	**766**	**3720**	**6620**	----	**6200**	----	**539**	**5400**	----	**467**
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	**1.23**	**5.97**	**10.6**	----	**9.95**	----	**0.86**	**8.65**	----	**0.75**
EA029-E: Magnesium Values													
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	**0.12**	**0.04**	**0.04**	----	**0.05**	----	**0.06**	**0.06**	----	**0.14**
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	**0.18**	**0.4**	**0.48**	----	**0.44**	----	**0.16**	**0.48**	----	**0.26**
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	**0.07**	**0.36**	**0.44**	----	**0.38**	----	**0.1**	**0.42**	----	**0.12**
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	**57**	**296**	**362**	----	**317**	----	**79**	**349**	----	**103**
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	**0.09**	**0.48**	**0.58**	----	**0.51**	----	**0.13**	**0.56**	----	**0.16**
EA029-F: Excess Acid Neutralising Capacity													
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	**4.97**	**20.5**	**33.8**	----	**43.5**	----	**4.02**	**28.9**	----	**3.88**
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	**992**	**4100**	**6760**	----	**8700**	----	**802**	**5780**	----	**776**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	**1.59**	**6.56**	**10.8**	----	**13.9**	----	**1.28**	**9.25**	----	**1.24**
EA029-H: Acid Base Accounting													
ANC Fineness Factor		0.5	NV	**1.5**	**1.5**	**1.5**	----	**1.5**	----	**1.5**	**1.5**	----	**1.5**
Net Acidity (sulfur units)	% S	0.02	0.03	<0.02	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02
Net Acidity (acidity units)	mole H+ / t	10	18	<10	<10	<10	----	<10	----	<10	<10	----	<10
Liming Rate	kg CaCO3/t	1	NV	<1	<1	<1	----	<1	----	<1	<1	----	<1

Appendix H
Summary ASS Results - East Banks DMPA

Matrix: SOIL	**Sample Type:**			**REG**	**REG**	**REG**	**REG**	**REG**	**REG**	**REG**	**REG**	**REG**	**REG**	**REG**
Workgroup: EB1512125	**ALS Sample number:**			EB1513443009	EB1513443010	EB1513443011	EB1513443012	EB1513443013	EB1513443014	EB1513443015	EB1513443016	EB1513443017	EB1513443018	EB1513443019
Project name/number: GPC Geochemical Investigation	**Sample date:**			23/02/2015	23/02/2015	23/02/2015	23/02/2015	23/02/2015	23/02/2015	23/02/2015	23/02/2015	23/02/2015	23/02/2015	23/02/2015
	Client sample ID (1st):			EB2 0.75 C	EB3 0.0C	EB3 0.25C	EB3 0.5C	EB4 0.0 C	EB5 0.0 C	EB5 0.25C	EB5 0.5C	EB6 0.0 C	EB6 0.25 C	EB6 0.5 C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**											
EA003: pH (field/fox)														
pH (F)	pH Unit	0.1	<4	**8.6**	----	**9.2**	----	----	----	**8.6**	----	----	**8.7**	----
pH (Fox)	pH Unit	0.1	<4	**9.2**	----	**7.2**	----	----	----	**8.1**	----	----	**6.5**	----
pHF - pHFOX	pH Unit	-	2	**-0.6**		**2.0**				**0.5**			**2.2**	
Reaction Rate	Reaction Unit	1	NV	**4**	----	**3**	----	----	----	**4**	----	----	**2**	----
EA029-A: pH Measurements														
pH KCl (23A)	pH Unit	0.1	<4	----	**9.4**	----	**8.7**	**9.1**	**9.3**	----	**8.7**	**9.1**	----	**8.1**
pH OX (23B)	pH Unit	0.1	<4	----	**8.6**	----	**7.3**	**8.4**	**8.5**	----	**8.9**	**8.2**	----	**7.6**
pHF - pHFOX	pH Unit	-	2		**0.8**		**1.4**	**0.7**	**0.8**		**-0.2**	**0.9**		**0.5**
EA029-B: Acidity Trail														
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	----	<2	----	<2	<2	<2	----	<2	<2	----	<2
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	----	<2	----	<2	<2	<2	----	<2	<2	----	<2
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	----	<2	----	<2	<2	<2	----	<2	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	----	<0.02	----	<0.02	<0.02	<0.02	----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	----	<0.02	----	<0.02	<0.02	<0.02	----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	----	<0.02	----	<0.02	<0.02	<0.02	----	<0.02	<0.02	----	<0.02
EA029-C: Sulfur Trail														
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	----	**0.05**	----	**0.03**	**0.05**	**0.05**	----	**0.04**	**0.05**	----	**0.03**
Peroxide Sulfur (23De)	% S	0.02	NV	----	**0.15**	----	**0.03**	**0.11**	**0.13**	----	**0.04**	**0.1**	----	**0.04**
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	----	**0.1**	----	<0.02	**0.06**	**0.08**	----	<0.02	**0.05**	----	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	----	**61**	----	<10	**39**	**49**	----	<10	**30**	----	<10
EA029-D: Calcium Values														
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	----	**0.2**	----	**0.13**	**0.21**	**0.19**	----	**0.23**	**0.21**	----	**0.15**
Peroxide Calcium (23Wh)	% Ca	0.02	NV	----	**10**	----	**0.38**	**4.28**	**5.6**	----	**0.64**	**5.11**	----	**0.21**
Acid Reacted Calcium (23X)	% Ca	0.02	NV	----	**9.85**	----	**0.24**	**4.07**	**5.41**	----	**0.41**	**4.9**	----	**0.06**
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	----	**4920**	----	**122**	**2030**	**2700**	----	**205**	**2440**	----	**28**
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	----	**7.88**	----	**0.2**	**3.25**	**4.33**	----	**0.33**	**3.92**	----	**0.04**
EA029-E: Magnesium Values														
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	----	**0.05**	----	**0.08**	**0.08**	**0.05**	----	**0.12**	**0.08**	----	**0.15**
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	----	**0.37**	----	**0.12**	**0.28**	**0.24**	----	**0.15**	**0.25**	----	**0.19**
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	----	**0.32**	----	**0.04**	**0.2**	**0.18**	----	**0.03**	**0.17**	----	**0.04**
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	----	**262**	----	**33**	**162**	**152**	----	**28**	**140**	----	**38**
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	----	**0.42**	----	**0.05**	**0.26**	**0.24**	----	**0.04**	**0.22**	----	**0.06**
EA029-F: Excess Acid Neutralising Capacity														
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	----	**25**	----	**1.23**	**11.8**	**15.7**	----	**2.03**	**14.1**	----	**0.76**
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	----	**5000**	----	**246**	**2360**	**3140**	----	**405**	**2820**	----	**153**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	----	**8**	----	**0.39**	**3.78**	**5.03**	----	**0.65**	**4.52**	----	**0.24**
EA029-H: Acid Base Accounting														
ANC Fineness Factor		0.5	NV	----	**1.5**	----	**1.5**	**1.5**	**1.5**	----	**1.5**	**1.5**	----	**1.5**
Net Acidity (sulfur units)	% S	0.02	0.03	----	<0.02	----	<0.02	<0.02	<0.02	----	<0.02	<0.02	----	<0.02
Net Acidity (acidity units)	mole H+ / t	10	18	----	<10	----	<10	<10	<10	----	<10	<10	----	<10
Liming Rate	kg CaCO3/t	1	NV	----	<1	----	<1	<1	<1	----	<1	<1	----	<1

Appendix H
Summary ASS Results - East Banks DMPA

Matrix: SOIL	Sample Type:			REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	ALS Sample number:			EB1513443020	EB1513443021	EB1513443022	EB1513443023	EB1513443024	EB1513443025	EB1513443026	EB1513443027	EB1513443028	EB1513443029	EB1513443030
Project name/number: GPC Geochemical Investigation	Sample date:			23/02/2015	23/02/2015	23/02/2015	23/02/2015	23/02/2015	23/02/2015	23/02/2015	23/02/2015	23/02/2015	23/02/2015	23/02/2015
	Client sample ID (1st):			EB6 0.75 C	EB6 1.0C	EB7 0.0 C	EB7 0.25 C	EB7 0.5 C	EB7 0.75 C	EB7 1.0C	EB9 0.0 C	EB9 0.25 C	EB9 0.5 C	EB11 0.0 C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**											
EA003: pH (field/fox)														
pH (F)	pH Unit	0.1	<4	**8.3**	----	----	**9.2**	----	**8.1**	----	----	**8.6**	----	----
pH (Fox)	pH Unit	0.1	<4	**6.6**	----	----	**7**	----	**6.2**	----	----	**6.8**	----	----
pHF - pHFOX	pH Unit	-	2	**1.7**			**2.2**		**1.9**			**1.8**		
Reaction Rate	Reaction Unit	1	NV	**2**	----	----	**3**	----	**2**	----	----	**2**	----	----
EA029-A: pH Measurements														
pH KCl (23A)	pH Unit	0.1	<4	----	**8.6**	**9**	----	**8.8**	----	**8**	**9.4**	----	**8.5**	**9.1**
pH OX (23B)	pH Unit	0.1	<4	----	**8.6**	**8.2**	----	**7**	----	**7.1**	**8.3**	----	**9**	**8.6**
pHF - pHFOX	pH Unit	-	2		**0.0**	**0.8**		**1.8**		**0.9**	**1.1**		**-0.5**	**0.5**
EA029-B: Acidity Trail														
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	----	<2	<2	----	<2	----	<2	<2	----	<2	<2
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	----	<2	<2	----	<2	----	<2	<2	----	<2	<2
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	----	<2	<2	----	<2	----	<2	<2	----	<2	<2
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	----	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	----	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	----	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	<0.02
EA029-C: Sulfur Trail														
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	----	**0.04**	**0.04**	----	**0.03**	----	**0.03**	**0.05**	----	**0.03**	**0.04**
Peroxide Sulfur (23De)	% S	0.02	NV	----	**0.04**	**0.05**	----	**0.03**	----	**0.02**	**0.16**	----	**0.03**	**0.12**
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	----	<0.02	<0.02	----	<0.02	----	<0.02	**0.1**	----	<0.02	**0.08**
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	----	<10	<10	----	<10	----	<10	**65**	----	<10	**49**
EA029-D: Calcium Values														
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	----	**0.26**	**0.19**	----	**0.12**	----	**0.09**	**0.2**	----	**0.25**	**0.19**
Peroxide Calcium (23Wh)	% Ca	0.02	NV	----	**0.84**	**0.92**	----	**0.19**	----	**0.12**	**9.09**	----	**0.64**	**2.28**
Acid Reacted Calcium (23X)	% Ca	0.02	NV	----	**0.57**	**0.72**	----	**0.06**	----	**0.02**	**8.89**	----	**0.38**	**2.09**
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	----	**287**	**361**	----	**32**	----	**12**	**4440**	----	**191**	**1040**
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	----	**0.46**	**0.58**	----	**0.05**	----	<0.02	**7.12**	----	**0.3**	**1.67**
EA029-E: Magnesium Values														
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	----	**0.12**	**0.09**	----	**0.08**	----	**0.1**	**0.06**	----	**0.17**	**0.07**
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	----	**0.15**	**0.12**	----	**0.11**	----	**0.1**	**0.35**	----	**0.23**	**0.2**
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	----	**0.02**	**0.03**	----	**0.04**	----	<0.02	**0.3**	----	**0.06**	**0.12**
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	----	**21**	**23**	----	**29**	----	<10	**243**	----	**49**	**103**
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	----	**0.03**	**0.04**	----	**0.05**	----	<0.02	**0.39**	----	**0.08**	**0.16**
EA029-F: Excess Acid Neutralising Capacity														
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	----	**2.15**	**1.93**	----	**0.47**	----	**0.36**	**21.6**	----	**1.73**	**5.88**
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	----	**430**	**385**	----	**95**	----	**72**	**4310**	----	**345**	**1180**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	----	**0.69**	**0.62**	----	**0.15**	----	**0.12**	**6.9**	----	**0.55**	**1.88**
EA029-H: Acid Base Accounting														
ANC Fineness Factor		0.5	NV	----	**1.5**	**1.5**	----	**1.5**	----	**1.5**	**1.5**	----	**1.5**	**1.5**
Net Acidity (sulfur units)	% S	0.02	0.03	----	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	<0.02
Net Acidity (acidity units)	mole H+ / t	10	18	----	<10	<10	----	<10	----	<10	<10	----	<10	<10
Liming Rate	kg CaCO3/t	1	NV	----	<1	<1	----	<1	----	<1	<1	----	<1	<1

Appendix H
Summary ASS Results - East Banks DMPA

Matrix: SOIL	**Sample Type:**			**REG**	**REG**	**REG**	**REG**	**REG**	**REG**	**REG**	**REG**	**REG**	**REG**	**REG**
Workgroup: EB1512125	**ALS Sample number:**			EB1513443031	EB1513443032	EB1513443033	EB1513443034	EB1513443035	EB1513443036	EB1513443037	EB1513443038	EB1513443039	EB1513443040	EB1513443041
Project name/number: GPC Geochemical Investigation	**Sample date:**			23/02/2015	23/02/2015	23/02/2015	23/02/2015	23/02/2015	23/02/2015	23/02/2015	23/02/2015	23/02/2015	23/02/2015	23/02/2015
	Client sample ID (1st):			EB11 0.25 C	EB11 0.5 C	EB11 0.75 C	EB14 0.0 C	EB14 0.25 C	EB14 0.5 C	EB14 0.75 C	EB14 1.0 C	EB15 0.0 C	EB15 0.25 C	EB15 0.5 C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**											
EA003: pH (field/fox)														
pH (F)	pH Unit	0.1	<4	**9.3**	----	**8.5**	----	**9**	----	**8.3**	----	----	**8.7**	----
pH (Fox)	pH Unit	0.1	<4	**7.1**	----	**6.7**	----	**8.2**	----	**6.5**	----	----	**6.6**	----
pHF - pHFOX	pH Unit	-	2	**2.2**		**1.8**		**0.8**		**1.8**			**2.1**	
Reaction Rate	Reaction Unit	1	NV	**3**	----	**2**	----	**4**	----	**2**	----	----	**3**	----
EA029-A: pH Measurements														
pH KCl (23A)	pH Unit	0.1	<4	----	**8.7**	----	**9.3**	----	**8.6**	----	**8.6**	**9.3**	----	**8.8**
pH OX (23B)	pH Unit	0.1	<4	----	**8.8**	----	**8.4**	----	**8.7**	----	**8.8**	**8.5**	----	**8.9**
pHF - pHFOX	pH Unit	-	2		**-0.1**		**0.9**		**-0.1**		**-0.2**	**0.8**		**-0.1**
EA029-B: Acidity Trail														
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	----	<2	----	<2	----	<2	----	<2	<2	----	<2
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	----	<2	----	<2	----	<2	----	<2	<2	----	<2
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	----	<2	----	<2	----	<2	----	<2	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	----	<0.02	----	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	----	<0.02	----	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	----	<0.02	----	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02
EA029-C: Sulfur Trail														
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	----	**0.03**	----	**0.05**	----	**0.03**	----	**0.04**	**0.05**	----	**0.03**
Peroxide Sulfur (23De)	% S	0.02	NV	----	**0.03**	----	**0.13**	----	**0.03**	----	**0.06**	**0.14**	----	**0.04**
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	----	<0.02	----	**0.08**	----	<0.02	----	<0.02	**0.08**	----	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	----	<10	----	**50**	----	<10	----	<10	**53**	----	<10
EA029-D: Calcium Values														
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	----	**0.13**	----	**0.18**	----	**0.21**	----	**0.28**	**0.19**	----	**0.2**
Peroxide Calcium (23Wh)	% Ca	0.02	NV	----	**0.21**	----	**3.54**	----	**0.37**	----	**0.85**	**5.92**	----	**0.46**
Acid Reacted Calcium (23X)	% Ca	0.02	NV	----	**0.08**	----	**3.36**	----	**0.16**	----	**0.57**	**5.73**	----	**0.26**
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	----	**38**	----	**1680**	----	**78**	----	**285**	**2860**	----	**128**
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	----	**0.06**	----	**2.69**	----	**0.12**	----	**0.46**	**4.58**	----	**0.21**
EA029-E: Magnesium Values														
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	----	**0.08**	----	**0.05**	----	**0.12**	----	**0.15**	**0.06**	----	**0.11**
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	----	**0.13**	----	**0.15**	----	**0.15**	----	**0.19**	**0.26**	----	**0.16**
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	----	**0.05**	----	**0.1**	----	**0.02**	----	**0.04**	**0.2**	----	**0.05**
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	----	**40**	----	**81**	----	**21**	----	**33**	**164**	----	**44**
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	----	**0.06**	----	**0.13**	----	**0.03**	----	**0.05**	**0.26**	----	**0.07**
EA029-F: Excess Acid Neutralising Capacity														
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	----	**0.81**	----	**8.51**	----	**1**	----	**2.05**	**14.8**	----	**1.06**
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	----	**162**	----	**1700**	----	**199**	----	**410**	**2950**	----	**212**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	----	**0.26**	----	**2.72**	----	**0.32**	----	**0.66**	**4.72**	----	**0.34**
EA029-H: Acid Base Accounting														
ANC Fineness Factor		0.5	NV	----	**1.5**	----	**1.5**	----	**1.5**	----	**1.5**	**1.5**	----	**1.5**
Net Acidity (sulfur units)	% S	0.02	0.03	----	<0.02	----	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02
Net Acidity (acidity units)	mole H+ / t	10	18	----	<10	----	<10	----	<10	----	<10	<10	----	<10
Liming Rate	kg CaCO3/t	1	NV	----	<1	----	<1	----	<1	----	<1	<1	----	<1

Appendix H
Summary ASS Results - East Banks DMPA

Matrix: SOIL	Sample Type:			REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	ALS Sample number:			EB1513443042	EB1513443043	EB1513443044	EB1513443045	EB1513443046	EB1513443047	EB1513443048	EB1513443049	EB1513554009	EB1513554010
Project name/number: GPC Geochemical Investigation	Sample date:			23/02/2015	23/02/2015	23/02/2015	23/02/2015	23/02/2015	23/02/2015	23/02/2015	23/02/2015	24/02/2015	24/02/2015
	Client sample ID (1st):			EB26 0.0 C	EB26 0.25 C	EB26 0.5 C	EB26 0.75 C	EB26 1.0 C	ASS DUPLICATE 31	ASS DUPLICATE 32	ASS DUPLICATE 33	EB12 0.0 C	EB16 0.25 C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**										
EA003: pH (field/fox)													
pH (F)	pH Unit	0.1	<4	----	**8.9**	----	**6.2**	----	----	----	----	----	----
pH (Fox)	pH Unit	0.1	<4	----	**6.9**	----	**2**	----	----	----	----	----	----
pHF - pHFOX	pH Unit	-	2		**2.0**		**4.2**						
Reaction Rate	Reaction Unit	1	NV	----	**2**	----	**2**	----	----	----	----	----	----
EA029-A: pH Measurements													
pH KCl (23A)	pH Unit	0.1	<4	**9.5**	----	**9**	----	**8.8**	**9.6**	**8.6**	**9.3**	**9**	**8.4**
pH OX (23B)	pH Unit	0.1	<4	**8.7**	----	**7.8**	----	**8.1**	**8.8**	**8.6**	**8.2**	**9**	**8**
pHF - pHFOX	pH Unit	-	2	**0.8**		**1.2**		**0.7**	**0.8**	**0.0**	**1.1**	**0.0**	**0.4**
EA029-B: Acidity Trail													
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	<2	----	<2	----	<2	<2	<2	<2	<2	<2
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	<2	----	<2	----	<2	<2	<2	<2	<2	<2
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	<2	----	<2	----	<2	<2	<2	<2	<2	<2
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	<0.02	----	<0.02	----	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	<0.02	----	<0.02	----	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	<0.02	----	<0.02	----	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
EA029-C: Sulfur Trail													
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	**0.03**	----	**0.02**	----	**0.03**	**0.04**	**0.04**	**0.06**	**0.04**	**0.03**
Peroxide Sulfur (23De)	% S	0.02	NV	**0.04**	----	**0.02**	----	**0.03**	**0.09**	**0.04**	**0.13**	**0.07**	**0.03**
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	<0.02	----	<0.02	----	<0.02	**0.05**	<0.02	**0.08**	**0.03**	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	**10**	----	<10	----	<10	**34**	<10	**49**	**16**	<10
EA029-D: Calcium Values													
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	**0.15**	----	**0.12**	----	**0.17**	**0.17**	**0.24**	**0.19**	**0.2**	**0.11**
Peroxide Calcium (23Wh)	% Ca	0.02	NV	**2.7**	----	**0.2**	----	**0.27**	**9.85**	**0.6**	**4.21**	**2.28**	**0.18**
Acid Reacted Calcium (23X)	% Ca	0.02	NV	**2.55**	----	**0.08**	----	**0.1**	**9.69**	**0.35**	**4.02**	**2.08**	**0.07**
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	**1270**	----	**39**	----	**51**	**4830**	**177**	**2010**	**1040**	**34**
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	**2.04**	----	**0.06**	----	**0.08**	**7.75**	**0.28**	**3.22**	**1.67**	**0.05**
EA029-E: Magnesium Values													
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	**0.04**	----	**0.06**	----	**0.09**	**0.04**	**0.12**	**0.06**	**0.08**	**0.09**
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	**0.04**	----	**0.08**	----	**0.19**	**0.29**	**0.17**	**0.16**	**0.28**	**0.23**
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	<0.02	----	**0.02**	----	**0.09**	**0.25**	**0.05**	**0.1**	**0.2**	**0.14**
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	<10	----	**17**	----	**77**	**206**	**38**	**86**	**166**	**119**
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	<0.02	----	**0.03**	----	**0.12**	**0.33**	**0.06**	**0.14**	**0.27**	**0.19**
EA029-F: Excess Acid Neutralising Capacity													
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	**6.56**	----	**0.4**	----	**0.86**	**24.1**	**1.4**	**9.72**	**6.25**	**1.94**
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	**1310**	----	**80**	----	**171**	**4810**	**281**	**1940**	**1250**	**388**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	**2.1**	----	**0.13**	----	**0.27**	**7.71**	**0.45**	**3.11**	**2**	**0.62**
EA029-H: Acid Base Accounting													
ANC Fineness Factor		0.5	NV	**1.5**	----	**1.5**	----	**1.5**	**1.5**	**1.5**	**1.5**	**1.5**	**1.5**
Net Acidity (sulfur units)	% S	0.02	0.03	<0.02	----	<0.02	----	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Net Acidity (acidity units)	mole H+ / t	10	18	<10	----	<10	----	<10	<10	<10	<10	<10	<10
Liming Rate	kg CaCO3/t	1	NV	<1	----	<1	----	<1	<1	<1	<1	<1	<1

Appendix H
Summary ASS Results - East Banks DMPA

Matrix: SOIL	Sample Type:			REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	ALS Sample number:			EB1513554011	EB1513554012	EB1513554013	EB1513554014	EB1513554015	EB1513554016	EB1513554017	EB1513554018	EB1513554019	EB1513554020	EB1513554021
Project name/number: GPC Geochemical Investigation	Sample date:			24/02/2015	24/02/2015	24/02/2015	24/02/2015	24/02/2015	24/02/2015	24/02/2015	24/02/2015	24/02/2015	24/02/2015	24/02/2015
	Client sample ID (1st):			EB17 0.0 C	EB17 0.25 C	EB17 0.5 C	EB22 0.0 C	EB22 0.25 C	EB22 0.5 C	EB27 0.0 C	EB27 0.25 C	EB27 0.5 C	EB31 0.0 C	EB31 0.25 C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**											
EA003: pH (field/fox)														
pH (F)	pH Unit	0.1	<4	----	**8.7**	----	----	**9**	----	----	**9.1**	----	----	**9.5**
pH (Fox)	pH Unit	0.1	<4	----	**6.6**	----	----	**6.5**	----	----	**7.7**	----	----	**8**
pHF - pHFOX	pH Unit	-	2		**2.1**			**2.5**			**1.4**			**1.5**
Reaction Rate	Reaction Unit	1	NV	----	**2**	----	----	**2**	----	----	**3**	----	----	**3**
EA029-A: pH Measurements														
pH KCl (23A)	pH Unit	0.1	<4	**9**	----	**8.6**	**9.1**	----	**7.4**	**9.3**	----	**8.8**	**9.3**	----
pH OX (23B)	pH Unit	0.1	<4	**9**	----	**9**	**8.7**	----	**7.5**	**9.6**	----	**9**	**8.7**	----
pHF - pHFOX	pH Unit	-	2	**0.0**		**-0.4**	**0.4**		**-0.1**	**-0.3**		**-0.2**	**0.6**	
EA029-B: Acidity Trail														
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	<2	----	<2	<2	----	<2	<2	----	<2	<2	----
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	<2	----	<2	<2	----	<2	<2	----	<2	<2	----
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	<2	----	<2	<2	----	<2	<2	----	<2	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	<0.02	----	<0.02	<0.02	----	<0.02	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	<0.02	----	<0.02	<0.02	----	<0.02	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	<0.02	----	<0.02	<0.02	----	<0.02	<0.02	----	<0.02	<0.02	----
EA029-C: Sulfur Trail														
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	**0.05**	----	**0.03**	**0.08**	----	**0.03**	**0.04**	----	**0.07**	**0.08**	----
Peroxide Sulfur (23De)	% S	0.02	NV	**0.1**	----	**0.03**	**0.2**	----	**0.02**	**0.04**	----	**0.13**	**0.08**	----
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	**0.04**	----	<0.02	**0.12**	----	<0.02	<0.02	----	**0.06**	<0.02	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	**28**	----	<10	**78**	----	<10	<10	----	**38**	<10	----
EA029-D: Calcium Values														
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	**0.22**	----	**0.27**	**0.23**	----	**0.12**	**0.18**	----	**0.23**	**0.2**	----
Peroxide Calcium (23Wh)	% Ca	0.02	NV	**3.95**	----	**0.44**	**6.18**	----	**0.16**	**2.53**	----	**2.32**	**3.64**	----
Acid Reacted Calcium (23X)	% Ca	0.02	NV	**3.74**	----	**0.17**	**5.96**	----	**0.04**	**2.35**	----	**2.09**	**3.44**	----
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	**1860**	----	**84**	**2970**	----	**18**	**1170**	----	**1040**	**1720**	----
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	**2.99**	----	**0.13**	**4.77**	----	**0.03**	**1.88**	----	**1.67**	**2.76**	----
EA029-E: Magnesium Values														
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	**0.09**	----	**0.16**	**0.08**	----	**0.13**	**0.04**	----	**0.1**	**0.05**	----
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	**0.31**	----	**0.18**	**0.39**	----	**0.17**	**0.11**	----	**0.29**	**0.17**	----
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	**0.22**	----	**0.02**	**0.31**	----	**0.04**	**0.07**	----	**0.19**	**0.11**	----
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	**181**	----	**18**	**257**	----	**34**	**58**	----	**155**	**94**	----
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	**0.29**	----	**0.03**	**0.41**	----	**0.06**	**0.09**	----	**0.25**	**0.15**	----
EA029-F: Excess Acid Neutralising Capacity														
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	**11**	----	**1.85**	**15.4**	----	**0.4**	**9.78**	----	**6.81**	**15.1**	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	**2200**	----	**370**	**3080**	----	**79**	**1950**	----	**1360**	**3020**	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	**3.52**	----	**0.59**	**4.92**	----	**0.13**	**3.13**	----	**2.18**	**4.84**	----
EA029-H: Acid Base Accounting														
ANC Fineness Factor		0.5	NV	**1.5**	----	**1.5**	**1.5**	----	**1.5**	**1.5**	----	**1.5**	**1.5**	----
Net Acidity (sulfur units)	% S	0.02	0.03	<0.02	----	<0.02	<0.02	----	<0.02	<0.02	----	<0.02	<0.02	----
Net Acidity (acidity units)	mole H+ / t	10	18	<10	----	<10	<10	----	<10	<10	----	<10	<10	----
Liming Rate	kg CaCO3/t	1	NV	<1	----	<1	<1	----	<1	<1	----	<1	<1	----

Appendix H
Summary ASS Results - East Banks DMPA

Matrix: SOIL	**Sample Type:**			**REG**	**REG**	**REG**	**REG**	**REG**	**REG**	**REG**	**REG**	**REG**	**REG**	**REG**
Workgroup: EB1512125	**ALS Sample number:**			EB1513554022	EB1513554023	EB1513554024	EB1513554025	EB1513554026	EB1513554027	EB1513554028	EB1513554029	EB1513554030	EB1513554031	EB1513554032
Project name/number: GPC Geochemical Investigation	**Sample date:**			24/02/2015	24/02/2015	24/02/2015	24/02/2015	24/02/2015	24/02/2015	24/02/2015	24/02/2015	24/02/2015	24/02/2015	24/02/2015
	Client sample ID (1st):			EB31 0.5 C	EB32 0.0 C	EB32 0.25 C	EB32 0.5 C	EB32 0.75 C	EB32 1.0 C	EB33 0.0 C	EB33 0.25 C	EB33 0.5 C	EB33 0.75 C	EB33 1.0 C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**											
EA003: pH (field/fox)														
pH (F)	pH Unit	0.1	<4	----	----	**9**	----	**9**	----	----	**9.1**	----	**8.9**	----
pH (Fox)	pH Unit	0.1	<4	----	----	**7**	----	**6.6**	----	----	**7.1**	----	**7.5**	----
pHF - pHFOX	pH Unit	-	2			**2.0**		**2.4**			**2.0**		**1.4**	
Reaction Rate	Reaction Unit	1	NV	----	----	**3**	----	**2**	----	----	**3**	----	**3**	----
EA029-A: pH Measurements														
pH KCl (23A)	pH Unit	0.1	<4	**8.7**	**9.3**	----	**9.3**	----	**9.3**	**9.2**	----	**9.1**	----	**9.2**
pH OX (23B)	pH Unit	0.1	<4	**8.9**	**8.9**	----	**9.2**	----	**8**	**9.2**	----	**9.1**	----	**8.4**
pHF - pHFOX	pH Unit	-	2	**-0.2**	**0.4**		**0.1**		**1.3**	**0.0**		**0.0**		**0.8**
EA029-B: Acidity Trail														
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	<2	<2	----	<2	----	<2	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	<2	<2	----	<2	----	<2	<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	<2	<2	----	<2	----	<2	<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail														
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	**0.03**	**0.1**	----	**0.11**	----	**0.04**	**0.12**	----	**0.1**	----	**0.05**
Peroxide Sulfur (23De)	% S	0.02	NV	**0.02**	**0.1**	----	**0.11**	----	**0.03**	**0.11**	----	**0.12**	----	**0.06**
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	<10	<10	----	<10	----	<10	<10	----	<10	----	<10
EA029-D: Calcium Values														
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	**0.24**	**0.21**	----	**0.19**	----	**0.15**	**0.2**	----	**0.18**	----	**0.16**
Peroxide Calcium (23Wh)	% Ca	0.02	NV	**0.52**	**5.32**	----	**5.3**	----	**0.34**	**2.19**	----	**0.73**	----	**0.52**
Acid Reacted Calcium (23X)	% Ca	0.02	NV	**0.27**	**5.12**	----	**5.11**	----	**0.19**	**1.99**	----	**0.54**	----	**0.36**
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	**135**	**2550**	----	**2550**	----	**96**	**991**	----	**272**	----	**177**
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	**0.22**	**4.09**	----	**4.09**	----	**0.15**	**1.59**	----	**0.44**	----	**0.28**
EA029-E: Magnesium Values														
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	**0.13**	**0.05**	----	**0.05**	----	**0.04**	**0.05**	----	**0.06**	----	**0.05**
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	**0.15**	**0.23**	----	**0.2**	----	**0.07**	**0.14**	----	**0.11**	----	**0.11**
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	<0.02	**0.18**	----	**0.16**	----	**0.02**	**0.09**	----	**0.05**	----	**0.06**
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	**16**	**152**	----	**128**	----	**21**	**78**	----	**44**	----	**50**
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	**0.02**	**0.24**	----	**0.2**	----	**0.03**	**0.12**	----	**0.07**	----	**0.08**
EA029-F: Excess Acid Neutralising Capacity														
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	**1.75**	**20.4**	----	**24.8**	----	**1.56**	**12.1**	----	**3.18**	----	**1.54**
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	**350**	**4070**	----	**4950**	----	**311**	**2420**	----	**636**	----	**309**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	**0.56**	**6.52**	----	**7.93**	----	**0.5**	**3.87**	----	**1.02**	----	**0.49**
EA029-H: Acid Base Accounting														
ANC Fineness Factor		0.5	NV	**1.5**	**1.5**	----	**1.5**	----	**1.5**	**1.5**	----	**1.5**	----	**1.5**
Net Acidity (sulfur units)	% S	0.02	0.03	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02
Net Acidity (acidity units)	mole H+ / t	10	18	<10	<10	----	<10	----	<10	<10	----	<10	----	<10
Liming Rate	kg CaCO3/t	1	NV	<1	<1	----	<1	----	<1	<1	----	<1	----	<1

Appendix H
Summary ASS Results - East Banks DMPA

Matrix: SOIL	Sample Type:			REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	ALS Sample number:			EB1513554033	EB1513554034	EB1513554035	EB1513554036	EB1513554037	EB1513554038	EB1513554039	EB1513554040	EB1513554041	EB1513554042
Project name/number: GPC Geochemical Investigation	Sample date:			24/02/2015	24/02/2015	24/02/2015	24/02/2015	24/02/2015	24/02/2015	24/02/2015	24/02/2015	24/02/2015	24/02/2015
	Client sample ID (1st):			EB34 0.0 C	EB34 0.25 C	EB34 0.5 C	EB34 0.75 C	EB34 1.0 C	EB36 0.0 C	EB36 0.25 C	EB36 0.5 C	EB36 0.75 C	EB36 1.0 C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**										
EA003: pH (field/fox)													
pH (F)	pH Unit	0.1	<4	----	**8.8**	----	**8.9**	----	----	**9**	----	**9.5**	----
pH (Fox)	pH Unit	0.1	<4	----	**7**	----	**7**	----	----	**7**	----	**7.2**	----
pHF - pHFOX	pH Unit	-	2		**1.8**		**1.9**			**2.0**		**2.3**	
Reaction Rate	Reaction Unit	1	NV	----	**3**	----	**3**	----	----	**3**	----	**3**	----
EA029-A: pH Measurements													
pH KCl (23A)	pH Unit	0.1	<4	**9.3**	----	**9.5**	----	**9.4**	**9.3**	----	**9.3**	----	**8.9**
pH OX (23B)	pH Unit	0.1	<4	**8.5**	----	**8.3**	----	**8.4**	**7.7**	----	**8.2**	----	**8.1**
pHF - pHFOX	pH Unit	-	2	**0.8**		**1.2**		**1.0**	**1.6**		**1.1**		**0.8**
EA029-B: Acidity Trail													
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	<2	----	<2	----	<2	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	<2	----	<2	----	<2	<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	<2	----	<2	----	<2	<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail													
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	**0.11**	----	**0.08**	----	**0.13**	**0.13**	----	**0.15**	----	**0.05**
Peroxide Sulfur (23De)	% S	0.02	NV	**0.2**	----	**0.15**	----	**0.18**	**0.18**	----	**0.25**	----	**0.1**
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	**0.09**	----	**0.06**	----	**0.06**	**0.04**	----	**0.1**	----	**0.05**
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	**57**	----	**41**	----	**35**	**28**	----	**62**	----	**30**
EA029-D: Calcium Values													
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	**0.21**	----	**0.18**	----	**0.2**	**0.22**	----	**0.22**	----	**0.2**
Peroxide Calcium (23Wh)	% Ca	0.02	NV	**9.76**	----	**10.4**	----	**7.16**	**5.22**	----	**6.97**	----	**0.66**
Acid Reacted Calcium (23X)	% Ca	0.02	NV	**9.55**	----	**10.3**	----	**6.96**	**5**	----	**6.75**	----	**0.46**
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	**4770**	----	**5130**	----	**3470**	**2490**	----	**3370**	----	**230**
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	**7.64**	----	**8.22**	----	**5.57**	**4**	----	**5.4**	----	**0.37**
EA029-E: Magnesium Values													
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	**0.06**	----	**0.05**	----	**0.05**	**0.08**	----	**0.05**	----	**0.08**
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	**0.11**	----	**0.31**	----	**0.27**	**0.11**	----	**0.13**	----	**0.14**
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	**0.05**	----	**0.27**	----	**0.22**	**0.03**	----	**0.08**	----	**0.06**
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	**43**	----	**221**	----	**183**	**26**	----	**65**	----	**52**
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	**0.07**	----	**0.35**	----	**0.29**	**0.04**	----	**0.1**	----	**0.08**
EA029-F: Excess Acid Neutralising Capacity													
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	**23.6**	----	**27.4**	----	**17.3**	**12.6**	----	**16**	----	**1.69**
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	**4720**	----	**5470**	----	**3450**	**2520**	----	**3200**	----	**338**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	**7.56**	----	**8.76**	----	**5.52**	**4.04**	----	**5.13**	----	**0.54**
EA029-H: Acid Base Accounting													
ANC Fineness Factor		0.5	NV	**1.5**	----	**1.5**	----	**1.5**	**1.5**	----	**1.5**	----	**1.5**
Net Acidity (sulfur units)	% S	0.02	0.03	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02
Net Acidity (acidity units)	mole H+ / t	10	18	<10	----	<10	----	<10	<10	----	<10	----	<10
Liming Rate	kg CaCO3/t	1	NV	<1	----	<1	----	<1	<1	----	<1	----	<1

Appendix H
Summary ASS Results - East Banks DMPA

Matrix: SOIL	**Sample Type:**			**REG**	**REG**	**REG**	**REG**
Workgroup: EB1512125	**ALS Sample number:**			EB1513554043	EB1513554044	EB1513761052	EB1513761053
Project name/number: GPC Geochemical Investigation	**Sample date:**			24/02/2015	24/02/2015	26/02/2015	26/02/2015
	Client sample ID (1st):			ASS DUPLICATE 34	ASS DUPLICATE 35	EB28 0.0 C	EB28 0.25 C
	Purchase Order:			245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**				
EA003: pH (field/fox)							
pH (F)	pH Unit	0.1	<4	----	----	----	**9.3**
pH (Fox)	pH Unit	0.1	<4	----	----	----	**7.2**
pHF - pHFOX	pH Unit	-	2				**2.1**
Reaction Rate	Reaction Unit	1	NV	----	----	----	**3**
EA029-A: pH Measurements							
pH KCl (23A)	pH Unit	0.1	<4	**9.2**	**8.9**	**9.3**	----
pH OX (23B)	pH Unit	0.1	<4	**8.6**	**8.3**	**8.5**	----
pHF - pHFOX	pH Unit	-	2	**0.6**	**0.6**	**0.8**	
EA029-B: Acidity Trail							
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	<2	<2	<2	----
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	<2	<2	<2	----
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	<2	<2	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	<0.02	<0.02	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	<0.02	<0.02	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	<0.02	<0.02	<0.02	----
EA029-C: Sulfur Trail							
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	**0.12**	**0.06**	**0.06**	----
Peroxide Sulfur (23De)	% S	0.02	NV	**0.27**	**0.1**	**0.11**	----
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	**0.15**	**0.04**	**0.05**	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	**92**	**25**	**33**	----
EA029-D: Calcium Values							
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	**0.19**	**0.22**	**0.2**	----
Peroxide Calcium (23Wh)	% Ca	0.02	NV	**2.1**	**2.06**	**3.66**	----
Acid Reacted Calcium (23X)	% Ca	0.02	NV	**1.91**	**1.84**	**3.46**	----
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	**953**	**916**	**1730**	----
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	**1.53**	**1.47**	**2.77**	----
EA029-E: Magnesium Values							
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	**0.06**	**0.1**	**0.06**	----
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	**0.14**	**0.2**	**0.18**	----
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	**0.08**	**0.1**	**0.11**	----
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	**70**	**79**	**94**	----
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	**0.11**	**0.13**	**0.15**	----
EA029-F: Excess Acid Neutralising Capacity							
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	**4.74**	**5.22**	**9.7**	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	**947**	**1040**	**1940**	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	**1.52**	**1.67**	**3.1**	----
EA029-H: Acid Base Accounting							
ANC Fineness Factor		0.5	NV	**1.5**	**1.5**	**1.5**	----
Net Acidity (sulfur units)	% S	0.02	0.03	<0.02	<0.02	<0.02	----
Net Acidity (acidity units)	mole H+ / t	10	18	<10	<10	<10	----
Liming Rate	kg CaCO3/t	1	NV	<1	<1	<1	----

Appendix H
Summary ASS Results - West Banks Island

Matrix: SOIL	Sample Type:			REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	ALS Sample number:			EB1512125003	EB1512125004	EB1512125005	EB1512125006	EB1512125007	EB1512125008	EB1512125009	EB1512125010	EB1512125011	EB1512125012
Project name/number: GPC Geochemical Investigation	Sample date:			03/02/2015	03/02/2015	03/02/2015	03/02/2015	03/02/2015	03/02/2015	03/02/2015	03/02/2015	03/02/2015	03/02/2015
	Client sample ID (1st):			ASS Duplicate 3C	WB2-1.0C	WB2-0.5C	WB2-0.0C	WB2-0.75C	WB2-0.25C	WB1-1.0C	WB1-0.75C	WB1-0.5C	WB1-0.0C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**										
EA003: pH (field/fox)													
pH (F)	pH Unit	0.1	4	----	----	----	----	**8.4**	**8.6**	----	**9**	----	----
pH (Fox)	pH Unit	0.1	4	----	----	----	----	**7.1**	**9**	----	**7.1**	----	----
pHF - pHFOX	pH Unit	-	2					**1.3**	**-0.4**		**1.9**		
Reaction Rate	Reaction Unit	1	NV	----	----	----	----	**3**	**3**	----	**3**	----	----
EA029-A: pH Measurements													
pH KCl (23A)	pH Unit	0.1	<4	**9.6**	**9.6**	**9.7**	**9.6**	----	----	**9.6**	----	**9.7**	**9.7**
pH OX (23B)	pH Unit	0.1	<4	**9.1**	**9.7**	**10.2**	**10**	----	----	**10.2**	----	**10.2**	**10.7**
pHF - pHFOX	pH Unit	-	2	**0.5**	**-0.1**	**-0.5**	**-0.4**			**-0.6**		**-0.5**	**-1**
EA029-B: Acidity Trail													
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	<2	<2	<2	<2	----	----	<2	----	<2	<2
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	<2	<2	<2	<2	----	----	<2	----	<2	<2
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	<2	<2	<2	<2	----	----	<2	----	<2	<2
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	<0.02	<0.02	<0.02	<0.02	----	----	<0.02	----	<0.02	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	<0.02	<0.02	<0.02	<0.02	----	----	<0.02	----	<0.02	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	<0.02	<0.02	<0.02	<0.02	----	----	<0.02	----	<0.02	<0.02
EA029-C: Sulfur Trail													
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	**0.08**	**0.06**	**0.04**	**0.04**	----	----	**0.06**	----	**0.02**	**0.04**
Peroxide Sulfur (23De)	% S	0.02	NV	**0.08**	**0.07**	**0.04**	**0.04**	----	----	**0.06**	----	**0.04**	**0.05**
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	<0.02	<0.02	<0.02	<0.02	----	----	<0.02	----	<0.02	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	<10	<10	<10	<10	----	----	<10	----	<10	<10
EA029-D: Calcium Values													
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	**0.17**	**0.17**	**0.15**	**0.16**	----	----	**0.16**	----	**0.15**	**0.15**
Peroxide Calcium (23Wh)	% Ca	0.02	NV	**2.52**	**2.18**	**2.46**	**2.78**	----	----	**3.65**	----	**2.07**	**3.79**
Acid Reacted Calcium (23X)	% Ca	0.02	NV	**2.34**	**2.02**	**2.3**	**2.62**	----	----	**3.49**	----	**1.92**	**3.64**
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	**1170**	**1010**	**1150**	**1310**	----	----	**1740**	----	**960**	**1820**
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	**1.88**	**1.61**	**1.84**	**2.1**	----	----	**2.79**	----	**1.54**	**2.91**
EA029-E: Magnesium Values													
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	**0.04**	**0.04**	**0.03**	**0.03**	----	----	**0.03**	----	**0.03**	**0.02**
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	**0.12**	**0.08**	**0.1**	**0.13**	----	----	**0.14**	----	**0.06**	**0.09**
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	**0.08**	**0.05**	**0.07**	**0.09**	----	----	**0.11**	----	**0.04**	**0.06**
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	**69**	**39**	**61**	**76**	----	----	**94**	----	**31**	**53**
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	**0.11**	**0.06**	**0.1**	**0.12**	----	----	**0.15**	----	**0.05**	**0.08**
EA029-F: Excess Acid Neutralising Capacity													
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	**6.13**	**5**	**6.26**	**6.76**	----	----	**9.51**	----	**5**	**9.88**
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	**1220**	**1000**	**1250**	**1350**	----	----	**1900**	----	**1000**	**1980**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	**1.96**	**1.6**	**2**	**2.16**	----	----	**3.04**	----	**1.6**	**3.16**
EA029-H: Acid Base Accounting													
ANC Fineness Factor		0.5	NV	**1.5**	**1.5**	**1.5**	**1.5**	----	----	**1.5**	----	**1.5**	**1.5**
Net Acidity (sulfur units)	% S	0.02	0.03	<0.02	<0.02	<0.02	<0.02	----	----	<0.02	----	<0.02	<0.02
Net Acidity (acidity units)	mole H+ / t	10	18	<10	<10	<10	<10	----	----	<10	----	<10	<10
Liming Rate	kg CaCO3/t	1	NV	<1	<1	<1	<1	----	----	<1	----	<1	<1

Appendix H
Summary ASS Results - West Banks Island

Matrix: SOIL	Sample Type:			REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	ALS Sample number:			EB1512125013	EB1512224001	EB1512224002	EB1512224003	EB1512224004	EB1512224005	EB1512224006	EB1512224007	EB1512224008	EB1512224009
Project name/number: GPC Geochemical Investigation	Sample date:			03/02/2015	04/02/2015	04/02/2015	04/02/2015	04/02/2015	04/02/2015	04/02/2015	04/02/2015	04/02/2015	04/02/2015
	Client sample ID (1st):			WB1-0.25C	WB3 0.75C	WB3 0.5C	WB4 0.0 C	WB4 0.25C	WB4 0.5C	WB4 0.75C	WB4 1.0C	WB5 0.0C	WB5 0.25C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**										
EA003: pH (field/fox)													
pH (F)	pH Unit	0.1	4	**9**	----	**8.6**	----	**8.9**	----	**8.8**	----	----	**8.8**
pH (Fox)	pH Unit	0.1	4	**6.9**	----	**8.9**	----	**7.2**	----	**8.9**	----	----	**9**
pHF - pHFOX	pH Unit	-	2	**2.1**		**-0.3**		**1.7**		**-0.1**			**-0.2**
Reaction Rate	Reaction Unit	1	NV	**3**	----	**2**	----	**2**	----	**2**	----	----	**2**
EA029-A: pH Measurements													
pH KCl (23A)	pH Unit	0.1	<4	----	**9.7**	----	**9.6**	----	**9.6**	----	**9.6**	**9.6**	----
pH OX (23B)	pH Unit	0.1	<4	----	**8.5**	----	**8.2**	----	**8.4**	----	**8**	**8.9**	----
pHF - pHFOX	pH Unit	-	2		**1.2**		**1.4**		**1.2**		**1.6**	**0.7**	
EA029-B: Acidity Trail													
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	----	<2	----	<2	----	<2	----	<2	<2	----
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	----	<2	----	<2	----	<2	----	<2	<2	----
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	----	<2	----	<2	----	<2	----	<2	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	----	<0.02	----	<0.02	----	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	----	<0.02	----	<0.02	----	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	----	<0.02	----	<0.02	----	<0.02	----	<0.02	<0.02	----
EA029-C: Sulfur Trail													
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	----	**0.04**	----	**0.06**	----	**0.04**	----	**0.05**	**0.04**	----
Peroxide Sulfur (23De)	% S	0.02	NV	----	**0.04**	----	**0.07**	----	**0.04**	----	**0.06**	**0.06**	----
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	----	<0.02	----	<0.02	----	<0.02	----	<0.02	<0.02	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	----	<10	----	**11**	----	<10	----	<10	<10	----
EA029-D: Calcium Values													
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	----	**0.15**	----	**0.16**	----	**0.16**	----	**0.16**	**0.17**	----
Peroxide Calcium (23Wh)	% Ca	0.02	NV	----	**2.41**	----	**2.76**	----	**3.16**	----	**3.57**	**3.49**	----
Acid Reacted Calcium (23X)	% Ca	0.02	NV	----	**2.26**	----	**2.59**	----	**3**	----	**3.41**	**3.32**	----
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	----	**1130**	----	**1290**	----	**1500**	----	**1700**	**1660**	----
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	----	**1.81**	----	**2.08**	----	**2.4**	----	**2.73**	**2.66**	----
EA029-E: Magnesium Values													
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	----	**0.04**	----	**0.03**	----	**0.02**	----	**0.03**	**0.04**	----
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	----	**0.13**	----	**0.1**	----	**0.06**	----	**0.16**	**0.16**	----
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	----	**0.09**	----	**0.07**	----	**0.04**	----	**0.14**	**0.12**	----
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	----	**76**	----	**58**	----	**32**	----	**113**	**104**	----
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	----	**0.12**	----	**0.09**	----	**0.05**	----	**0.18**	**0.16**	----
EA029-F: Excess Acid Neutralising Capacity													
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	----	**7.01**	----	**6.19**	----	**7.63**	----	**9.04**	**8.13**	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	----	**1400**	----	**1240**	----	**1520**	----	**1800**	**1620**	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	----	**2.24**	----	**1.98**	----	**2.44**	----	**2.89**	**2.6**	----
EA029-H: Acid Base Accounting													
ANC Fineness Factor		0.5	NV	----	**1.5**	----	**1.5**	----	**1.5**	----	**1.5**	**1.5**	----
Net Acidity (sulfur units)	% S	0.02	0.03	----	<0.02	----	<0.02	----	<0.02	----	<0.02	<0.02	----
Net Acidity (acidity units)	mole H+ / t	10	18	----	<10	----	<10	----	<10	----	<10	<10	----
Liming Rate	kg CaCO3/t	1	NV	----	<1	----	<1	----	<1	----	<1	<1	----

Appendix H
Summary ASS Results - West Banks Island

Matrix: SOIL	Sample Type:			REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	ALS Sample number:			EB1512224010	EB1512224011	EB1512224012	EB1512224013	EB1512224014	EB1512224015	EB1512224016	EB1512224017	EB1512224018	EB1512224019
Project name/number: GPC Geochemical Investigation	Sample date:			04/02/2015	04/02/2015	04/02/2015	04/02/2015	04/02/2015	04/02/2015	04/02/2015	04/02/2015	04/02/2015	04/02/2015
	Client sample ID (1st):			WB5 0.5C	WB5 0.75C	WB5 1.0C	WB8 0.0C	WB8 0.25C	WB8 0.5C	WB8 0.75C	WB8 1.0C	WB9 0.0C	WB9 0.25 C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**										
EA003: pH (field/fox)													
pH (F)	pH Unit	0.1	4	----	**8.9**	----	----	**8.9**	----	**8.8**	----	----	**8.8**
pH (Fox)	pH Unit	0.1	4	----	**7.1**	----	----	**8**	----	**8.4**	----	----	**9**
pHF - pHFOX	pH Unit	-	2		**1.8**			**0.9**		**0.4**			**-0.2**
Reaction Rate	Reaction Unit	1	NV	----	**3**	----	----	**3**	----	**3**	----	----	**2**
EA029-A: pH Measurements													
pH KCl (23A)	pH Unit	0.1	<4	**9.4**	----	**9**	**9**	----	**9.1**	----	**9.4**	**9.4**	----
pH OX (23B)	pH Unit	0.1	<4	**7.7**	----	**7.3**	**8**	----	**7.7**	----	**7.8**	**8.5**	----
pHF - pHFOX	pH Unit	-	2	**1.7**		**1.7**	**1**		**1.4**		**1.6**	**0.9**	
EA029-B: Acidity Trail													
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	<2	----	<2	<2	----	<2	----	<2	<2	----
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	<2	----	<2	<2	----	<2	----	<2	<2	----
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	<2	----	<2	<2	----	<2	----	<2	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----
EA029-C: Sulfur Trail													
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	**0.11**	----	**0.14**	**0.12**	----	**0.12**	----	**0.06**	**0.08**	----
Peroxide Sulfur (23De)	% S	0.02	NV	**0.23**	----	**0.59**	**0.43**	----	**0.41**	----	**0.1**	**0.11**	----
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	**0.12**	----	**0.45**	**0.32**	----	**0.28**	----	**0.04**	**0.04**	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	**77**	----	**279**	**197**	----	**178**	----	**26**	**24**	----
EA029-D: Calcium Values													
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	**0.2**	----	**0.23**	**0.25**	----	**0.19**	----	**0.17**	**0.2**	----
Peroxide Calcium (23Wh)	% Ca	0.02	NV	**4.3**	----	**2.27**	**2.48**	----	**2.01**	----	**1.8**	**2.91**	----
Acid Reacted Calcium (23X)	% Ca	0.02	NV	**4.09**	----	**2.04**	**2.22**	----	**1.81**	----	**1.63**	**2.71**	----
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	**2040**	----	**1020**	**1110**	----	**905**	----	**814**	**1350**	----
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	**3.27**	----	**1.63**	**1.78**	----	**1.45**	----	**1.3**	**2.17**	----
EA029-E: Magnesium Values													
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	**0.05**	----	**0.08**	**0.11**	----	**0.08**	----	**0.04**	**0.05**	----
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	**0.19**	----	**0.22**	**0.33**	----	**0.25**	----	**0.13**	**0.22**	----
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	**0.14**	----	**0.14**	**0.22**	----	**0.17**	----	**0.09**	**0.17**	----
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	**119**	----	**116**	**181**	----	**143**	----	**72**	**138**	----
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	**0.19**	----	**0.19**	**0.29**	----	**0.23**	----	**0.12**	**0.22**	----
EA029-F: Excess Acid Neutralising Capacity													
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	**10.3**	----	**4.37**	**5.63**	----	**4.67**	----	**4.38**	**8.26**	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	**2050**	----	**872**	**1120**	----	**933**	----	**875**	**1650**	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	**3.28**	----	**1.4**	**1.8**	----	**1.49**	----	**1.4**	**2.64**	----
EA029-H: Acid Base Accounting													
ANC Fineness Factor		0.5	NV	**1.5**	----	**1.5**	**1.5**	----	**1.5**	----	**1.5**	**1.5**	----
Net Acidity (sulfur units)	% S	0.02	0.03	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----
Net Acidity (acidity units)	mole H+ / t	10	18	<10	----	<10	<10	----	<10	----	<10	<10	----
Liming Rate	kg CaCO3/t	1	NV	<1	----	<1	<1	----	<1	----	<1	<1	----

Appendix H
Summary ASS Results - West Banks Island

Matrix: SOIL	Sample Type:			REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	ALS Sample number:			EB1512224020	EB1512224021	EB1512224022	EB1512224023	EB1512224024	EB1512224025	EB1512224026	EB1512224027	EB1512224028	EB1512224029
Project name/number: GPC Geochemical Investigation	Sample date:			04/02/2015	04/02/2015	04/02/2015	04/02/2015	04/02/2015	04/02/2015	04/02/2015	04/02/2015	04/02/2015	04/02/2015
	Client sample ID (1st):			WB9 0.5C	WB9 0.75C	WB9 1.0C	WB12 0.0 C	WB12 0.25 C	WB12 0.5 C	WB12 0.75 C	WB12 1.0C	WB13 0.0 C	WB13 0.25 C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**										
EA003: pH (field/fox)													
pH (F)	pH Unit	0.1	4	----	**9.1**	----	----	**8.5**	----	**8.7**	----	----	**8.7**
pH (Fox)	pH Unit	0.1	4	----	**7**	----	----	**8.3**	----	**8.6**	----	----	**8.9**
pHF - pHFOX	pH Unit	-	2		**2.1**			**0.2**		**0.1**			**-0.2**
Reaction Rate	Reaction Unit	1	NV	----	**2**	----	----	**2**	----	**2**	----	----	**2**
EA029-A: pH Measurements													
pH KCl (23A)	pH Unit	0.1	<4	**9.6**	----	**9.3**	**9.6**	----	**9.5**	----	**9.5**	**9.6**	----
pH OX (23B)	pH Unit	0.1	<4	**8.3**	----	**8.1**	**8.6**	----	**8.2**	----	**8.6**	**8.5**	----
pHF - pHFOX	pH Unit	-	2	**1.3**		**1.2**	**1**		**1.3**		**0.9**	**1.1**	
EA029-B: Acidity Trail													
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	<2	----	<2	<2	----	<2	----	<2	<2	----
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	<2	----	<2	<2	----	<2	----	<2	<2	----
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	<2	----	<2	<2	----	<2	----	<2	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----
EA029-C: Sulfur Trail													
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	**0.04**	----	<0.02	**0.04**	----	**0.05**	----	**0.05**	**0.04**	----
Peroxide Sulfur (23De)	% S	0.02	NV	**0.05**	----	**0.02**	**0.04**	----	**0.05**	----	**0.05**	**0.05**	----
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	<0.02	----	**0.02**	<0.02	----	<0.02	----	<0.02	<0.02	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	<10	----	**15**	<10	----	<10	----	<10	<10	----
EA029-D: Calcium Values													
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	**0.16**	----	**0.12**	**0.16**	----	**0.16**	----	**0.19**	**0.16**	----
Peroxide Calcium (23Wh)	% Ca	0.02	NV	**2.35**	----	**0.26**	**1.57**	----	**1.31**	----	**1.67**	**1.72**	----
Acid Reacted Calcium (23X)	% Ca	0.02	NV	**2.19**	----	**0.14**	**1.41**	----	**1.15**	----	**1.48**	**1.57**	----
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	**1100**	----	**69**	**704**	----	**574**	----	**740**	**782**	----
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	**1.76**	----	**0.11**	**1.13**	----	**0.92**	----	**1.19**	**1.25**	----
EA029-E: Magnesium Values													
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	**0.04**	----	**0.04**	**0.03**	----	**0.03**	----	**0.04**	**0.04**	----
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	**0.14**	----	**0.08**	**0.15**	----	**0.07**	----	**0.18**	**0.1**	----
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	**0.11**	----	**0.05**	**0.12**	----	**0.04**	----	**0.14**	**0.06**	----
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	**88**	----	**38**	**96**	----	**30**	----	**114**	**54**	----
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	**0.14**	----	**0.06**	**0.15**	----	**0.05**	----	**0.18**	**0.08**	----
EA029-F: Excess Acid Neutralising Capacity													
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	**5.57**	----	**0.8**	**4.79**	----	**3.57**	----	**4.79**	**3.88**	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	**1110**	----	**160**	**956**	----	**712**	----	**957**	**775**	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	**1.78**	----	**0.26**	**1.53**	----	**1.14**	----	**1.53**	**1.24**	----
EA029-H: Acid Base Accounting													
ANC Fineness Factor		0.5	NV	**1.5**	----	**1.5**	**1.5**	----	**1.5**	----	**1.5**	**1.5**	----
Net Acidity (sulfur units)	% S	0.02	0.03	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----
Net Acidity (acidity units)	mole H+ / t	10	18	<10	----	<10	<10	----	<10	----	<10	<10	----
Liming Rate	kg CaCO3/t	1	NV	<1	----	<1	<1	----	<1	----	<1	<1	----

Appendix H
Summary ASS Results - West Banks Island

Matrix: SOIL	Sample Type:			REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	ALS Sample number:			EB1512224030	EB1512224031	EB1512224032	EB1512224033	EB1512224034	EB1512224035	EB1512224036	EB1512224037	EB1512224038	EB1512224039
Project name/number: GPC Geochemical Investigation	Sample date:			04/02/2015	04/02/2015	04/02/2015	04/02/2015	04/02/2015	04/02/2015	04/02/2015	04/02/2015	04/02/2015	04/02/2015
	Client sample ID (1st):			WB13 0.5 C	WB13 0.75 C	WB13 1.0C	WB16 0.0 C	WB16 0.25 C	WB16 0.5 C	WB16 0.75 C	WB16 1.0C	WB18 0.0 C	WB18 0.25 C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**										
EA003: pH (field/fox)													
pH (F)	pH Unit	0.1	4	----	**8.7**	----	----	**8.6**	----	**8.6**	----	----	**8.7**
pH (Fox)	pH Unit	0.1	4	----	**8.9**	----	----	**8.4**	----	**7.8**	----	----	**9**
pHF - pHFOX	pH Unit	-	2		**-0.2**			**0.2**		**0.8**			**-0.3**
Reaction Rate	Reaction Unit	1	NV	----	**2**	----	----	**2**	----	**2**	----	----	**2**
EA029-A: pH Measurements													
pH KCl (23A)	pH Unit	0.1	<4	**9.6**	----	**9.6**	**9.6**	----	**9.6**	----	**9.6**	**9.6**	----
pH OX (23B)	pH Unit	0.1	<4	**8.6**	----	**8.4**	**8.6**	----	**8.8**	----	**8.6**	**8.9**	----
pHF - pHFOX	pH Unit	-	2	**1**		**1.2**	**1**		**0.8**		**1**	**0.7**	
EA029-B: Acidity Trail													
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	<2	----	<2	<2	----	<2	----	<2	<2	----
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	<2	----	<2	<2	----	<2	----	<2	<2	----
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	<2	----	<2	<2	----	<2	----	<2	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----
EA029-C: Sulfur Trail													
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	**0.04**	----	**0.04**	**0.05**	----	**0.05**	----	**0.05**	**0.04**	----
Peroxide Sulfur (23De)	% S	0.02	NV	**0.04**	----	**0.04**	**0.05**	----	**0.05**	----	**0.05**	**0.04**	----
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	<10	----	<10	<10	----	<10	----	<10	<10	----
EA029-D: Calcium Values													
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	**0.16**	----	**0.15**	**0.18**	----	**0.16**	----	**0.17**	**0.16**	----
Peroxide Calcium (23Wh)	% Ca	0.02	NV	**1.52**	----	**1.63**	**2.08**	----	**1.92**	----	**1.92**	**1.86**	----
Acid Reacted Calcium (23X)	% Ca	0.02	NV	**1.37**	----	**1.48**	**1.89**	----	**1.76**	----	**1.75**	**1.69**	----
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	**682**	----	**741**	**946**	----	**878**	----	**872**	**844**	----
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	**1.09**	----	**1.19**	**1.52**	----	**1.41**	----	**1.4**	**1.35**	----
EA029-E: Magnesium Values													
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	**0.03**	----	**0.03**	**0.04**	----	**0.03**	----	**0.03**	**0.04**	----
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	**0.12**	----	**0.12**	**0.18**	----	**0.15**	----	**0.13**	**0.13**	----
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	**0.08**	----	**0.09**	**0.14**	----	**0.12**	----	**0.09**	**0.09**	----
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	**70**	----	**76**	**116**	----	**100**	----	**76**	**77**	----
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	**0.11**	----	**0.12**	**0.19**	----	**0.16**	----	**0.12**	**0.12**	----
EA029-F: Excess Acid Neutralising Capacity													
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	**3.75**	----	**3.88**	**5.42**	----	**5.07**	----	**5.19**	**6.13**	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	**750**	----	**775**	**1080**	----	**1010**	----	**1040**	**1220**	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	**1.2**	----	**1.24**	**1.73**	----	**1.62**	----	**1.66**	**1.96**	----
EA029-H: Acid Base Accounting													
ANC Fineness Factor		0.5	NV	**1.5**	----	**1.5**	**1.5**	----	**1.5**	----	**1.5**	**1.5**	----
Net Acidity (sulfur units)	% S	0.02	0.03	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----
Net Acidity (acidity units)	mole H+ / t	10	18	<10	----	<10	<10	----	<10	----	<10	<10	----
Liming Rate	kg CaCO3/t	1	NV	<1	----	<1	<1	----	<1	----	<1	<1	----

Appendix H
Summary ASS Results - West Banks Island

Matrix: SOIL	Sample Type:			REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	ALS Sample number:			EB1512224040	EB1512224041	EB1512224042	EB1512224043	EB1512224044	EB1512224045	EB1512444001	EB1512444002	EB1512444003	EB1512444004
Project name/number: GPC Geochemical Investigation	Sample date:			04/02/2015	04/02/2015	04/02/2015	04/02/2015	04/02/2015	04/02/2015	09/02/2015	09/02/2015	09/02/2015	09/02/2015
	Client sample ID (1st):			WB18 0.5 C	WB18 0.75 C	WB18 1.0C	ASS DUPLICATE 4	ASS DUPLICATE 5	ASS DUPLICATE 6	WB6 0.0 C	WB6 0.25 C	WB6 0.5 C	WB6 0.75 C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**										
EA003: pH (field/fox)													
pH (F)	pH Unit	0.1	4	----	**8.5**	----	----	----	----	----	**8.1**	----	**8.6**
pH (Fox)	pH Unit	0.1	4	----	**9**	----	----	----	----	----	**6.6**	----	**6.5**
pHF - pHFOX	pH Unit	-	2		**-0.5**						**1.5**		**2.1**
Reaction Rate	Reaction Unit	1	NV	----	**4**	----	----	----	----	----	**2**	----	**2**
EA029-A: pH Measurements													
pH KCl (23A)	pH Unit	0.1	<4	**9.6**	----	**9.6**	**9.6**	**9.5**	**9.6**	**9.4**	----	**9.6**	----
pH OX (23B)	pH Unit	0.1	<4	**8.7**	----	**9**	**8.6**	**8.7**	**9.6**	----	**10**	----	
pHF - pHFOX	pH Unit	-	2	**0.9**		**0.6**	**0.6**	**0.9**	**0.9**	**-0.2**		**-0.4**	
EA029-B: Acidity Trail													
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	<2	----	<2	<2	<2	<2	<2	----	<2	----
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	<2	----	<2	<2	<2	<2	<2	----	<2	----
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	<2	----	<2	<2	<2	<2	<2	----	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	<0.02	----	<0.02	<0.02	<0.02	<0.02	<0.02	----	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	<0.02	----	<0.02	<0.02	<0.02	<0.02	<0.02	----	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	<0.02	----	<0.02	<0.02	<0.02	<0.02	<0.02	----	<0.02	----
EA029-C: Sulfur Trail													
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	**0.04**	----	**0.06**	**0.06**	**0.04**	**0.03**	**0.04**	----	**0.04**	----
Peroxide Sulfur (23De)	% S	0.02	NV	**0.04**	----	**0.07**	**0.07**	**0.08**	**0.04**	**0.05**	----	**0.05**	----
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	<0.02	----	<0.02	<0.02	**0.03**	<0.02	<0.02	----	<0.02	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	<10	----	<10	**10**	**20**	<10	<10	----	<10	----
EA029-D: Calcium Values													
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	**0.15**	----	**0.18**	**0.16**	**0.17**	**0.14**	**0.2**	----	**0.16**	----
Peroxide Calcium (23Wh)	% Ca	0.02	NV	**1.36**	----	**2.77**	**4.58**	**2.68**	**1.53**	**2.26**	----	**2.46**	----
Acid Reacted Calcium (23X)	% Ca	0.02	NV	**1.21**	----	**2.59**	**4.42**	**2.51**	**1.39**	**2.06**	----	**2.3**	----
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	**602**	----	**1290**	**2210**	**1250**	**692**	**1030**	----	**1150**	----
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	**0.96**	----	**2.07**	**3.54**	**2.01**	**1.11**	**1.65**	----	**1.84**	----
EA029-E: Magnesium Values													
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	**0.03**	----	**0.03**	**0.02**	**0.03**	**0.03**	**0.04**	----	**0.03**	----
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	**0.12**	----	**0.2**	**0.14**	**0.19**	**0.11**	**0.12**	----	**0.11**	----
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	**0.09**	----	**0.16**	**0.11**	**0.16**	**0.08**	**0.07**	----	**0.08**	----
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	**76**	----	**136**	**92**	**131**	**71**	**60**	----	**67**	----
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	**0.12**	----	**0.22**	**0.15**	**0.21**	**0.11**	**0.1**	----	**0.11**	----
EA029-F: Excess Acid Neutralising Capacity													
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	**4.1**	----	**7.8**	**14.7**	**8.06**	**4**	**5.57**	----	**5.26**	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	**819**	----	**1560**	**2940**	**1610**	**800**	**1110**	----	**1050**	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	**1.31**	----	**2.5**	**4.7**	**2.58**	**1.28**	**1.78**	----	**1.68**	----
EA029-H: Acid Base Accounting													
ANC Fineness Factor		0.5	NV	**1.5**	----	**1.5**	**1.5**	**1.5**	**1.5**	**1.5**	----	**1.5**	----
Net Acidity (sulfur units)	% S	0.02	0.03	<0.02	----	<0.02	<0.02	<0.02	<0.02	<0.02	----	<0.02	----
Net Acidity (acidity units)	mole H+ / t	10	18	<10	----	<10	<10	<10	<10	<10	----	<10	----
Liming Rate	kg CaCO3/t	1	NV	<1	----	<1	<1	<1	<1	<1	----	<1	----

Appendix H
Summary ASS Results - West Banks Island

Matrix: SOIL	Sample Type:			REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	ALS Sample number:			EB1512444005	EB1512444006	EB1512444007	EB1512444008	EB1512444009	EB1512444010	EB1512444011	EB1512444012	EB1512444013	EB1512444014
Project name/number: GPC Geochemical Investigation	Sample date:			09/02/2015	09/02/2015	09/02/2015	09/02/2015	09/02/2015	09/02/2015	09/02/2015	09/02/2015	09/02/2015	09/02/2015
	Client sample ID (1st):			WB6 1.0C	WB7 0.0 C	WB7 0.25 C	WB7 0.5 C	WB7 0.75 C	WB7 1.0C	WB10 0.0C	WB10 0.25C	WB10 0.5C	WB10 0.75C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**										
EA003: pH (field/fox)													
pH (F)	pH Unit	0.1	4	----	----	**8.2**	----	**8.3**	----	----	**8.2**	----	**8.4**
pH (Fox)	pH Unit	0.1	4	----	----	**6.6**	----	**6.6**	----	----	**6.6**	----	**6.7**
pHF - pHFOX	pH Unit	-	2			**1.6**		**1.7**			**1.6**		**1.7**
Reaction Rate	Reaction Unit	1	NV	----	----	**2**	----	**2**	----	----	**2**	----	**2**
EA029-A: pH Measurements													
pH KCl (23A)	pH Unit	0.1	<4	**9.6**	**9.7**	----	**8.6**	----	**9.5**	**9.6**	----	**9.6**	----
pH OX (23B)	pH Unit	0.1	<4	**9**	**9.9**	----	**7.7**	----	**9.6**	**9.2**	----	**9**	----
pHF - pHFOX	pH Unit	-	2	**0.6**	**-0.2**		**0.9**		**-0.1**	**0.4**		**0.6**	
EA029-B: Acidity Trail													
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	<2	<2	----	<2	----	<2	<2	----	<2	----
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	<2	<2	----	<2	----	<2	<2	----	<2	----
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	<2	<2	----	<2	----	<2	<2	----	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----
EA029-C: Sulfur Trail													
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	**0.1**	**0.04**	----	**0.11**	----	**0.06**	**0.05**	----	**0.1**	----
Peroxide Sulfur (23De)	% S	0.02	NV	**0.1**	**0.05**	----	**0.43**	----	**0.08**	**0.05**	----	**0.08**	----
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	<0.02	<0.02	----	**0.32**	----	<0.02	<0.02	----	<0.02	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	<10	<10	----	**200**	----	<10	<10	----	<10	----
EA029-D: Calcium Values													
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	**0.2**	**0.16**	----	**0.38**	----	**0.17**	**0.17**	----	**0.18**	----
Peroxide Calcium (23Wh)	% Ca	0.02	NV	**4.07**	**2.3**	----	**0.88**	----	**2.25**	**2.23**	----	**2.56**	----
Acid Reacted Calcium (23X)	% Ca	0.02	NV	**3.88**	**2.14**	----	**0.5**	----	**2.08**	**2.05**	----	**2.38**	----
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	**1930**	**1070**	----	**252**	----	**1040**	**1020**	----	**1190**	----
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	**3.1**	**1.71**	----	**0.4**	----	**1.66**	**1.64**	----	**1.9**	----
EA029-E: Magnesium Values													
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	**0.05**	**0.03**	----	<0.02	----	**0.04**	**0.04**	----	**0.04**	----
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	**0.15**	**0.16**	----	**0.05**	----	**0.15**	**0.2**	----	**0.16**	----
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	**0.09**	**0.13**	----	**0.05**	----	**0.11**	**0.16**	----	**0.12**	----
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	**76**	**106**	----	**40**	----	**90**	**136**	----	**95**	----
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	**0.12**	**0.17**	----	**0.06**	----	**0.14**	**0.22**	----	**0.15**	----
EA029-F: Excess Acid Neutralising Capacity													
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	**9.76**	**5.94**	----	**0.72**	----	**5.32**	**6.36**	----	**6.51**	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	**1950**	**1190**	----	**145**	----	**1060**	**1270**	----	**1300**	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	**3.12**	**1.9**	----	**0.23**	----	**1.7**	**2.03**	----	**2.08**	----
EA029-H: Acid Base Accounting													
ANC Fineness Factor		0.5	NV	**1.5**	**1.5**	----	**1.5**	----	**1.5**	**1.5**	----	**1.5**	----
Net Acidity (sulfur units)	% S	0.02	0.03	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----
Net Acidity (acidity units)	mole H+ / t	10	18	<10	<10	----	<10	----	<10	<10	----	<10	----
Liming Rate	kg CaCO3/t	1	NV	<1	<1	----	<1	----	<1	<1	----	<1	----

Appendix H
Summary ASS Results - West Banks Island

Matrix: SOIL	Sample Type:			REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	ALS Sample number:			EB1512444015	EB1512444016	EB1512444017	EB1512444018	EB1512444019	EB1512444020	EB1512444021	EB1512444022	EB1512444023	EB1512444024
Project name/number: GPC Geochemical Investigation	Sample date:			09/02/2015	09/02/2015	09/02/2015	09/02/2015	09/02/2015	09/02/2015	09/02/2015	09/02/2015	09/02/2015	09/02/2015
	Client sample ID (1st):			WB10 1.0C	WB11 0.0 C	WB11 0.25C	WB11 0.5C	WB11 0.75C	WB11 1.0 C	WB14 0.0C	WB14 0.25C	WB14 0.5C	WB14 0.75C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**										
EA003: pH (field/fox)													
pH (F)	pH Unit	0.1	4	----	----	**8.5**	----	**8.4**	----	----	**8.4**	----	**8.2**
pH (Fox)	pH Unit	0.1	4	----	----	**6.2**	----	**6.6**	----	----	**6.7**	----	**6.6**
pHF - pHFOX	pH Unit	-	2			**2.3**		**1.8**			**1.7**		**1.6**
Reaction Rate	Reaction Unit	1	NV	----	----	**3**	----	**2**	----	----	**2**	----	**2**
EA029-A: pH Measurements													
pH KCl (23A)	pH Unit	0.1	<4	**9.4**	**9.6**	----	**9.2**	----	**9.3**	**9.6**	----	**9.5**	----
pH OX (23B)	pH Unit	0.1	<4	**8.8**	**9.6**	----	**8.8**	----	**9**	**9.5**	----	**9**	----
pHF - pHFOX	pH Unit	-	2	**0.6**	**0**		**0.4**		**0.3**	**0.1**		**0.5**	
EA029-B: Acidity Trail													
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	<2	<2	----	<2	----	<2	<2	----	<2	----
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	<2	<2	----	<2	----	<2	<2	----	<2	----
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	<2	<2	----	<2	----	<2	<2	----	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----
EA029-C: Sulfur Trail													
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	**0.16**	**0.06**	----	**0.14**	----	**0.14**	**0.05**	----	**0.07**	----
Peroxide Sulfur (23De)	% S	0.02	NV	**0.13**	**0.06**	----	**0.16**	----	**0.16**	**0.07**	----	**0.07**	----
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	<0.02	<0.02	----	**0.02**	----	**0.02**	**0.02**	----	<0.02	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	<10	<10	----	**15**	----	**14**	**14**	----	<10	----
EA029-D: Calcium Values													
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	**0.2**	**0.16**	----	**0.17**	----	**0.2**	**0.17**	----	**0.18**	----
Peroxide Calcium (23Wh)	% Ca	0.02	NV	**2.42**	**2.06**	----	**1.3**	----	**3.23**	**3.02**	----	**3.03**	----
Acid Reacted Calcium (23X)	% Ca	0.02	NV	**2.23**	**1.9**	----	**1.14**	----	**3.03**	**2.85**	----	**2.85**	----
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	**1110**	**948**	----	**567**	----	**1510**	**1420**	----	**1420**	----
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	**1.78**	**1.52**	----	**0.91**	----	**2.42**	**2.28**	----	**2.28**	----
EA029-E: Magnesium Values													
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	**0.05**	**0.04**	----	**0.06**	----	**0.04**	**0.04**	----	**0.04**	----
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	**0.19**	**0.15**	----	**0.19**	----	**0.13**	**0.21**	----	**0.19**	----
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	**0.14**	**0.11**	----	**0.13**	----	**0.09**	**0.18**	----	**0.15**	----
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	**113**	**90**	----	**111**	----	**73**	**146**	----	**123**	----
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	**0.18**	**0.14**	----	**0.18**	----	**0.12**	**0.23**	----	**0.2**	----
EA029-F: Excess Acid Neutralising Capacity													
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	**6.63**	**5**	----	**3.71**	----	**7.57**	**7.74**	----	**8.13**	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	**1320**	**1000**	----	**742**	----	**1510**	**1550**	----	**1620**	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	**2.12**	**1.6**	----	**1.19**	----	**2.42**	**2.48**	----	**2.6**	----
EA029-H: Acid Base Accounting													
ANC Fineness Factor		0.5	NV	**1.5**	**1.5**	----	**1.5**	----	**1.5**	**1.5**	----	**1.5**	----
Net Acidity (sulfur units)	% S	0.02	0.03	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----
Net Acidity (acidity units)	mole H+ / t	10	18	<10	<10	----	<10	----	<10	<10	----	<10	----
Liming Rate	kg CaCO3/t	1	NV	<1	<1	----	<1	----	<1	<1	----	<1	----

Appendix H
Summary ASS Results - West Banks Island

Matrix: SOIL	Sample Type:			REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	ALS Sample number:			EB1512444025	EB1512444026	EB1512444027	EB1512444028	EB1512444029	EB1512444030	EB1512444032	EB1512444033	EB1512444034
Project name/number: GPC Geochemical Investigation	Sample date:			09/02/2015	09/02/2015	09/02/2015	09/02/2015	09/02/2015	09/02/2015	09/02/2015	09/02/2015	09/02/2015
	Client sample ID (1st):			WB14 1.0C	WB15 0.0 C	WB15 0.25 C	WB15 0.5 C	WB15 0.75 C	WB15 1.0C	ASS DUPLICATE 13	ASS DUPLICATE 14	ASS DUPLICATE 15
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**									
EA003: pH (field/fox)												
pH (F)	pH Unit	0.1	4	----	----	**8.3**	----	**8.4**	----	----	----	----
pH (Fox)	pH Unit	0.1	4	----	----	**6.7**	----	**6.9**	----	----	----	----
pHF - pHFOX	pH Unit	-	2			**1.6**		**1.5**				
Reaction Rate	Reaction Unit	1	NV	----	----	**2**	----	**2**	----	----	----	----
EA029-A: pH Measurements												
pH KCl (23A)	pH Unit	0.1	<4	**9.5**	**9.6**	----	**9.5**	----	**9.5**	**9.6**	**9.5**	**9.7**
pH OX (23B)	pH Unit	0.1	<4	**9.1**	**9.2**	----	**8.9**	----	**8.8**	**8.9**	**9.1**	**9.6**
pHF - pHFOX	pH Unit	-	2	**0.4**	**0.4**		**0.6**		**0.7**	**0.7**	**0.4**	**0.1**
EA029-B: Acidity Trail												
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	<2	<2	----	<2	----	<2	<2	<2	<2
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	<2	<2	----	<2	----	<2	<2	<2	<2
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	<2	<2	----	<2	----	<2	<2	<2	<2
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	<0.02	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	<0.02	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	<0.02	<0.02
EA029-C: Sulfur Trail												
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	**0.06**	**0.04**	----	**0.1**	----	**0.1**	**0.05**	**0.1**	**0.04**
Peroxide Sulfur (23De)	% S	0.02	NV	**0.06**	**0.05**	----	**0.1**	----	**0.1**	**0.07**	**0.1**	**0.05**
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	<0.02	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	<10	<10	----	<10	----	<10	**12**	<10	<10
EA029-D: Calcium Values												
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	**0.17**	**0.16**	----	**0.18**	----	**0.18**	**0.16**	**0.18**	**0.15**
Peroxide Calcium (23Wh)	% Ca	0.02	NV	**2.36**	**2.13**	----	**2.46**	----	**2.63**	**2.46**	**2.69**	**2.69**
Acid Reacted Calcium (23X)	% Ca	0.02	NV	**2.19**	**1.97**	----	**2.28**	----	**2.46**	**2.3**	**2.51**	**2.54**
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	**1090**	**981**	----	**1140**	----	**1220**	**1140**	**1250**	**1270**
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	**1.75**	**1.57**	----	**1.82**	----	**1.96**	**1.84**	**2.01**	**2.03**
EA029-E: Magnesium Values												
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	**0.04**	**0.03**	----	**0.04**	----	**0.04**	**0.04**	**0.04**	**0.04**
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	**0.18**	**0.15**	----	**0.14**	----	**0.18**	**0.18**	**0.12**	**0.12**
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	**0.14**	**0.11**	----	**0.1**	----	**0.14**	**0.14**	**0.08**	**0.08**
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	**119**	**94**	----	**82**	----	**114**	**119**	**65**	**63**
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	**0.19**	**0.15**	----	**0.13**	----	**0.18**	**0.19**	**0.1**	**0.1**
EA029-F: Excess Acid Neutralising Capacity												
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	**6.04**	**5.76**	----	**6.26**	----	**6.88**	**6.68**	**6.38**	**6.76**
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	**1210**	**1150**	----	**1250**	----	**1380**	**1340**	**1280**	**1350**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	**1.93**	**1.84**	----	**2**	----	**2.2**	**2.14**	**2.04**	**2.16**
EA029-H: Acid Base Accounting												
ANC Fineness Factor		0.5	NV	**1.5**	**1.5**	----	**1.5**	----	**1.5**	**1.5**	**1.5**	**1.5**
Net Acidity (sulfur units)	% S	0.02	0.03	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	<0.02	<0.02
Net Acidity (acidity units)	mole H+ / t	10	18	<10	<10	----	<10	----	<10	<10	<10	<10
Liming Rate	kg CaCO3/t	1	NV	<1	<1	----	<1	----	<1	<1	<1	<1

Appendix H
Summary ASS Results - West Banks Island

Matrix: SOIL	Sample Type:			REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	ALS Sample number:			EB1512673001	EB1512673002	EB1512673003	EB1512673004	EB1512673005	EB1512673006	EB1512673007	EB1512673008	EB1512673009	EB1512673010
Project name/number: GPC Geochemical Investigation	Sample date:			11/02/2015	11/02/2015	11/02/2015	11/02/2015	11/02/2015	11/02/2015	11/02/2015	11/02/2015	11/02/2015	11/02/2015
	Client sample ID (1st):			WB19 0.0 C	WB19 0.25 C	WB19 0.5 C	WB19 0.75 C	WB19 1.0C	WB20 0.0 C	WB20 0.25 C	WB20 0.5 C	WB20 0.75 C	WB20 1.0C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**										
EA003: pH (field/fox)													
pH (F)	pH Unit	0.1	4	----	**8.3**	----	**8.3**	----	----	**8.3**	----	**8.3**	----
pH (Fox)	pH Unit	0.1	4	----	**7.7**	----	**7**	----	----	**7.3**	----	**8.4**	----
pHF - pHFOX	pH Unit	-	2		**0.6**		**1.3**			**1.0**		**-0.1**	
Reaction Rate	Reaction Unit	1	NV	----	**4**	----	**4**	----	----	**4**	----	**4**	----
EA029-A: pH Measurements													
pH KCl (23A)	pH Unit	0.1	<4	**9.6**	----	**9.5**	----	**9.5**	**9.6**	----	**9.5**	----	**9.5**
pH OX (23B)	pH Unit	0.1	<4	**8.7**	----	**8.5**	----	**8.7**	**8.6**	----	**8.7**	----	**8.7**
pHF - pHFOX	pH Unit	-	2	**0.9**		**1**		**0.8**	**1**		**0.8**		**0.8**
EA029-B: Acidity Trail													
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	<2	----	<2	----	<2	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	<2	----	<2	----	<2	<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	<2	----	<2	----	<2	<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail													
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	**0.04**	----	**0.04**	----	**0.07**	**0.05**	----	**0.06**	----	**0.05**
Peroxide Sulfur (23De)	% S	0.02	NV	**0.04**	----	**0.04**	----	**0.06**	**0.04**	----	**0.05**	----	**0.04**
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	<10	----	<10	----	<10	<10	----	<10	----	<10
EA029-D: Calcium Values													
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	**0.17**	----	**0.16**	----	**0.17**	**0.15**	----	**0.16**	----	**0.16**
Peroxide Calcium (23Wh)	% Ca	0.02	NV	**1.72**	----	**1.41**	----	**2.06**	**1.24**	----	**1.03**	----	**1.27**
Acid Reacted Calcium (23X)	% Ca	0.02	NV	**1.56**	----	**1.25**	----	**1.89**	**1.08**	----	**0.88**	----	**1.11**
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	**776**	----	**625**	----	**944**	**542**	----	**437**	----	**555**
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	**1.24**	----	**1**	----	**1.51**	**0.87**	----	**0.7**	----	**0.89**
EA029-E: Magnesium Values													
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	**0.04**	----	**0.04**	----	**0.04**	**0.04**	----	**0.04**	----	**0.04**
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	**0.11**	----	**0.05**	----	**0.06**	**0.11**	----	**0.08**	----	**0.09**
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	**0.08**	----	<0.02	----	<0.02	**0.08**	----	**0.04**	----	**0.05**
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	**62**	----	**10**	----	**16**	**62**	----	**34**	----	**41**
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	**0.1**	----	<0.02	----	**0.02**	**0.1**	----	**0.05**	----	**0.07**
EA029-F: Excess Acid Neutralising Capacity													
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	**5.6**	----	**3.97**	----	**5.85**	**4.35**	----	**3.85**	----	**3.78**
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	**1120**	----	**794**	----	**1170**	**869**	----	**769**	----	**756**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	**1.79**	----	**1.27**	----	**1.87**	**1.39**	----	**1.23**	----	**1.21**
EA029-H: Acid Base Accounting													
ANC Fineness Factor		0.5	NV	**1.5**	----	**1.5**	----	**1.5**	**1.5**	----	**1.5**	----	**1.5**
Net Acidity (sulfur units)	% S	0.02	0.03	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02
Net Acidity (acidity units)	mole H+ / t	10	18	<10	----	<10	----	<10	<10	----	<10	----	<10
Liming Rate	kg CaCO3/t	1	NV	<1	----	<1	----	<1	<1	----	<1	----	<1

Appendix H
Summary ASS Results - West Banks Island

Matrix: SOIL	Sample Type:			REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	ALS Sample number:			EB1512673011	EB1512673012	EB1512673013	EB1512673014	EB1512673015	EB1512673051	EB1512673052	EB1512673053	EB1512673054	EB1512673055
Project name/number: GPC Geochemical Investigation	Sample date:			11/02/2015	11/02/2015	11/02/2015	11/02/2015	11/02/2015	11/02/2015	11/02/2015	11/02/2015	11/02/2015	11/02/2015
	Client sample ID (1st):			WB23 0.0C	WB23 0.25C	WB23 0.5C	WB23 0.75C	WB23 1.0C	WB17 0.0 C	WB17 0.25 C	WB17 0.5 C	WB17 0.75 C	WB17 1.0C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**										
EA003: pH (field/fox)													
pH (F)	pH Unit	0.1	4	----	**8.3**	----	**8.5**	----	----	**8.4**	----	**8.5**	----
pH (Fox)	pH Unit	0.1	4	----	**7.5**	----	**7.2**	----	----	**7.2**	----	**7.8**	----
pHF - pHFOX	pH Unit	-	2		**0.8**		**1.3**			**1.2**		**0.7**	
Reaction Rate	Reaction Unit	1	NV	----	**4**	----	**4**	----	----	**4**	----	**4**	----
EA029-A: pH Measurements													
pH KCl (23A)	pH Unit	0.1	<4	**9.5**	----	**9.3**	----	**9.3**	**9.4**	----	**9.5**	----	**9.6**
pH OX (23B)	pH Unit	0.1	<4	**8.7**	----	**8.5**	----	**8.5**	**8.6**	----	**8.5**	----	**8.7**
pHF - pHFOX	pH Unit	-	2	**0.8**		**0.8**		**0.8**	**0.8**		**1**		**0.9**
EA029-B: Acidity Trail													
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	<2	----	<2	----	<2	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	<2	----	<2	----	<2	<2	----	<2	----	<2
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	<2	----	<2	----	<2	<2	----	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02
EA029-C: Sulfur Trail													
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	**0.08**	----	**0.1**	----	**0.12**	**0.07**	----	**0.06**	----	**0.04**
Peroxide Sulfur (23De)	% S	0.02	NV	**0.07**	----	**0.1**	----	**0.11**	**0.08**	----	**0.07**	----	**0.06**
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	<10	----	<10	----	<10	<10	----	<10	----	<10
EA029-D: Calcium Values													
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	**0.18**	----	**0.16**	----	**0.18**	**0.16**	----	**0.16**	----	**0.17**
Peroxide Calcium (23Wh)	% Ca	0.02	NV	**2.7**	----	**1.06**	----	**0.87**	**1.6**	----	**1.74**	----	**1.99**
Acid Reacted Calcium (23X)	% Ca	0.02	NV	**2.52**	----	**0.9**	----	**0.69**	**1.44**	----	**1.58**	----	**1.83**
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	**1260**	----	**450**	----	**344**	**720**	----	**788**	----	**912**
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	**2.01**	----	**0.72**	----	**0.55**	**1.15**	----	**1.26**	----	**1.46**
EA029-E: Magnesium Values													
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	**0.04**	----	**0.05**	----	**0.05**	**0.04**	----	**0.04**	----	**0.04**
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	**0.15**	----	**0.09**	----	**0.06**	**0.13**	----	**0.09**	----	**0.14**
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	**0.11**	----	**0.04**	----	<0.02	**0.09**	----	**0.05**	----	**0.1**
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	**89**	----	**33**	----	**13**	**75**	----	**40**	----	**79**
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	**0.14**	----	**0.05**	----	**0.02**	**0.12**	----	**0.06**	----	**0.13**
EA029-F: Excess Acid Neutralising Capacity													
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	**10.2**	----	**3.6**	----	**2.66**	**4.16**	----	**4.16**	----	**5.04**
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	**2040**	----	**719**	----	**531**	**831**	----	**831**	----	**1010**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	**3.27**	----	**1.15**	----	**0.85**	**1.33**	----	**1.33**	----	**1.61**
EA029-H: Acid Base Accounting													
ANC Fineness Factor		0.5	NV	**1.5**	----	**1.5**	----	**1.5**	**1.5**	----	**1.5**	----	**1.5**
Net Acidity (sulfur units)	% S	0.02	0.03	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02
Net Acidity (acidity units)	mole H+ / t	10	18	<10	----	<10	----	<10	<10	----	<10	----	<10
Liming Rate	kg CaCO3/t	1	NV	<1	----	<1	----	<1	<1	----	<1	----	<1

Appendix H
Summary ASS Results - West Banks Island

Matrix: SOIL	Sample Type:			REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	ALS Sample number:			EB1512673056	EB1512747013	EB1512747014	EB1512747015	EB1512747016	EB1512747017	EB1512747021	EB1512747022	EB1512747023	EB1512747024
Project name/number: GPC Geochemical Investigation	Sample date:			11/02/2015	12/02/2015	12/02/2015	12/02/2015	12/02/2015	12/02/2015	12/02/2015	12/02/2015	12/02/2015	12/02/2015
	Client sample ID (1st):			ASS DUPLICATE 16	WB26 0.0 C	WB26 0.25C	WB26 0.5C	WB26 0.75C	WB26 1.0 C	WB25 0.0 C	WB25 0.25 C	WB25 0.5 C	WB25 0.75 C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**										
EA003: pH (field/fox)													
pH (F)	pH Unit	0.1	4	----	----	**8.5**	----	**8.7**	----	----	**8.5**	----	**8.5**
pH (Fox)	pH Unit	0.1	4	----	----	**6.7**	----	**6.9**	----	----	**7.1**	----	**7.3**
pHF - pHFOX	pH Unit	-	2			**1.8**		**1.8**			**1.4**		**1.2**
Reaction Rate	Reaction Unit	1	NV	----	----	**3**	----	**3**	----	----	**3**	----	**3**
EA029-A: pH Measurements													
pH KCl (23A)	pH Unit	0.1	<4	**9.5**	**9.6**	----	**9.5**	----	**9.5**	**9.6**	----	**9.6**	----
pH OX (23B)	pH Unit	0.1	<4	**8.6**	**8.7**	----	**8.8**	----	**8.7**	**8.8**	----	**8.8**	----
pHF - pHFOX	pH Unit	-	2	**0.9**	**0.9**		**0.7**		**0.8**	**0.8**		**0.8**	
EA029-B: Acidity Trail													
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	<2	<2	----	<2	----	<2	<2	----	<2	----
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	<2	<2	----	<2	----	<2	<2	----	<2	----
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	<2	<2	----	<2	----	<2	<2	----	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----
EA029-C: Sulfur Trail													
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	**0.06**	**0.03**	----	**0.05**	----	**0.05**	**0.03**	----	**0.04**	----
Peroxide Sulfur (23De)	% S	0.02	NV	**0.07**	**0.05**	----	**0.06**	----	**0.12**	**0.04**	----	**0.07**	----
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	<0.02	<0.02	----	<0.02	----	**0.06**	<0.02	----	**0.02**	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	<10	<10	----	**12**	----	**38**	<10	----	**14**	----
EA029-D: Calcium Values													
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	**0.16**	**0.14**	----	**0.22**	----	**0.16**	**0.14**	----	**0.16**	----
Peroxide Calcium (23Wh)	% Ca	0.02	NV	**1.85**	**1.44**	----	**2.36**	----	**2.5**	**1.55**	----	**1.79**	----
Acid Reacted Calcium (23X)	% Ca	0.02	NV	**1.69**	**1.29**	----	**2.14**	----	**2.34**	**1.41**	----	**1.63**	----
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	**843**	**645**	----	**1070**	----	**1170**	**702**	----	**815**	----
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	**1.35**	**1.03**	----	**1.72**	----	**1.87**	**1.13**	----	**1.31**	----
EA029-E: Magnesium Values													
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	**0.04**	**0.04**	----	**0.05**	----	**0.04**	**0.04**	----	**0.04**	----
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	**0.12**	**0.03**	----	**0.24**	----	**0.14**	**0.12**	----	**0.06**	----
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	**0.08**	<0.02	----	**0.19**	----	**0.1**	**0.09**	----	**0.02**	----
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	**69**	<10	----	**158**	----	**85**	**72**	----	**18**	----
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	**0.11**	<0.02	----	**0.25**	----	**0.14**	**0.12**	----	**0.03**	----
EA029-F: Excess Acid Neutralising Capacity													
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	**4.66**	**3.06**	----	**7.13**	----	**6.19**	**4.32**	----	**4.07**	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	**931**	**612**	----	**1420**	----	**1240**	**862**	----	**812**	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	**1.49**	**0.98**	----	**2.28**	----	**1.98**	**1.38**	----	**1.3**	----
EA029-H: Acid Base Accounting													
ANC Fineness Factor		0.5	NV	**1.5**	**1.5**	----	**1.5**	----	**1.5**	**1.5**	----	**1.5**	----
Net Acidity (sulfur units)	% S	0.02	0.03	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----
Net Acidity (acidity units)	mole H+ / t	10	18	<10	<10	----	<10	----	<10	<10	----	<10	----
Liming Rate	kg CaCO3/t	1	NV	<1	<1	----	<1	----	<1	<1	----	<1	----

Appendix H
Summary ASS Results - West Banks Island

Matrix: SOIL	Sample Type:			REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	ALS Sample number:			EB1512747025	EB1512747026	EB1512747027	EB1512747028	EB1512747029	EB1512747030	EB1512747031	EB1512747032	EB1512896019	EB1512896020
Project name/number: GPC Geochemical Investigation	Sample date:			12/02/2015	12/02/2015	12/02/2015	12/02/2015	12/02/2015	12/02/2015	12/02/2015	12/02/2015	13/02/2015	13/02/2015
	Client sample ID (1st):			WB25 1.0C	WB27 0.0 C	WB27 0.25 C	WB27 0.5 C	WB27 0.75 C	WB27 1.0C	ASS DUPLICATE 19	ASS DUPLICATE 20	WB21 0.0 C	WB21 0.25 C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**										
EA003: pH (field/fox)													
pH (F)	pH Unit	0.1	4	----	----	**8.6**	----	**8.5**	----	----	----	----	**8.5**
pH (Fox)	pH Unit	0.1	4	----	----	**8.5**	----	**7.3**	----	----	----	----	**7.5**
pHF - pHFOX	pH Unit	-	2			**0.1**		**1.2**					**1.0**
Reaction Rate	Reaction Unit	1	NV	----	----	**4**	----	**3**	----	----	----	----	**3**
EA029-A: pH Measurements													
pH KCl (23A)	pH Unit	0.1	<4	**9.6**	**9.6**	----	**9.6**	----	**9.6**	**9.6**	**9.6**	**9.6**	----
pH OX (23B)	pH Unit	0.1	<4	**9**	**8.2**	----	**9.2**	----	**9.1**	**8.9**	**8.9**	**9.2**	----
pHF - pHFOX	pH Unit	-	2	**0.6**	**1.4**		**0.4**		**0.5**	**0.7**	**0.7**	**0.4**	
EA029-B: Acidity Trail													
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	<2	<2	----	<2	----	<2	<2	<2	<2	----
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	<2	<2	----	<2	----	<2	<2	<2	<2	----
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	<2	<2	----	<2	----	<2	<2	<2	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	<0.02	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	<0.02	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	<0.02	<0.02	----
EA029-C: Sulfur Trail													
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	**0.04**	**0.04**	----	**0.04**	----	**0.04**	**0.04**	**0.04**	**0.04**	----
Peroxide Sulfur (23De)	% S	0.02	NV	**0.06**	**0.03**	----	**0.05**	----	**0.05**	**0.04**	**0.05**	**0.06**	----
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	<0.02	**0.02**	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	**12**	<10	----	<10	----	<10	<10	<10	**14**	----
EA029-D: Calcium Values													
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	**0.16**	**0.22**	----	**0.16**	----	**0.16**	**0.15**	**0.19**	**0.16**	----
Peroxide Calcium (23Wh)	% Ca	0.02	NV	**2.3**	**1.75**	----	**2.81**	----	**2.13**	**1.75**	**2.23**	**3.1**	----
Acid Reacted Calcium (23X)	% Ca	0.02	NV	**2.13**	**1.53**	----	**2.65**	----	**1.96**	**1.6**	**2.04**	**2.94**	----
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	**1060**	**765**	----	**1320**	----	**981**	**798**	**1020**	**1460**	----
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	**1.71**	**1.23**	----	**2.12**	----	**1.57**	**1.28**	**1.63**	**2.35**	----
EA029-E: Magnesium Values													
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	**0.04**	**0.05**	----	**0.04**	----	**0.04**	**0.04**	**0.04**	**0.04**	----
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	**0.13**	**0.04**	----	**0.16**	----	**0.08**	**0.06**	**0.13**	**0.12**	----
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	**0.09**	<0.02	----	**0.12**	----	**0.04**	**0.02**	**0.09**	**0.08**	----
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	**73**	<10	----	**99**	----	**35**	**20**	**71**	**66**	----
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	**0.12**	<0.02	----	**0.16**	----	**0.06**	**0.03**	**0.11**	**0.11**	----
EA029-F: Excess Acid Neutralising Capacity													
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	**6.38**	**3.75**	----	**7.63**	----	**5.07**	**4.38**	**6.38**	**7.51**	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	**1280**	**750**	----	**1520**	----	**1010**	**875**	**1280**	**1500**	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	**2.04**	**1.2**	----	**2.44**	----	**1.62**	**1.4**	**2.04**	**2.4**	----
EA029-H: Acid Base Accounting													
ANC Fineness Factor		0.5	NV	**1.5**	**1.5**	----	**1.5**	----	**1.5**	**1.5**	**1.5**	**1.5**	----
Net Acidity (sulfur units)	% S	0.02	0.03	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	<0.02	<0.02	----
Net Acidity (acidity units)	mole H+ / t	10	18	<10	<10	----	<10	----	<10	<10	<10	<10	----
Liming Rate	kg CaCO3/t	1	NV	<1	<1	----	<1	----	<1	<1	<1	<1	----

Appendix H
Summary ASS Results - West Banks Island

Matrix: SOIL	Sample Type:			REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	ALS Sample number:			EB1512896021	EB1512896022	EB1512896023	EB1512896024	EB1512896025	EB1512896026	EB1512896027	EB1512896028	EB1512896029	EB1512896030
Project name/number: GPC Geochemical Investigation	Sample date:			13/02/2015	13/02/2015	13/02/2015	13/02/2015	13/02/2015	13/02/2015	13/02/2015	13/02/2015	13/02/2015	13/02/2015
	Client sample ID (1st):			WB21 0.5 C	WB21 0.75 C	WB21 1.0C	WB22 0.0 C	WB22 0.25 C	WB22 0.5 C	WB22 0.75 C	WB22 1.0C	WB24 0.0 C	WB24 0.25 C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**										
EA003: pH (field/fox)													
pH (F)	pH Unit	0.1	4	----	**8.4**	----	----	**8.5**	----	**8.5**	----	----	**8.6**
pH (Fox)	pH Unit	0.1	4	----	**7.5**	----	----	**7**	----	**7.2**	----	----	**7**
pHF - pHFOX	pH Unit	-	2		**0.9**			**1.5**		**1.3**			**1.6**
Reaction Rate	Reaction Unit	1	NV	----	**3**	----	----	**3**	----	**3**	----	----	**3**
EA029-A: pH Measurements													
pH KCl (23A)	pH Unit	0.1	<4	**9.6**	----	**9.5**	**9.6**	----	**9.5**	----	**9.6**	**9.6**	----
pH OX (23B)	pH Unit	0.1	<4	**8.5**	----	**8.5**	**8.4**	----	**8.6**	----	**8.5**	**8.5**	----
pHF - pHFOX	pH Unit	-	2	**1.1**		**1**	**1.2**		**0.9**		**1.1**	**1.1**	
EA029-B: Acidity Trail													
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	<2	----	<2	<2	----	<2	----	<2	<2	----
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	<2	----	<2	<2	----	<2	----	<2	<2	----
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	<2	----	<2	<2	----	<2	----	<2	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----
EA029-C: Sulfur Trail													
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	**0.04**	----	**0.04**	**0.03**	----	**0.04**	----	**0.04**	**0.03**	----
Peroxide Sulfur (23De)	% S	0.02	NV	**0.07**	----	**0.08**	**0.04**	----	**0.06**	----	**0.06**	**0.04**	----
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	**0.03**	----	**0.04**	<0.02	----	**0.03**	----	**0.02**	<0.02	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	**18**	----	**26**	<10	----	**18**	----	**13**	<10	----
EA029-D: Calcium Values													
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	**0.16**	----	**0.15**	**0.15**	----	**0.15**	----	**0.15**	**0.15**	----
Peroxide Calcium (23Wh)	% Ca	0.02	NV	**2.37**	----	**2.02**	**1.47**	----	**1.71**	----	**1.71**	**1.73**	----
Acid Reacted Calcium (23X)	% Ca	0.02	NV	**2.21**	----	**1.87**	**1.33**	----	**1.56**	----	**1.56**	**1.58**	----
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	**1100**	----	**932**	**663**	----	**780**	----	**776**	**788**	----
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	**1.77**	----	**1.5**	**1.06**	----	**1.25**	----	**1.24**	**1.26**	----
EA029-E: Magnesium Values													
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	**0.03**	----	**0.03**	**0.03**	----	**0.03**	----	**0.03**	**0.03**	----
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	**0.09**	----	**0.06**	**0.04**	----	**0.07**	----	**0.05**	**0.05**	----
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	**0.06**	----	**0.02**	<0.02	----	**0.04**	----	<0.02	**0.02**	----
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	**45**	----	**20**	**12**	----	**30**	----	**16**	**20**	----
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	**0.07**	----	**0.03**	<0.02	----	**0.05**	----	**0.03**	**0.03**	----
EA029-F: Excess Acid Neutralising Capacity													
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	**5.32**	----	**4.38**	**3.13**	----	**3.88**	----	**3.75**	**4.13**	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	**1060**	----	**875**	**625**	----	**775**	----	**750**	**825**	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	**1.7**	----	**1.4**	**1**	----	**1.24**	----	**1.2**	**1.32**	----
EA029-H: Acid Base Accounting													
ANC Fineness Factor		0.5	NV	**1.5**	----	**1.5**	**1.5**	----	**1.5**	----	**1.5**	**1.5**	----
Net Acidity (sulfur units)	% S	0.02	0.03	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----
Net Acidity (acidity units)	mole H+ / t	10	18	<10	----	<10	<10	----	<10	----	<10	<10	----
Liming Rate	kg CaCO3/t	1	NV	<1	----	<1	<1	----	<1	----	<1	<1	----

Appendix H
Summary ASS Results - West Banks Island

Matrix: SOIL	**Sample Type:**			**REG**	**REG**	**REG**
Workgroup: EB1512125	**ALS Sample number:**			EB1512896031	EB1512896032	EB1512896033
Project name/number: GPC Geochemical Investigation	**Sample date:**			13/02/2015	13/02/2015	13/02/2015
	Client sample ID (1st):			WB24 0.5 C	WB24 0.75 C	ASS DUPLICATE 21B
	Purchase Order:			245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**			
EA003: pH (field/fox)						
pH (F)	pH Unit	0.1	4	----	**8.5**	----
pH (Fox)	pH Unit	0.1	4	----	**7.2**	----
pHF - pHFOX	pH Unit	-	2		**1.3**	
Reaction Rate	Reaction Unit	1	NV	----	**3**	----
EA029-A: pH Measurements						
pH KCl (23A)	pH Unit	0.1	<4	**9.6**	----	**9.6**
pH OX (23B)	pH Unit	0.1	<4	**8.6**	----	**8.2**
pHF - pHFOX	pH Unit	-	2	**1**		**1.4**
EA029-B: Acidity Trail						
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	<2	----	<2
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	<2	----	<2
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	<0.02	----	<0.02
EA029-C: Sulfur Trail						
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	**0.04**	----	**0.05**
Peroxide Sulfur (23De)	% S	0.02	NV	**0.05**	----	**0.07**
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	<0.02	----	**0.02**
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	<10	----	**13**
EA029-D: Calcium Values						
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	**0.16**	----	**0.16**
Peroxide Calcium (23Wh)	% Ca	0.02	NV	**2.67**	----	**1.92**
Acid Reacted Calcium (23X)	% Ca	0.02	NV	**2.51**	----	**1.75**
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	**1250**	----	**875**
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	**2.01**	----	**1.4**
EA029-E: Magnesium Values						
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	**0.04**	----	**0.04**
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	**0.11**	----	**0.05**
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	**0.06**	----	<0.02
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	**54**	----	<10
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	**0.09**	----	<0.02
EA029-F: Excess Acid Neutralising Capacity						
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	**6.63**	----	**3.88**
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	**1320**	----	**775**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	**2.12**	----	**1.24**
EA029-H: Acid Base Accounting						
ANC Fineness Factor		0.5	NV	**1.5**	----	**1.5**
Net Acidity (sulfur units)	% S	0.02	0.03	<0.02	----	<0.02
Net Acidity (acidity units)	mole H+ / t	10	18	<10	----	<10
Liming Rate	kg CaCO3/t	1	NV	<1	----	<1

Appendix H
Summary ASS Results - Port Central Expansion

Matrix: SOIL	**Sample Type:**			REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	**ALS Sample number:**			EB1512125001	EB1512125002	EB1512125014	EB1512125015	EB1512125016	EB1512125017	EB1512125018	EB1512125019	EB1512125020	EB1512125021
Project name/number: GPC Geochemical Investigation	**Sample date:**			03/02/2015	03/02/2015	03/02/2015	03/02/2015	03/02/2015	03/02/2015	03/02/2015	03/02/2015	03/02/2015	03/02/2015
	Client sample ID (1st):			ASS Duplicate 1C	ASS Duplicate 2C	PC4-0.5C	PC4-0.0C	PC4-1.0C	PC4-0.25C	PC4-0.75C	PC3-0.5C	PC3-0.0C	PC3-0.75C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**										
EA003: pH (field/fox)													
pH (F)	pH Unit	0.1	4	----	----	----	----	----	**8.6**	**9**	----	----	**8.9**
pH (Fox)	pH Unit	0.1	4	----	----	----	----	----	**7.6**	**7.2**	----	----	**7.1**
pHF - pHFOX	pH Unit	-	2						**1.0**	**1.8**			**1.8**
Reaction Rate	Reaction Unit	1	NV	----	----	----	----	----	**4**	**3**	----	----	**3**
EA029-A: pH Measurements													
pH KCl (23A)	pH Unit	0.1	<4	**9**	**9**	**9**	**8.5**	**8.7**	----	----	**9.3**	**8.8**	----
pH OX (23B)	pH Unit	0.1	<4	**8.2**	**8.2**	**8**	**7.9**	**7.8**	----	----	**8.5**	**8**	----
pHF - pHFOX	pH Unit	-	2	**0.8**	**0.8**	**1**	**0.6**	**0.9**			**0.8**	**0.8**	
EA029-B: Acidity Trail													
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	<2	<2	<2	<2	<2	----	----	<2	<2	----
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	<2	<2	<2	<2	<2	----	----	<2	<2	----
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	<2	<2	<2	<2	<2	----	----	<2	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	<0.02	<0.02	<0.02	<0.02	<0.02	----	----	<0.02	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	<0.02	<0.02	<0.02	<0.02	<0.02	----	----	<0.02	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	<0.02	<0.02	<0.02	<0.02	<0.02	----	----	<0.02	<0.02	----
EA029-C: Sulfur Trail													
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	**0.14**	**0.11**	**0.11**	**0.17**	**0.15**	----	----	**0.12**	**0.15**	----
Peroxide Sulfur (23De)	% S	0.02	NV	**0.39**	**0.33**	**0.39**	**0.44**	**0.66**	----	----	**0.33**	**0.44**	----
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	**0.25**	**0.22**	**0.28**	**0.27**	**0.52**	----	----	**0.21**	**0.29**	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	**158**	**136**	**172**	**168**	**322**	----	----	**130**	**181**	----
EA029-D: Calcium Values													
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	**0.26**	**0.27**	**0.28**	**0.35**	**0.29**	----	----	**0.22**	**0.33**	----
Peroxide Calcium (23Wh)	% Ca	0.02	NV	**3.67**	**3.98**	**3.64**	**1.4**	**2.04**	----	----	**4.06**	**2.63**	----
Acid Reacted Calcium (23X)	% Ca	0.02	NV	**3.41**	**3.71**	**3.37**	**1.04**	**1.76**	----	----	**3.84**	**2.3**	----
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	**1700**	**1850**	**1680**	**522**	**876**	----	----	**1920**	**1150**	----
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	**2.72**	**2.96**	**2.69**	**0.84**	**1.4**	----	----	**3.07**	**1.84**	----
EA029-E: Magnesium Values													
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	**0.1**	**0.11**	**0.12**	**0.23**	**0.16**	----	----	**0.06**	**0.15**	----
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	**0.37**	**0.38**	**0.39**	**0.4**	**0.36**	----	----	**0.15**	**0.38**	----
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	**0.26**	**0.28**	**0.26**	**0.16**	**0.2**	----	----	**0.09**	**0.23**	----
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	**216**	**228**	**215**	**136**	**165**	----	----	**74**	**187**	----
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	**0.35**	**0.36**	**0.34**	**0.22**	**0.26**	----	----	**0.12**	**0.3**	----
EA029-F: Excess Acid Neutralising Capacity													
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	**8.76**	**10**	**9.26**	**2.92**	**3.98**	----	----	**8.76**	**5.85**	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	**1750**	**2000**	**1850**	**583**	**796**	----	----	**1750**	**1170**	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	**2.8**	**3.2**	**2.96**	**0.93**	**1.28**	----	----	**2.8**	**1.87**	----
EA029-H: Acid Base Accounting													
ANC Fineness Factor		0.5	NV	**1.5**	**1.5**	**1.5**	**1.5**	**1.5**	----	----	**1.5**	**1.5**	----
Net Acidity (sulfur units)	% S	0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	----	----	<0.02	<0.02	----
Net Acidity (acidity units)	mole H+ / t	10	18	<10	<10	<10	<10	<10	----	----	<10	<10	----
Liming Rate	kg CaCO3/t	1	NV	<1	<1	<1	<1	<1	----	----	<1	<1	----

Appendix H
Summary ASS Results - Port Central Expansion

Matrix: SOIL	Sample Type:			REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	ALS Sample number:			EB1512125022	EB1512125023	EB1512125024	EB1512125025	EB1512125026	EB1512125027	EB1512125028	EB1512125029	EB1512125030	EB1512125031	EB1512125032
Project name/number: GPC Geochemical Investigation	Sample date:			03/02/2015	03/02/2015	03/02/2015	03/02/2015	03/02/2015	03/02/2015	03/02/2015	03/02/2015	03/02/2015	03/02/2015	03/02/2015
	Client sample ID (1st):			PC3-1.0C	PC3-0.25C	PC2-0.0C	PC2-0.25C	PC2-0.5C	PC2-0.75C	PC2-1.0C	PC1-0.0C	PC1-0.25C	PC1-0.5C	PC1-0.75C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**											
EA003: pH (field/fox)														
pH (F)	pH Unit	0.1	4	----	**8.9**	----	**9**	----	**8.8**	----	----	**9**	----	**9.2**
pH (Fox)	pH Unit	0.1	4	----	**7.2**	----	**7.1**	----	**7.4**	----	----	**7.5**	----	**7**
pHF - pHFOX	pH Unit	-	2		**1.7**		**1.9**		**1.4**			**1.5**		**2.2**
Reaction Rate	Reaction Unit	1	NV	----	**3**	----	**3**	----	**3**	----	----	**3**	----	**3**
EA029-A: pH Measurements														
pH KCl (23A)	pH Unit	0.1	<4	**9.2**	----	**9**	----	**9.1**	----	**9.3**	**9.1**	----	**9.1**	----
pH OX (23B)	pH Unit	0.1	<4	**8.4**	----	**8.2**	----	**8.2**	----	**8.6**	**8.5**	----	**8.3**	----
pHF - pHFOX	pH Unit	-	2	**0.8**		**0.8**		**0.9**		**0.7**	**0.6**		**0.8**	
EA029-B: Acidity Trail														
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	<2	----	<2	----	<2	----	<2	<2	----	<2	----
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	<2	----	<2	----	<2	----	<2	<2	----	<2	----
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	<2	----	<2	----	<2	----	<2	<2	----	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	<0.02	----	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	<0.02	----	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	<0.02	----	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----
EA029-C: Sulfur Trail														
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	**0.14**	----	**0.15**	----	**0.13**	----	**0.13**	**0.1**	----	**0.15**	----
Peroxide Sulfur (23De)	% S	0.02	NV	**0.4**	----	**0.38**	----	**0.54**	----	**0.32**	**0.21**	----	**0.51**	----
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	**0.26**	----	**0.24**	----	**0.4**	----	**0.19**	**0.11**	----	**0.36**	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	**161**	----	**147**	----	**252**	----	**120**	**69**	----	**228**	----
EA029-D: Calcium Values														
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	**0.23**	----	**0.3**	----	**0.25**	----	**0.22**	**0.24**	----	**0.23**	----
Peroxide Calcium (23Wh)	% Ca	0.02	NV	**4.38**	----	**3.44**	----	**3.87**	----	**4.6**	**3.1**	----	**4.83**	----
Acid Reacted Calcium (23X)	% Ca	0.02	NV	**4.16**	----	**3.14**	----	**3.61**	----	**4.38**	**2.86**	----	**4.6**	----
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	**2070**	----	**1560**	----	**1800**	----	**2190**	**1430**	----	**2300**	----
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	**3.32**	----	**2.51**	----	**2.89**	----	**3.51**	**2.29**	----	**3.68**	----
EA029-E: Magnesium Values														
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	**0.07**	----	**0.12**	----	**0.11**	----	**0.06**	**0.1**	----	**0.08**	----
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	**0.2**	----	**0.39**	----	**0.37**	----	**0.24**	**0.23**	----	**0.31**	----
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	**0.14**	----	**0.28**	----	**0.26**	----	**0.18**	**0.14**	----	**0.23**	----
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	**114**	----	**227**	----	**218**	----	**145**	**112**	----	**189**	----
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	**0.18**	----	**0.36**	----	**0.35**	----	**0.23**	**0.18**	----	**0.3**	----
EA029-F: Excess Acid Neutralising Capacity														
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	**9.76**	----	**8.92**	----	**8.76**	----	**11.9**	**8.13**	----	**11.3**	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	**1950**	----	**1780**	----	**1750**	----	**2380**	**1620**	----	**2250**	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	**3.12**	----	**2.85**	----	**2.8**	----	**3.8**	**2.6**	----	**3.6**	----
EA029-H: Acid Base Accounting														
ANC Fineness Factor		0.5	NV	**1.5**	----	**1.5**	----	**1.5**	----	**1.5**	**1.5**	----	**1.5**	----
Net Acidity (sulfur units)	% S	0.02	0.03	<0.02	----	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----
Net Acidity (acidity units)	mole H+ / t	10	18	<10	----	<10	----	<10	----	<10	<10	----	<10	----
Liming Rate	kg CaCO3/t	1	NV	<1	----	<1	----	<1	----	<1	<1	----	<1	----

Appendix H
Summary ASS Results - Port Central Expansion

Matrix: SOIL	**Sample Type:**			REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	**ALS Sample number:**			EB1512125033	EB1512317001	EB1512317002	EB1512317003	EB1512317004	EB1512317005	EB1512317006	EB1512412001	EB1512412002	EB1512412003
Project name/number: GPC Geochemical Investigation	**Sample date:**			03/02/2015	05/02/2015	05/02/2015	05/02/2015	05/02/2015	05/02/2015	05/02/2015	08/02/2015	08/02/2015	08/02/2015
	Client sample ID (1st):			PC1-1.0C	PC5 0.0C	PC5 0.25C	PC5 0.5C	PC5 0.75C	PC5 1.0C	ASS DUPLICATE 7	PC6 0.0C	PC6 0.25C	PC6 0.5C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**										
EA003: pH (field/fox)													
pH (F)	pH Unit	0.1	4	----	----	**8.7**	----	**8.7**	----	----	----	**8.8**	----
pH (Fox)	pH Unit	0.1	4	----	----	**6.5**	----	**6.2**	----	----	----	**6.1**	----
pHF - pHFOX	pH Unit	-	2			**2.2**		**2.5**				**2.7**	
Reaction Rate	Reaction Unit	1	NV	----	----	**3**	----	**3**	----	----	----	**3**	----
EA029-A: pH Measurements													
pH KCl (23A)	pH Unit	0.1	<4	**9.2**	**8.7**	----	**9.2**	----	**9**	**9.1**	**9.1**	----	**8.8**
pH OX (23B)	pH Unit	0.1	<4	**9.2**	**7.8**	----	**7.9**	----	**7.7**	**7.9**	**7.7**	----	**7.4**
pHF - pHFOX	pH Unit	-	2	**0**	**0.9**		**1.3**		**1.3**	**1.2**	**1.4**		**1.4**
EA029-B: Acidity Trail													
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	<2	<2	----	<2	----	<2	<2	<2	----	<2
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	<2	<2	----	<2	----	<2	<2	<2	----	<2
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	<2	<2	----	<2	----	<2	<2	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	<0.02	----	<0.02
EA029-C: Sulfur Trail													
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	**0.1**	**0.17**	----	**0.11**	----	**0.12**	**0.12**	**0.13**	----	**0.19**
Peroxide Sulfur (23De)	% S	0.02	NV	**0.24**	**0.56**	----	**0.4**	----	**0.54**	**0.38**	**0.53**	----	**1.07**
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	**0.14**	**0.39**	----	**0.28**	----	**0.41**	**0.27**	**0.39**	----	**0.88**
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	**85**	**245**	----	**176**	----	**257**	**168**	**246**	----	**550**
EA029-D: Calcium Values													
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	**0.2**	**0.39**	----	**0.22**	----	**0.23**	**0.29**	**0.23**	----	**0.28**
Peroxide Calcium (23Wh)	% Ca	0.02	NV	**2.87**	**1.85**	----	**4.41**	----	**3.74**	**4.01**	**5.34**	----	**1.67**
Acid Reacted Calcium (23X)	% Ca	0.02	NV	**2.67**	**1.46**	----	**4.18**	----	**3.51**	**3.72**	**5.11**	----	**1.38**
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	**1330**	**728**	----	**2090**	----	**1750**	**1860**	**2550**	----	**690**
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	**2.13**	**1.17**	----	**3.35**	----	**2.81**	**2.98**	**4.09**	----	**1.11**
EA029-E: Magnesium Values													
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	**0.06**	**0.23**	----	**0.09**	----	**0.14**	**0.12**	**0.08**	----	**0.12**
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	**0.18**	**0.41**	----	**0.42**	----	**0.44**	**0.41**	**0.29**	----	**0.29**
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	**0.11**	**0.18**	----	**0.33**	----	**0.3**	**0.29**	**0.21**	----	**0.16**
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	**92**	**149**	----	**269**	----	**248**	**237**	**173**	----	**136**
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	**0.15**	**0.24**	----	**0.43**	----	**0.4**	**0.38**	**0.28**	----	**0.22**
EA029-F: Excess Acid Neutralising Capacity													
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	**6.63**	**3.97**	----	**11.4**	----	**9.36**	**10**	**12.4**	----	**1.78**
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	**1320**	**793**	----	**2280**	----	**1870**	**2000**	**2470**	----	**356**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	**2.12**	**1.27**	----	**3.66**	----	**2.99**	**3.21**	**3.96**	----	**0.57**
EA029-H: Acid Base Accounting													
ANC Fineness Factor		0.5	NV	**1.5**	**1.5**	----	**1.5**	----	**1.5**	**1.5**	**1.5**	----	**1.5**
Net Acidity (sulfur units)	% S	0.02	0.03	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	<0.02	----	<0.02
Net Acidity (acidity units)	mole H+ / t	10	18	<10	<10	----	<10	----	<10	<10	<10	----	<10
Liming Rate	kg CaCO3/t	1	NV	<1	<1	----	<1	----	<1	<1	<1	----	<1

Appendix H
Summary ASS Results - Port Central Expansion

Matrix: SOIL	**Sample Type:**			REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	**ALS Sample number:**			EB1512412004	EB1512412005	EB1512412006	EB1512412007	EB1512412008	EB1512412009	EB1512412010	EB1512412021	EB1512412022	EB1512412023
Project name/number: GPC Geochemical Investigation	**Sample date:**			08/02/2015	08/02/2015	08/02/2015	08/02/2015	08/02/2015	08/02/2015	08/02/2015	08/02/2015	08/02/2015	08/02/2015
	Client sample ID (1st):			PC6 0.75C	PC6 1.0C	PC7 0.0C	PC7 0.25C	PC7 0.5C	PC7 0.7C	PC7 1.0C	PC11 0.0C	PC11 0.25C	PC11 0.5C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**										
EA003: pH (field/fox)													
pH (F)	pH Unit	0.1	4	**8.5**	----	----	**9**	----	**8.8**	----	----	**8.9**	----
pH (Fox)	pH Unit	0.1	4	**2.7**	----	----	**6.3**	----	**5.6**	----	----	**6.2**	----
pHF - pHFOX	pH Unit	-	2	**5.8**			**2.7**		**3.2**			**2.7**	
Reaction Rate	Reaction Unit	1	NV	**3**	----	----	**3**	----	**3**	----	----	**3**	----
EA029-A: pH Measurements													
pH KCl (23A)	pH Unit	0.1	<4	----	**8.8**	**9.2**	----	**8.8**	----	**8.7**	**9**	----	**8.8**
pH OX (23B)	pH Unit	0.1	<4	----	**7.4**	**8.2**	----	**7.9**	----	**6.8**	**8.2**	----	**7.8**
pHF - pHFOX	pH Unit	-	2		**1.4**	**1**		**0.9**		**1.9**	**0.8**		**1**
EA029-B: Acidity Trail													
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	----	<2	<2	----	<2	----	<2	<2	----	<2
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	----	<2	<2	----	<2	----	<2	<2	----	<2
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	----	<2	<2	----	<2	----	<2	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	----	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	----	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	----	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02
EA029-C: Sulfur Trail													
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	----	**0.22**	**0.13**	----	**0.2**	----	**0.21**	**0.19**	----	**0.18**
Peroxide Sulfur (23De)	% S	0.02	NV	----	**1.06**	**0.41**	----	**1.03**	----	**1.2**	**0.66**	----	**1.06**
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	----	**0.84**	**0.27**	----	**0.84**	----	**0.99**	**0.47**	----	**0.88**
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	----	**524**	**171**	----	**522**	----	**616**	**296**	----	**550**
EA029-D: Calcium Values													
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	----	**0.34**	**0.21**	----	**0.32**	----	**0.33**	**0.29**	----	**0.29**
Peroxide Calcium (23Wh)	% Ca	0.02	NV	----	**1.61**	**3.35**	----	**1.85**	----	**1.54**	**4.27**	----	**2.08**
Acid Reacted Calcium (23X)	% Ca	0.02	NV	----	**1.26**	**3.14**	----	**1.53**	----	**1.21**	**3.98**	----	**1.79**
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	----	**632**	**1570**	----	**764**	----	**603**	**1980**	----	**891**
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	----	**1.01**	**2.51**	----	**1.22**	----	**0.97**	**3.18**	----	**1.43**
EA029-E: Magnesium Values													
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	----	**0.15**	**0.07**	----	**0.13**	----	**0.15**	**0.09**	----	**0.12**
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	----	**0.29**	**0.3**	----	**0.31**	----	**0.28**	**0.27**	----	**0.31**
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	----	**0.14**	**0.23**	----	**0.18**	----	**0.13**	**0.18**	----	**0.19**
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	----	**118**	**188**	----	**149**	----	**107**	**150**	----	**154**
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	----	**0.19**	**0.3**	----	**0.24**	----	**0.17**	**0.24**	----	**0.25**
EA029-F: Excess Acid Neutralising Capacity													
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	----	**1.74**	**8.38**	----	**2.43**	----	**1.22**	**8.76**	----	**2.78**
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	----	**348**	**1680**	----	**486**	----	**244**	**1750**	----	**556**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	----	**0.56**	**2.68**	----	**0.78**	----	**0.39**	**2.8**	----	**0.89**
EA029-H: Acid Base Accounting													
ANC Fineness Factor		0.5	NV	----	**1.5**	**1.5**	----	**1.5**	----	**1.5**	**1.5**	----	**1.5**
Net Acidity (sulfur units)	% S	0.02	0.03	----	<0.02	<0.02	----	<0.02	----	**0.07**	<0.02	----	<0.02
Net Acidity (acidity units)	mole H+ / t	10	18	----	<10	<10	----	<10	----	**43**	<10	----	<10
Liming Rate	kg CaCO3/t	1	NV	----	<1	<1	----	<1	----	**3**	<1	----	<1

Appendix H
Summary ASS Results - Port Central Expansion

Matrix: SOIL	**Sample Type:**			REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	**ALS Sample number:**			EB1512412047	EB1512444031	EB1512982011	EB1512982006	EB1512982007	EB1512982008	EB1512982009	EB1512982010	EB1512563005	EB1512563006
Project name/number: GPC Geochemical Investigation	**Sample date:**			08/02/2015	09/02/2015	16/02/2015	16/02/2015	16/02/2015	16/02/2015	16/02/2015	16/02/2015	10/02/2015	10/02/2015
	Client sample ID (1st):			ASS DUPLICATE 8	PC9 0.0 C	ASS DUPLICATE 24	PC10 0.0C	PC10 0.25C	PC10 0.5C	PC10 0.75C	PC10 1.0C	PC8 0.0 C	PC8 0.25C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**										
EA003: pH (field/fox)													
pH (F)	pH Unit	0.1	4	----	----	----	----	**8.5**	----	**8.1**	----	----	**9**
pH (Fox)	pH Unit	0.1	4	----	----	----	----	**6.2**	----	**2.4**	----	----	**6.5**
pHF - pHFOX	pH Unit	-	2					**2.3**		**5.7**		----	**3**
Reaction Rate	Reaction Unit	1	NV	----	----	----	----	**4**	----	**4**	----		
EA029-A: pH Measurements													
pH KCl (23A)	pH Unit	0.1	<4	**9.1**	**9.1**	**8.7**	**9.3**	----	**8.9**	----	**8.7**	**9.2**	----
pH OX (23B)	pH Unit	0.1	<4	**8.5**	**8.2**	**2.5**	**8**	----	**6.8**	----	**2.8**	**8.6**	----
pHF - pHFOX	pH Unit	-	2	**0.6**	**0.9**	**6.2**	**1.3**		**2.1**		**5.9**	**0.6**	
EA029-B: Acidity Trail													
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	<2	<2	<2	<2	----	<2	----	<2	<2	----
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	<2	<2	**332**	<2	----	<2	----	**272**	<2	----
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	<2	<2	**332**	<2	----	<2	----	**272**	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	<0.02	<0.02	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	<0.02	<0.02	**0.53**	<0.02	----	<0.02	----	**0.44**	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	<0.02	<0.02	**0.53**	<0.02	----	<0.02	----	**0.44**	<0.02	----
EA029-C: Sulfur Trail													
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	**0.13**	**0.14**	**0.16**	**0.12**	----	**0.14**	----	**0.17**	**0.11**	----
Peroxide Sulfur (23De)	% S	0.02	NV	**0.39**	**0.42**	**1.52**	**0.51**	----	**1.41**	----	**1.67**	**0.27**	----
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	**0.26**	**0.28**	**1.36**	**0.39**	----	**1.27**	----	**1.5**	**0.16**	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	**162**	**174**	**849**	**242**	----	**791**	----	**936**	**97**	----
EA029-D: Calcium Values													
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	**0.23**	**0.26**	**0.28**	**0.24**	----	**0.25**	----	**0.31**	**0.22**	----
Peroxide Calcium (23Wh)	% Ca	0.02	NV	**4.33**	**3.51**	**0.85**	**7.59**	----	**1.6**	----	**1.18**	**2.99**	----
Acid Reacted Calcium (23X)	% Ca	0.02	NV	**4.09**	**3.25**	**0.57**	**7.35**	----	**1.35**	----	**0.87**	**2.77**	----
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	**2040**	**1620**	**287**	**3670**	----	**674**	----	**436**	**1380**	----
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	**3.27**	**2.6**	**0.46**	**5.88**	----	**1.08**	----	**0.7**	**2.22**	----
EA029-E: Magnesium Values													
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	**0.07**	**0.1**	**0.13**	**0.06**	----	**0.11**	----	**0.16**	**0.07**	----
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	**0.24**	**0.36**	**0.22**	**0.11**	----	**0.18**	----	**0.24**	**0.27**	----
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	**0.16**	**0.26**	**0.09**	**0.04**	----	**0.07**	----	**0.09**	**0.2**	----
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	**136**	**216**	**75**	**34**	----	**58**	----	**73**	**161**	----
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	**0.22**	**0.35**	**0.12**	**0.05**	----	**0.09**	----	**0.12**	**0.26**	----
EA029-F: Excess Acid Neutralising Capacity													
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	**11.6**	**8.8**	----	**18**	----	**0.31**	----	----	**7.47**	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	**2320**	**1760**	----	**3600**	----	**62**	----	----	**1490**	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	**3.72**	**2.82**	----	**5.76**	----	**0.1**	----	----	**2.39**	----
EA029-H: Acid Base Accounting													
ANC Fineness Factor		0.5	NV	**1.5**	**1.5**	**1.5**	**1.5**	----	**1.5**	----	**1.5**	**1.5**	----
Net Acidity (sulfur units)	% S	0.02	0.03	<0.02	<0.02	**0.81**	<0.02	----	**0.36**	----	**0.79**	<0.02	----
Net Acidity (acidity units)	mole H+ / t	10	18	<10	<10	**504**	<10	----	**222**	----	**493**	<10	----
Liming Rate	kg CaCO3/t	1	NV	<1	<1	**38**	<1	----	**17**	----	**37**	<1	----

Appendix H
Summary ASS Results - Port Central Expansion

Matrix: SOIL	**Sample Type:**			**REG**	**REG**	**REG**
Workgroup: EB1512125	**ALS Sample number:**			EB1512563007	EB1512563008	EB1512563009
Project name/number: GPC Geochemical Investigation	**Sample date:**			10/02/2015	10/02/2015	10/02/2015
	Client sample ID (1st):			PC8 0.5C	PC8 0.75C	PC8 1.0 C
	Purchase Order:			245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**			
EA003: pH (field/fox)						
pH (F)	pH Unit	0.1	4	----	**9**	----
pH (Fox)	pH Unit	0.1	4	----	**6**	----
pHF - pHFOX	pH Unit	-	2	----	**3**	----
Reaction Rate	Reaction Unit	1	NV			
EA029-A: pH Measurements						
pH KCl (23A)	pH Unit	0.1	<4	**9.1**	----	**8.8**
pH OX (23B)	pH Unit	0.1	<4	**8.2**	----	**7.7**
pHF - pHFOX	pH Unit	-	2	**0.9**		**1.1**
EA029-B: Acidity Trail						
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	<2	----	<2
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	<2	----	<2
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	<2	----	<2
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	<0.02	----	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	<0.02	----	<0.02
EA029-C: Sulfur Trail						
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	**0.18**	----	**0.18**
Peroxide Sulfur (23De)	% S	0.02	NV	**0.57**	----	**1.03**
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	**0.39**	----	**0.86**
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	**241**	----	**535**
EA029-D: Calcium Values						
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	**0.23**	----	**0.3**
Peroxide Calcium (23Wh)	% Ca	0.02	NV	**3.77**	----	**2.13**
Acid Reacted Calcium (23X)	% Ca	0.02	NV	**3.54**	----	**1.82**
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	**1770**	----	**911**
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	**2.84**	----	**1.46**
EA029-E: Magnesium Values						
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	**0.08**	----	**0.13**
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	**0.32**	----	**0.27**
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	**0.24**	----	**0.14**
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	**198**	----	**116**
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	**0.32**	----	**0.18**
EA029-F: Excess Acid Neutralising Capacity						
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	**9.76**	----	**2.91**
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	**1950**	----	**581**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	**3.12**	----	**0.93**
EA029-H: Acid Base Accounting						
ANC Fineness Factor		0.5	NV	**1.5**	----	**1.5**
Net Acidity (sulfur units)	% S	0.02	0.03	<0.02	----	<0.02
Net Acidity (acidity units)	mole H+ / t	10	18	<10	----	<10
Liming Rate	kg CaCO3/t	1	NV	<1	----	<1

Appendix H
Summary ASS Results - Western Basin Expansion

Matrix: SOIL	**Sample Type:**			REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	**ALS Sample number:**			EB1512412011	EB1512412012	EB1512412013	EB1512412014	EB1512412015	EB1512412016	EB1512412017	EB1512412018	EB1512412019	EB1512412020
Project name/number: GPC Geochemical Investigation	**Sample date:**			08/02/2015	08/02/2015	08/02/2015	08/02/2015	08/02/2015	08/02/2015	08/02/2015	08/02/2015	08/02/2015	08/02/2015
	Client sample ID (1st):			WBE7 0.0C	WBE7 0.25C	WBE7 0.5C	WBE7 0.75C	WBE7 1.0C	WBE10 0.0C	WBE10 0.25C	WBE10 0.5C	WBE10 0.75C	WBE10 1.0C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**										
EA003: pH (field/fox)													
pH (F)	pH Unit	0.1	<4	----	**9**	----	**8.8**	----	----	**8.6**	----	**8.2**	----
pH (Fox)	pH Unit	0.1	<4	----	**5.9**	----	**2.8**	----	----	**2.8**	----	**1.9**	----
pHF - pHFOX	pH Unit	-	2		**3.1**		**6.0**			**5.8**		**6.3**	
Reaction Rate	Reaction Unit	1	NV	----	**3**	----	**4**	----	----	**3**	----	**4**	----
EA029-A: pH Measurements													
pH KCl (23A)	pH Unit	0.1	<4	**8.8**	----	**8.7**	----	**8.6**	**9.1**	----	**7.6**	----	**8.3**
pH OX (23B)	pH Unit	0.1	<4	**7.5**	----	**7.8**	----	**4.8**	**8.1**	----	**2.4**	----	**2.2**
pHF - pHFOX	pH Unit	-	2	**1.3**		**0.9**		**3.8**	**1**		**5.2**		**6.1**
EA029-B: Acidity Trail													
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	<2	----	<2	----	<2	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	<2	----	<2	----	**12**	<2	----	**836**	----	**752**
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	<2	----	<2	----	**12**	<2	----	**836**	----	**752**
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	<0.02	----	<0.02	----	<0.02	<0.02	----	**1.34**	----	**1.21**
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	<0.02	----	<0.02	----	<0.02	<0.02	----	**1.34**	----	**1.21**
EA029-C: Sulfur Trail													
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	**0.14**	----	**0.15**	----	**0.17**	**0.11**	----	**0.24**	----	**0.27**
Peroxide Sulfur (23De)	% S	0.02	NV	**0.77**	----	**0.93**	----	**0.98**	**0.58**	----	**2.08**	----	**1.95**
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	**0.63**	----	**0.78**	----	**0.81**	**0.46**	----	**1.83**	----	**1.68**
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	**393**	----	**484**	----	**506**	**289**	----	**1140**	----	**1050**
EA029-D: Calcium Values													
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	**0.27**	----	**0.28**	----	**0.31**	**0.27**	----	**0.29**	----	**0.42**
Peroxide Calcium (23Wh)	% Ca	0.02	NV	**2.55**	----	**1.92**	----	**0.93**	**13.7**	----	**0.42**	----	**0.9**
Acid Reacted Calcium (23X)	% Ca	0.02	NV	**2.28**	----	**1.64**	----	**0.62**	**13.5**	----	**0.12**	----	**0.47**
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	**1140**	----	**817**	----	**312**	**6720**	----	**62**	----	**235**
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	**1.82**	----	**1.31**	----	**0.5**	**10.8**	----	**0.1**	----	**0.38**
EA029-E: Magnesium Values													
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	**0.11**	----	**0.12**	----	**0.15**	**0.07**	----	**0.18**	----	**0.22**
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	**0.25**	----	**0.29**	----	**0.22**	**0.26**	----	**0.24**	----	**0.29**
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	**0.14**	----	**0.16**	----	**0.07**	**0.19**	----	**0.06**	----	**0.07**
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	**114**	----	**134**	----	**59**	**157**	----	**49**	----	**59**
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	**0.18**	----	**0.22**	----	**0.1**	**0.25**	----	**0.08**	----	**0.09**
EA029-F: Excess Acid Neutralising Capacity													
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	**4.81**	----	**2.92**	----	----	**32.8**	----	----	----	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	**961**	----	**584**	----	----	**6550**	----	----	----	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	**1.54**	----	**0.94**	----	----	**10.5**	----	----	----	----
EA029-H: Acid Base Accounting													
ANC Fineness Factor		0.5	NV	**1.5**	----	**1.5**	----	**1.5**	**1.5**	----	**1.5**	----	**1.5**
Net Acidity (sulfur units)	% S	0.02	0.03	<0.02	----	<0.02	----	**0.28**	<0.02	----	**1.5**	----	**1.36**
Net Acidity (acidity units)	mole H+ / t	10	18	<10	----	<10	----	**176**	<10	----	**939**	----	**851**
Liming Rate	kg CaCO3/t	1	NV	<1	----	<1	----	**13**	<1	----	**70**	----	**64**

Appendix H
Summary ASS Results - Western Basin Expansion

Matrix: SOIL	**Sample Type:**			REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	**ALS Sample number:**			EB1512412024	EB1512412025	EB1512412026	EB1512412027	EB1512412028	EB1512412029	EB1512412030	EB1512412031	EB1512412032	EB1512412033
Project name/number: GPC Geochemical Investigation	**Sample date:**			08/02/2015	08/02/2015	08/02/2015	08/02/2015	08/02/2015	08/02/2015	08/02/2015	08/02/2015	08/02/2015	08/02/2015
	Client sample ID (1st):			WBE14 0.0C	WBE14 0.25C	WBE14 0.5C	WBE14 0.75C	WBE14 1.0C	WBE15 0.0C	WBE15 0.25C	WBE15 0.5C	WBE15 0.75C	WBE15 1.0C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**										
EA003: pH (field/fox)													
pH (F)	pH Unit	0.1	<4	----	**8.6**	----	**8.4**	----	----	**8.6**	----	**8.4**	----
pH (Fox)	pH Unit	0.1	<4	----	**1.6**	----	**1.5**	----	----	**5.7**	----	**1.4**	----
pHF - pHFOX	pH Unit	-	2		**7.0**		**6.9**			**2.9**		**7.0**	
Reaction Rate	Reaction Unit	1	NV	----	**4**	----	**4**	----	----	**3**	----	**4**	----
EA029-A: pH Measurements													
pH KCl (23A)	pH Unit	0.1	<4	**9**	----	**8.4**	----	**8.2**	**8.7**	----	**8.8**	----	**6.9**
pH OX (23B)	pH Unit	0.1	<4	**8.1**	----	**2.5**	----	**2.3**	**7.8**	----	**7.7**	----	**2.1**
pHF - pHFOX	pH Unit	-	2	**0.9**		**5.9**		**5.9**	**0.9**		**1.1**		**4.8**
EA029-B: Acidity Trail													
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	<2	----	<2	----	<2	<2	----	<2	----	<2
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	<2	----	**377**	----	**976**	<2	----	<2	----	**1780**
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	<2	----	**377**	----	**976**	<2	----	<2	----	**1780**
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	<0.02	----	**0.6**	----	**1.56**	<0.02	----	<0.02	----	**2.86**
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	<0.02	----	**0.6**	----	**1.56**	<0.02	----	<0.02	----	**2.86**
EA029-C: Sulfur Trail													
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	**0.16**	----	**0.16**	----	**0.22**	**0.15**	----	**0.18**	----	**0.26**
Peroxide Sulfur (23De)	% S	0.02	NV	**0.74**	----	**1.28**	----	**2.39**	**0.64**	----	**1.03**	----	**3.37**
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	**0.58**	----	**1.12**	----	**2.16**	**0.49**	----	**0.85**	----	**3.11**
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	**360**	----	**700**	----	**1350**	**308**	----	**531**	----	**1940**
EA029-D: Calcium Values													
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	**0.3**	----	**0.28**	----	**0.41**	**0.31**	----	**0.31**	----	**0.22**
Peroxide Calcium (23Wh)	% Ca	0.02	NV	**11.9**	----	**0.42**	----	**0.58**	**1.43**	----	**4.16**	----	**0.21**
Acid Reacted Calcium (23X)	% Ca	0.02	NV	**11.6**	----	**0.14**	----	**0.17**	**1.12**	----	**3.85**	----	<0.02
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	**5790**	----	**68**	----	**84**	**559**	----	**1920**	----	<10
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	**9.28**	----	**0.11**	----	**0.14**	**0.9**	----	**3.08**	----	<0.02
EA029-E: Magnesium Values													
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	**0.11**	----	**0.22**	----	**0.25**	**0.21**	----	**0.15**	----	**0.33**
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	**0.25**	----	**0.31**	----	**0.3**	**0.3**	----	**0.23**	----	**0.35**
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	**0.14**	----	**0.08**	----	**0.04**	**0.09**	----	**0.08**	----	<0.02
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	**119**	----	**70**	----	**37**	**71**	----	**65**	----	**14**
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	**0.19**	----	**0.11**	----	**0.06**	**0.11**	----	**0.1**	----	**0.02**
EA029-F: Excess Acid Neutralising Capacity													
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	**31.3**	----	----	----	----	**2.14**	----	**7.51**	----	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	**6250**	----	----	----	----	**428**	----	**1500**	----	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	**10**	----	----	----	----	**0.69**	----	**2.4**	----	----
EA029-H: Acid Base Accounting													
ANC Fineness Factor		0.5	NV	**1.5**	----	**1.5**	----	**1.5**	**1.5**	----	**1.5**	----	**1.5**
Net Acidity (sulfur units)	% S	0.02	0.03	<0.02	----	**0.78**	----	**1.76**	<0.02	----	<0.02	----	**2.95**
Net Acidity (acidity units)	mole H+ / t	10	18	<10	----	**484**	----	**1100**	<10	----	<10	----	**1840**
Liming Rate	kg CaCO3/t	1	NV	<1	----	**36**	----	**83**	<1	----	<1	----	**138**

Appendix H
Summary ASS Results - Western Basin Expansion

Matrix: SOIL	**Sample Type:**			**REG**	**REG**	**REG**	**REG**	**REG**	**REG**	**REG**	**REG**	**REG**	**REG**
Workgroup: EB1512125	**ALS Sample number:**			EB1512412034	EB1512412035	EB1512412036	EB1512412037	EB1512412038	EB1512412039	EB1512412040	EB1512412041	EB1512412042	EB1512412043
Project name/number: GPC Geochemical Investigation	**Sample date:**			08/02/2015	08/02/2015	08/02/2015	08/02/2015	08/02/2015	08/02/2015	08/02/2015	08/02/2015	08/02/2015	08/02/2015
	Client sample ID (1st):			WBE19 0.0C	WBE19 0.25C	WBE19 0.5C	WBE20 0.0C	WBE20 0.25C	WBE20 0.5C	WBE20 0.75C	WBE20 1.0C	WBE21 0.0C	WBE21 0.25C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**										
EA003: pH (field/fox)													
pH (F)	pH Unit	0.1	<4	----	**8.6**	----	----	**8.2**	----	**7.9**	----	----	**8.1**
pH (Fox)	pH Unit	0.1	<4	----	**6.4**	----	----	**6.7**	----	**6.1**	----	----	**6.4**
pHF - pHFOX	pH Unit	-	2		**2.2**			**1.5**		**1.8**			**1.7**
Reaction Rate	Reaction Unit	1	NV	----	**3**	----	----	**3**	----	**3**	----	----	**3**
EA029-A: pH Measurements													
pH KCl (23A)	pH Unit	0.1	<4	**8.5**	----	**8.7**	**8.3**	----	**7.9**	----	**7.4**	**7.9**	----
pH OX (23B)	pH Unit	0.1	<4	**8.1**	----	**7.1**	**6.1**	----	**7.6**	----	**7.1**	**6.4**	----
pHF - pHFOX	pH Unit	-	2	**0.4**		**1.6**	**2.2**		**0.3**		**0.3**	**1.5**	
EA029-B: Acidity Trail													
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	<2	----	<2	<2	----	<2	----	<2	<2	----
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	<2	----	<2	<2	----	<2	----	<2	<2	----
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	<2	----	<2	<2	----	<2	----	<2	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----
EA029-C: Sulfur Trail													
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	**0.12**	----	**0.04**	**0.14**	----	**0.08**	----	**0.06**	**0.13**	----
Peroxide Sulfur (23De)	% S	0.02	NV	**0.38**	----	**0.09**	**0.4**	----	**0.11**	----	**0.1**	**0.32**	----
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	**0.26**	----	**0.05**	**0.25**	----	**0.03**	----	**0.04**	**0.2**	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	**164**	----	**29**	**159**	----	**20**	----	**25**	**123**	----
EA029-D: Calcium Values													
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	**0.31**	----	**0.16**	**0.25**	----	**0.16**	----	**0.12**	**0.19**	----
Peroxide Calcium (23Wh)	% Ca	0.02	NV	**1.01**	----	**0.19**	**0.3**	----	**0.19**	----	**0.14**	**0.24**	----
Acid Reacted Calcium (23X)	% Ca	0.02	NV	**0.7**	----	**0.03**	**0.05**	----	**0.02**	----	**0.02**	**0.04**	----
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	**347**	----	**15**	**26**	----	**12**	----	**12**	**22**	----
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	**0.56**	----	**0.02**	**0.04**	----	<0.02	----	**0.02**	**0.04**	----
EA029-E: Magnesium Values													
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	**0.18**	----	**0.05**	**0.24**	----	**0.19**	----	**0.18**	**0.23**	----
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	**0.24**	----	**0.08**	**0.32**	----	**0.24**	----	**0.23**	**0.3**	----
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	**0.06**	----	**0.03**	**0.08**	----	**0.04**	----	**0.05**	**0.07**	----
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	**54**	----	**27**	**68**	----	**38**	----	**43**	**56**	----
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	**0.09**	----	**0.04**	**0.11**	----	**0.06**	----	**0.07**	**0.09**	----
EA029-F: Excess Acid Neutralising Capacity													
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	**1.94**	----	**0.43**	----	----	**0.35**	----	**0.36**	----	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	**389**	----	**87**	----	----	**70**	----	**72**	----	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	**0.62**	----	**0.14**	----	----	**0.11**	----	**0.12**	----	----
EA029-H: Acid Base Accounting													
ANC Fineness Factor		0.5	NV	**1.5**	----	**1.5**	**1.5**	----	**1.5**	----	**1.5**	**1.5**	----
Net Acidity (sulfur units)	% S	0.02	0.03	<0.02	----	<0.02	**0.08**	----	<0.02	----	<0.02	**0.06**	----
Net Acidity (acidity units)	mole H+ / t	10	18	<10	----	<10	**53**	----	<10	----	<10	**41**	----
Liming Rate	kg CaCO3/t	1	NV	<1	----	<1	**4**	----	<1	----	<1	**3**	----

Appendix H
Summary ASS Results - Western Basin Expansion

Matrix: SOIL	Sample Type:			REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	ALS Sample number:			EB1512412044	EB1512412045	EB1512412046	EB1512412048	EB1512412049	EB1512412050	EB1512412051	EB1512673016	EB1512673017
Project name/number: GPC Geochemical Investigation	Sample date:			08/02/2015	08/02/2015	08/02/2015	08/02/2015	08/02/2015	08/02/2015	08/02/2015	11/02/2015	11/02/2015
	Client sample ID (1st):			WBE21 0.5C	WBE21 0.75C	WBE21 1.0C	ASS DUPLICATE 9	ASS DUPLICATE 10	ASS DUPLICATE 11	ASS DUPLICATE 12	WBE4 0.0 C	WBE4 0.25C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**									
EA003: pH (field/fox)												
pH (F)	pH Unit	0.1	<4	----	**8.8**	----	----	----	----	----	----	**8.5**
pH (Fox)	pH Unit	0.1	<4	----	**4**	----	----	----	----	----	----	**6.1**
pHF - pHFOX	pH Unit	-	2		**4.8**							**2.4**
Reaction Rate	Reaction Unit	1	NV	----	**3**	----	----	----	----	----	----	**4**
EA029-A: pH Measurements												
pH KCl (23A)	pH Unit	0.1	<4	**8.6**	----	**7.9**	**8.6**	**8.2**	**8.4**	**8.9**	**8.8**	----
pH OX (23B)	pH Unit	0.1	<4	**8.2**	----	**8.1**	**7.8**	**2.4**	**7.6**	**7.8**	**7.8**	----
pHF - pHFOX	pH Unit	-	2	**0.4**		**-0.2**	**0.8**	**5.8**	**0.8**	**1.1**	**1**	
EA029-B: Acidity Trail												
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	<2	----	<2	<2	<2	<2	<2	<2	----
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	<2	----	<2	<2	**1320**	<2	<2	<2	----
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	<2	----	<2	<2	**1320**	<2	<2	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	<0.02	----	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	<0.02	----	<0.02	<0.02	**2.12**	<0.02	<0.02	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	<0.02	----	<0.02	<0.02	**2.12**	<0.02	<0.02	<0.02	----
EA029-C: Sulfur Trail												
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	**0.13**	----	**0.05**	**0.11**	**0.21**	**0.24**	**0.13**	**0.15**	----
Peroxide Sulfur (23De)	% S	0.02	NV	**0.44**	----	**0.07**	**0.51**	**3.03**	**2.05**	**0.81**	**0.52**	----
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	**0.31**	----	**0.03**	**0.4**	**2.82**	**1.8**	**0.68**	**0.37**	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	**192**	----	**17**	**251**	**1760**	**1120**	**426**	**231**	----
EA029-D: Calcium Values												
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	**0.3**	----	**0.08**	**0.27**	**0.4**	**0.4**	**0.27**	**0.27**	----
Peroxide Calcium (23Wh)	% Ca	0.02	NV	**1.05**	----	**0.12**	**0.96**	**0.6**	**4.45**	**5.94**	**2.06**	----
Acid Reacted Calcium (23X)	% Ca	0.02	NV	**0.75**	----	**0.04**	**0.69**	**0.2**	**4.05**	**5.68**	**1.78**	----
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	**373**	----	**20**	**345**	**98**	**2020**	**2830**	**891**	----
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	**0.6**	----	**0.03**	**0.55**	**0.16**	**3.24**	**4.54**	**1.43**	----
EA029-E: Magnesium Values												
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	**0.19**	----	**0.14**	**0.16**	**0.29**	**0.22**	**0.1**	**0.12**	----
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	**0.29**	----	**0.22**	**0.27**	**0.37**	**0.33**	**0.26**	**0.15**	----
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	**0.1**	----	**0.07**	**0.11**	**0.08**	**0.11**	**0.16**	**0.03**	----
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	**83**	----	**61**	**91**	**63**	**90**	**134**	**26**	----
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	**0.13**	----	**0.1**	**0.14**	**0.1**	**0.14**	**0.21**	**0.04**	----
EA029-F: Excess Acid Neutralising Capacity												
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	**1.85**	----	**0.94**	**1.47**	----	**5.83**	**12.7**	**4.1**	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	**369**	----	**187**	**294**	----	**1160**	**2540**	**819**	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	**0.59**	----	**0.3**	**0.47**	----	**1.86**	**4.08**	**1.31**	----
EA029-H: Acid Base Accounting												
ANC Fineness Factor		0.5	NV	**1.5**	----	**1.5**	**1.5**	**1.5**	**1.5**	**1.5**	**1.5**	----
Net Acidity (sulfur units)	% S	0.02	0.03	<0.02	----	<0.02	<0.02	**2.35**	<0.02	<0.02	<0.02	----
Net Acidity (acidity units)	mole H+ / t	10	18	<10	----	<10	<10	**1470**	<10	<10	<10	----
Liming Rate	kg CaCO3/t	1	NV	<1	----	<1	<1	**110**	<1	<1	<1	----

Appendix H
Summary ASS Results - Western Basin Expansion

Matrix: SOIL	Sample Type:			REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	ALS Sample number:			EB1512673018	EB1512673019	EB1512673020	EB1512673021	EB1512673022	EB1512673023	EB1512673024	EB1512673025	EB1512673026	EB1512673027
Project name/number: GPC Geochemical Investigation	Sample date:			11/02/2015	11/02/2015	11/02/2015	11/02/2015	11/02/2015	11/02/2015	11/02/2015	11/02/2015	11/02/2015	11/02/2015
	Client sample ID (1st):			WBE4 0.5C	WBE4 0.75C	WBE4 1.0 C	WBE5 0.0C	WBE5 0.25C	WBE5 0.5C	WBE5 0.75C	WBE5 1.0C	WBE6 0.0 C	WBE6 0.25 C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**										
EA003: pH (field/fox)													
pH (F)	pH Unit	0.1	<4	----	**8.8**	----	----	**8.1**	----	**8.2**	----	----	**8.5**
pH (Fox)	pH Unit	0.1	<4	----	**6.3**	----	----	**6.6**	----	**1.8**	----	----	**4.1**
pHF - pHFOX	pH Unit	-	2		**2.5**			**1.5**		**6.4**			**4.4**
Reaction Rate	Reaction Unit	1	NV	----	**4**	----	----	**4**	----	**4**	----	----	**4**
EA029-A: pH Measurements													
pH KCl (23A)	pH Unit	0.1	<4	**8.8**	----	**8.4**	**8.8**	----	**8.2**	----	**7.4**	**8.8**	----
pH OX (23B)	pH Unit	0.1	<4	**7.8**	----	**6.4**	**7.8**	----	**2.7**	----	**2.4**	**7.6**	----
pHF - pHFOX	pH Unit	-	2	**1**		**2**	**1**		5.5		**5**	**1.2**	
EA029-B: Acidity Trail													
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	<2	----	<2	<2	----	<2	----	<2	<2	----
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	<2	----	<2	<2	----	**465**	----	**733**	<2	----
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	<2	----	<2	<2	----	**465**	----	**733**	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	<0.02	----	<0.02	<0.02	----	**0.75**	----	**1.18**	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	<0.02	----	<0.02	<0.02	----	**0.75**	----	**1.18**	<0.02	----
EA029-C: Sulfur Trail													
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	**0.13**	----	**0.19**	**0.13**	----	**0.13**	----	**0.13**	**0.14**	----
Peroxide Sulfur (23De)	% S	0.02	NV	**0.6**	----	**2.23**	**0.44**	----	**1.29**	----	**1.73**	**0.59**	----
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	**0.47**	----	**2.04**	**0.31**	----	**1.15**	----	**1.6**	**0.45**	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	**294**	----	**1270**	**194**	----	**720**	----	**996**	**280**	----
EA029-D: Calcium Values													
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	**0.27**	----	**0.37**	**0.28**	----	**0.28**	----	**0.27**	**0.26**	----
Peroxide Calcium (23Wh)	% Ca	0.02	NV	**2.28**	----	**2.38**	**1.94**	----	**0.34**	----	**0.32**	**1.33**	----
Acid Reacted Calcium (23X)	% Ca	0.02	NV	**2.01**	----	**2**	**1.66**	----	**0.06**	----	**0.05**	**1.06**	----
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	**1000**	----	**1000**	**830**	----	**32**	----	**24**	**531**	----
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	**1.61**	----	**1.6**	**1.33**	----	**0.05**	----	**0.04**	**0.85**	----
EA029-E: Magnesium Values													
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	**0.12**	----	**0.21**	**0.15**	----	**0.24**	----	**0.25**	**0.13**	----
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	**0.2**	----	**0.34**	**0.16**	----	**0.32**	----	**0.31**	**0.18**	----
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	**0.07**	----	**0.13**	<0.02	----	**0.08**	----	**0.07**	**0.05**	----
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	**59**	----	**108**	**12**	----	**69**	----	**55**	**41**	----
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	**0.09**	----	**0.17**	<0.02	----	**0.11**	----	**0.09**	**0.06**	----
EA029-F: Excess Acid Neutralising Capacity													
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	**5.54**	----	----	**5.04**	----	----	----	----	**2.68**	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	**1110**	----	----	**1010**	----	----	----	----	**535**	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	**1.77**	----	----	**1.61**	----	----	----	----	**0.86**	----
EA029-H: Acid Base Accounting													
ANC Fineness Factor		0.5	NV	**1.5**	----	**1.5**	**1.5**	----	**1.5**	----	**1.5**	**1.5**	----
Net Acidity (sulfur units)	% S	0.02	0.03	<0.02	----	**0.68**	<0.02	----	**0.88**	----	**1.32**	<0.02	----
Net Acidity (acidity units)	mole H+ / t	10	18	<10	----	**423**	<10	----	**550**	----	**821**	<10	----
Liming Rate	kg CaCO3/t	1	NV	<1	----	**32**	<1	----	**41**	----	**62**	<1	----

Appendix H
Summary ASS Results - Western Basin Expansion

Matrix: SOIL	Sample Type:			REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	ALS Sample number:			EB1512673028	EB1512673029	EB1512673030	EB1512673031	EB1512673032	EB1512673033	EB1512673034	EB1512673035	EB1512673036	EB1512673037
Project name/number: GPC Geochemical Investigation	Sample date:			11/02/2015	11/02/2015	11/02/2015	11/02/2015	11/02/2015	11/02/2015	11/02/2015	11/02/2015	11/02/2015	11/02/2015
	Client sample ID (1st):			WBE6 0.5 C	WBE6 0.75 C	WBE6 1.0C	WBE8 0.0 C	WBE8 0.25 C	WBE8 0.5 C	WBE8 0.75 C	WBE8 1.0C	WBE11 0.0 C	WBE11 0.25 C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**										
EA003: pH (field/fox)													
pH (F)	pH Unit	0.1	<4	----	8	----	----	8.3	----	8.5	----	----	8.5
pH (Fox)	pH Unit	0.1	<4	----	1.4	----	----	1.6	----	2.2	----	----	1.8
pHF - pHFOX	pH Unit	-	2		6.6			6.7		6.3			6.7
Reaction Rate	Reaction Unit	1	NV	----	4	----	----	4	----	4	----	----	4
EA029-A: pH Measurements													
pH KCl (23A)	pH Unit	0.1	<4	7.8	----	7.2	8.8	----	7.1	----	6.6	8.7	----
pH OX (23B)	pH Unit	0.1	<4	2.8	----	2.3	7.7	----	2.3	----	2	7.8	----
pHF - pHFOX	pH Unit	-	2	5		4.9	1.1		4.8		4.6	0.9	
EA029-B: Acidity Trail													
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	<2	----	<2	<2	----	<2	----	<2	<2	----
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	375	----	878	<2	----	755	----	1830	<2	----
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	375	----	878	<2	----	755	----	1830	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	0.6	----	1.41	<0.02	----	1.21	----	2.93	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	0.6	----	1.41	<0.02	----	1.21	----	2.93	<0.02	----
EA029-C: Sulfur Trail													
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	0.14	----	0.19	0.15	----	0.16	----	0.18	0.16	----
Peroxide Sulfur (23De)	% S	0.02	NV	1.08	----	1.98	1	----	1.67	----	3.72	1.45	----
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	0.94	----	1.79	0.85	----	1.51	----	3.53	1.28	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	585	----	1120	531	----	941	----	2200	800	----
EA029-D: Calcium Values													
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	0.2	----	0.28	0.29	----	0.17	----	0.24	0.3	----
Peroxide Calcium (23Wh)	% Ca	0.02	NV	0.24	----	0.36	4.47	----	0.19	----	0.28	3.24	----
Acid Reacted Calcium (23X)	% Ca	0.02	NV	0.03	----	0.08	4.18	----	<0.02	----	0.04	2.93	----
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	17	----	39	2080	----	<10	----	21	1460	----
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	0.03	----	0.06	3.34	----	<0.02	----	0.03	2.35	----
EA029-E: Magnesium Values													
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	0.2	----	0.3	0.15	----	0.26	----	0.33	0.16	----
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	0.28	----	0.36	0.32	----	0.29	----	0.38	0.35	----
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	0.07	----	0.06	0.16	----	0.03	----	0.05	0.18	----
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	61	----	51	135	----	26	----	40	152	----
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	0.1	----	0.08	0.22	----	0.04	----	0.06	0.24	----
EA029-F: Excess Acid Neutralising Capacity													
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	----	----	----	8.96	----	----	----	----	4.87	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	----	----	----	1790	----	----	----	----	972	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	----	----	----	2.87	----	----	----	----	1.56	----
EA029-H: Acid Base Accounting													
ANC Fineness Factor		0.5	NV	1.5	----	1.5	1.5	----	1.5	----	1.5	1.5	----
Net Acidity (sulfur units)	% S	0.02	0.03	0.71	----	1.54	<0.02	----	1.31	----	3.13	<0.02	----
Net Acidity (acidity units)	mole H+ / t	10	18	445	----	958	<10	----	817	----	1950	<10	----
Liming Rate	kg CaCO3/t	1	NV	33	----	72	<1	----	61	----	146	<1	----

Appendix H
Summary ASS Results - Western Basin Expansion

Matrix: SOIL	Sample Type:			REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	ALS Sample number:			EB1512673038	EB1512673039	EB1512673040	EB1512673041	EB1512673042	EB1512673043	EB1512673044	EB1512673045	EB1512673046	EB1512673047
Project name/number: GPC Geochemical Investigation	Sample date:			11/02/2015	11/02/2015	11/02/2015	11/02/2015	11/02/2015	11/02/2015	11/02/2015	11/02/2015	11/02/2015	11/02/2015
	Client sample ID (1st):			WBE11 0.5 C	WBE11 0.75 C	WBE11 1.0C	WBE12 0.0 C	WBE12 0.25 C	WBE12 0.5 C	WBE12 0.75 C	WBE12 1.0C	WBE13 0.0 C	WBE13 0.25 C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**										
EA003: pH (field/fox)													
pH (F)	pH Unit	0.1	<4	----	8	----	----	8.6	----	8	----	----	8.6
pH (Fox)	pH Unit	0.1	<4	----	1.8	----	----	6.6	----	1.9	----	----	2.4
pHF - pHFOX	pH Unit	-	2		6.2			2.0		6.1			6.2
Reaction Rate	Reaction Unit	1	NV	----	4	----	----	4	----	4	----	----	4
EA029-A: pH Measurements													
pH KCl (23A)	pH Unit	0.1	<4	6.7	----	7.6	8.6	----	7.1	----	7	8.8	----
pH OX (23B)	pH Unit	0.1	<4	2	----	2.2	3.6	----	2.1	----	2.1	8	----
pHF - pHFOX	pH Unit	-	2	4.7		5.4	5		5		4.9	0.8	
EA029-B: Acidity Trail													
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	<2	----	<2	<2	----	<2	----	<2	<2	----
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	1050	----	828	159	----	1110	----	996	<2	----
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	1050	----	828	159	----	1110	----	996	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	<0.02	----	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	1.68	----	1.33	0.25	----	1.78	----	1.6	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	1.68	----	1.33	0.25	----	1.78	----	1.6	<0.02	----
EA029-C: Sulfur Trail													
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	0.19	----	0.19	0.16	----	0.23	----	0.17	0.12	----
Peroxide Sulfur (23De)	% S	0.02	NV	2.22	----	1.83	1.93	----	2.38	----	2.29	0.36	----
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	2.02	----	1.64	1.76	----	2.15	----	2.12	0.24	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	1260	----	1020	1100	----	1340	----	1320	148	----
EA029-D: Calcium Values													
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	0.16	----	0.32	0.3	----	0.31	----	0.23	0.27	----
Peroxide Calcium (23Wh)	% Ca	0.02	NV	0.18	----	0.39	1.61	----	0.32	----	0.26	2.6	----
Acid Reacted Calcium (23X)	% Ca	0.02	NV	<0.02	----	0.06	1.31	----	<0.02	----	0.03	2.33	----
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	<10	----	32	653	----	<10	----	17	1160	----
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	<0.02	----	0.05	1.05	----	<0.02	----	0.03	1.87	----
EA029-E: Magnesium Values													
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	0.3	----	0.3	0.17	----	0.32	----	0.27	0.13	----
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	0.33	----	0.36	0.3	----	0.35	----	0.31	0.23	----
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	0.03	----	0.06	0.12	----	0.04	----	0.04	0.1	----
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	28	----	52	103	----	31	----	34	81	----
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	0.04	----	0.08	0.16	----	0.05	----	0.05	0.13	----
EA029-F: Excess Acid Neutralising Capacity													
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	----	----	----	----	----	----	----	----	7.11	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	----	----	----	----	----	----	----	----	1420	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	----	----	----	----	----	----	----	----	2.28	----
EA029-H: Acid Base Accounting													
ANC Fineness Factor		0.5	NV	1.5	----	1.5	1.5	----	1.5	----	1.5	1.5	----
Net Acidity (sulfur units)	% S	0.02	0.03	1.79	----	1.43	0.76	----	1.9	----	1.77	<0.02	----
Net Acidity (acidity units)	mole H+ / t	10	18	1120	----	894	472	----	1190	----	1100	<10	----
Liming Rate	kg CaCO3/t	1	NV	84	----	67	35	----	89	----	83	<1	----

Appendix H
Summary ASS Results - Western Basin Expansion

Matrix: SOIL	**Sample Type:**			REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	**ALS Sample number:**			EB1512673048	EB1512673049	EB1512673050	EB1512673057	EB1512673058	EB1512899001	EB1512899002	EB1512899003	EB1512899004
Project name/number: GPC Geochemical Investigation	**Sample date:**			11/02/2015	11/02/2015	11/02/2015	11/02/2015	11/02/2015	15/02/2015	15/02/2015	15/02/2015	15/02/2015
	Client sample ID (1st):			WBE13 0.5 C	WBE13 0.75 C	WBE13 1.0C	ASS DUPLICATE 17	ASS DUPLICATE 18	WBE1 0.0 C	WBE1 0.25 C	WBE1 0.5 C	WBE1 0.75 C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**									
EA003: pH (field/fox)												
pH (F)	pH Unit	0.1	<4	----	**8.4**	----	----	----	----	**8.6**	----	**8.2**
pH (Fox)	pH Unit	0.1	<4	----	**2.3**	----	----	----	----	**2.8**	----	**1.8**
pHF - pHFOX	pH Unit	-	2		**6.1**					**5.8**		**6.4**
Reaction Rate	Reaction Unit	1	NV	----	**4**	----	----	----	----	**4**	----	**4**
EA029-A: pH Measurements												
pH KCl (23A)	pH Unit	0.1	<4	**8.1**	----	**7.6**	**8.5**	**8.8**	**8.9**	----	**8.3**	----
pH OX (23B)	pH Unit	0.1	<4	**3**	----	**2.3**	**7.3**	**7.7**	**7.9**	----	**2.3**	----
pHF - pHFOX	pH Unit	-	2	**5.1**		**5.3**	**1.2**	**1.1**	**1**		**6**	
EA029-B: Acidity Trail												
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	<2	----	<2	<2	<2	<2	----	<2	----
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	**238**	----	**467**	<2	<2	<2	----	**566**	----
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	**238**	----	**467**	<2	<2	<2	----	**566**	----
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	<0.02	----	<0.02	<0.02	<0.02	<0.02	----	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	**0.38**	----	**0.75**	<0.02	<0.02	<0.02	----	**0.91**	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	**0.38**	----	**0.75**	<0.02	<0.02	<0.02	----	**0.91**	----
EA029-C: Sulfur Trail												
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	**0.12**	----	**0.15**	**0.18**	**0.14**	**0.13**	----	**0.13**	----
Peroxide Sulfur (23De)	% S	0.02	NV	**0.87**	----	**1.18**	**2.24**	**0.75**	**0.65**	----	**1.58**	----
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	**0.76**	----	**1.03**	**2.06**	**0.61**	**0.52**	----	**1.45**	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	**474**	----	**643**	**1280**	**381**	**327**	----	**902**	----
EA029-D: Calcium Values												
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	**0.22**	----	**0.2**	**0.33**	**0.29**	**0.27**	----	**0.34**	----
Peroxide Calcium (23Wh)	% Ca	0.02	NV	**0.32**	----	**0.2**	**3.36**	**3.16**	**4.41**	----	**0.5**	----
Acid Reacted Calcium (23X)	% Ca	0.02	NV	**0.1**	----	<0.02	**3.02**	**2.86**	**4.14**	----	**0.16**	----
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	**48**	----	<10	**1510**	**1430**	**2060**	----	**79**	----
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	**0.08**	----	<0.02	**2.42**	**2.29**	**3.31**	----	**0.13**	----
EA029-E: Magnesium Values												
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	**0.18**	----	**0.18**	**0.18**	**0.14**	**0.1**	----	**0.19**	----
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	**0.25**	----	**0.23**	**0.36**	**0.25**	**0.16**	----	**0.26**	----
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	**0.06**	----	**0.05**	**0.18**	**0.11**	**0.06**	----	**0.08**	----
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	**54**	----	**40**	**149**	**89**	**54**	----	**63**	----
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	**0.09**	----	**0.06**	**0.24**	**0.14**	**0.09**	----	**0.1**	----
EA029-F: Excess Acid Neutralising Capacity												
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	----	----	----	**3.11**	**6.08**	**11.5**	----	----	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	----	----	----	**622**	**1210**	**2300**	----	----	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	----	----	----	**1**	**1.94**	**3.69**	----	----	----
EA029-H: Acid Base Accounting												
ANC Fineness Factor		0.5	NV	**1.5**	----	**1.5**	**1.5**	**1.5**	**1.5**	----	**1.5**	----
Net Acidity (sulfur units)	% S	0.02	0.03	**0.51**	----	**0.84**	**0.02**	<0.02	<0.02	----	**1.09**	----
Net Acidity (acidity units)	mole H+ / t	10	18	**316**	----	**526**	**13**	<10	<10	----	**678**	----
Liming Rate	kg CaCO3/t	1	NV	**24**	----	**39**	**1**	<1	<1	----	**51**	----

Appendix H
Summary ASS Results - Western Basin Expansion

Matrix: SOIL	Sample Type:			REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	ALS Sample number:			EB1512899005	EB1512899006	EB1512899007	EB1512899008	EB1512899009	EB1512899010	EB1512899011	EB1512899012	EB1512899013	EB1512899014
Project name/number: GPC Geochemical Investigation	Sample date:			15/02/2015	15/02/2015	15/02/2015	15/02/2015	15/02/2015	15/02/2015	15/02/2015	15/02/2015	15/02/2015	15/02/2015
	Client sample ID (1st):			WBE1 1.0 C	WBE2 0.0 C	WBE2 0.25 C	WBE2 0.5 C	WBE2 0.75 C	WBE2 1.0 C	WBE3 0.0C	WBE3 0.25C	WBE3 0.5C	WBE3 0.75C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**										
EA003: pH (field/fox)													
pH (F)	pH Unit	0.1	<4	----	----	**8.6**	----	**8.3**	----	----	**8.6**	----	**8.3**
pH (Fox)	pH Unit	0.1	<4	----	----	**3.6**	----	**2.2**	----	----	**4.9**	----	**1.8**
pHF - pHFOX	pH Unit	-	2			**5.0**		**6.1**			**3.7**		**6.5**
Reaction Rate	Reaction Unit	1	NV	----	----	**4**	----	**4**	----	----	**3**	----	**4**
EA029-A: pH Measurements													
pH KCl (23A)	pH Unit	0.1	<4	**8.4**	**8.8**	----	**8.6**	----	**8.6**	**9**	----	**8.7**	----
pH OX (23B)	pH Unit	0.1	<4	**2.2**	**7.8**	----	**2.9**	----	**3**	**8**	----	**7.7**	----
pHF - pHFOX	pH Unit	-	2	**6.2**	**1**		**5.7**		**5.6**	**1**		**1**	
EA029-B: Acidity Trail													
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	<2	<2	----	<2	----	<2	<2	----	<2	----
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	**580**	<2	----	**270**	----	**120**	<2	----	<2	----
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	**580**	<2	----	**270**	----	**120**	<2	----	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	**0.93**	<0.02	----	**0.43**	----	**0.19**	<0.02	----	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	**0.93**	<0.02	----	**0.43**	----	**0.19**	<0.02	----	<0.02	----
EA029-C: Sulfur Trail													
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	**0.18**	**0.16**	----	**0.16**	----	**0.16**	**0.13**	----	**0.13**	----
Peroxide Sulfur (23De)	% S	0.02	NV	**1.7**	**0.94**	----	**1.7**	----	**0.4**	**0.49**	----	**0.84**	----
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	**1.52**	**0.77**	----	**1.54**	----	**0.24**	**0.36**	----	**0.71**	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	**950**	**482**	----	**962**	----	**151**	**227**	----	**443**	----
EA029-D: Calcium Values													
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	**0.37**	**0.35**	----	**0.32**	----	**0.3**	**0.28**	----	**0.34**	----
Peroxide Calcium (23Wh)	% Ca	0.02	NV	**0.59**	**4.79**	----	**1.23**	----	**0.29**	**6.5**	----	**2.22**	----
Acid Reacted Calcium (23X)	% Ca	0.02	NV	**0.22**	**4.44**	----	**0.91**	----	<0.02	**6.22**	----	**1.88**	----
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	**110**	**2210**	----	**453**	----	<10	**3100**	----	**940**	----
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	**0.18**	**3.55**	----	**0.73**	----	<0.02	**4.97**	----	**1.51**	----
EA029-E: Magnesium Values													
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	**0.2**	**0.15**	----	**0.17**	----	**0.15**	**0.13**	----	**0.17**	----
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	**0.26**	**0.26**	----	**0.28**	----	**0.14**	**0.19**	----	**0.26**	----
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	**0.06**	**0.11**	----	**0.11**	----	<0.02	**0.06**	----	**0.09**	----
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	**52**	**89**	----	**90**	----	<10	**49**	----	**72**	----
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	**0.08**	**0.14**	----	**0.14**	----	<0.02	**0.08**	----	**0.12**	----
EA029-F: Excess Acid Neutralising Capacity													
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	----	**10.2**	----	----	----	----	**17.4**	----	**4.15**	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	----	**2030**	----	----	----	----	**3480**	----	**828**	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	----	**3.25**	----	----	----	----	**5.56**	----	**1.33**	----
EA029-H: Acid Base Accounting													
ANC Fineness Factor		0.5	NV	**1.5**	**1.5**	----	**1.5**	----	**1.5**	**1.5**	----	**1.5**	----
Net Acidity (sulfur units)	% S	0.02	0.03	**1.13**	<0.02	----	**0.8**	----	**0.21**	<0.02	----	<0.02	----
Net Acidity (acidity units)	mole H+ / t	10	18	**703**	<10	----	**500**	----	**130**	<10	----	<10	----
Liming Rate	kg CaCO3/t	1	NV	**53**	<1	----	**38**	----	**10**	<1	----	<1	----

Appendix H
Summary ASS Results - Western Basin Expansion

Matrix: SOIL	**Sample Type:**			REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	**ALS Sample number:**			EB1512899015	EB1512899016	EB1512899017	EB1512899018	EB1512899019	EB1512899020	EB1512899021	EB1512899022	EB1512899023	EB1512899024
Project name/number: GPC Geochemical Investigation	**Sample date:**			15/02/2015	15/02/2015	15/02/2015	15/02/2015	15/02/2015	15/02/2015	15/02/2015	15/02/2015	15/02/2015	15/02/2015
	Client sample ID (1st):			WBE3 1.0C	WBE9 0.0 C	WBE9 0.25C	WBE9 0.5C	WBE9 0.75C	WBE9 1.0 C	WBE16 0.0 C	WBE16 0.25C	WBE16 0.5C	WBE16 0.75C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**										
EA003: pH (field/fox)													
pH (F)	pH Unit	0.1	<4	----	----	**8.6**	----	**8.4**	----	----	**8.8**	----	**8.4**
pH (Fox)	pH Unit	0.1	<4	----	----	**5.2**	----	**2.4**	----	----	**5.9**	----	**1.6**
pHF - pHFOX	pH Unit	-	2			**3.4**		**6.0**			**2.9**		**6.8**
Reaction Rate	Reaction Unit	1	NV	----	----	**3**	----	**4**	----	----	**3**	----	**4**
EA029-A: pH Measurements													
pH KCl (23A)	pH Unit	0.1	<4	**8.5**	**8.6**	----	**8.9**	----	**7.5**	**9**	----	**8.5**	----
pH OX (23B)	pH Unit	0.1	<4	**2.7**	**7.9**	----	**8**	----	**2**	**8.3**	----	**7.7**	----
pHF - pHFOX	pH Unit	-	2	**5.8**	**0.7**		**0.9**		**5.5**	**0.7**		**0.8**	
EA029-B: Acidity Trail													
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	<2	<2	----	<2	----	<2	<2	----	<2	----
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	**314**	<2	----	<2	----	**1300**	<2	----	<2	----
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	**314**	<2	----	<2	----	**1300**	<2	----	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	**0.5**	<0.02	----	<0.02	----	**2.08**	<0.02	----	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	**0.5**	<0.02	----	<0.02	----	**2.08**	<0.02	----	<0.02	----
EA029-C: Sulfur Trail													
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	**0.17**	**0.14**	----	**0.17**	----	**0.17**	**0.11**	----	**0.13**	----
Peroxide Sulfur (23De)	% S	0.02	NV	**1.51**	**0.58**	----	**0.76**	----	**2.66**	**0.38**	----	**0.99**	----
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	**1.34**	**0.43**	----	**0.6**	----	**2.49**	**0.27**	----	**0.86**	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	**838**	**270**	----	**372**	----	**1550**	**168**	----	**534**	----
EA029-D: Calcium Values													
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	**0.39**	**0.33**	----	**0.33**	----	**0.26**	**0.29**	----	**0.34**	----
Peroxide Calcium (23Wh)	% Ca	0.02	NV	**1.04**	**1.47**	----	**7.43**	----	**0.27**	**8.16**	----	**2.28**	----
Acid Reacted Calcium (23X)	% Ca	0.02	NV	**0.64**	**1.14**	----	**7.1**	----	<0.02	**7.87**	----	**1.94**	----
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	**320**	**567**	----	**3540**	----	<10	**3930**	----	**968**	----
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	**0.51**	**0.91**	----	**5.68**	----	<0.02	**6.3**	----	**1.55**	----
EA029-E: Magnesium Values													
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	**0.22**	**0.22**	----	**0.12**	----	**0.23**	**0.11**	----	**0.17**	----
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	**0.27**	**0.33**	----	**0.19**	----	**0.25**	**0.2**	----	**0.28**	----
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	**0.05**	**0.11**	----	**0.07**	----	**0.02**	**0.09**	----	**0.11**	----
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	**38**	**92**	----	**61**	----	**19**	**73**	----	**90**	----
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	**0.06**	**0.15**	----	**0.1**	----	**0.03**	**0.12**	----	**0.14**	----
EA029-F: Excess Acid Neutralising Capacity													
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	----	**2.69**	----	**21.5**	----	----	**19.1**	----	**3.97**	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	----	**538**	----	**4300**	----	----	**3820**	----	**794**	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	----	**0.86**	----	**6.89**	----	----	**6.13**	----	**1.27**	----
EA029-H: Acid Base Accounting													
ANC Fineness Factor		0.5	NV	**1.5**	**1.5**	----	**1.5**	----	**1.5**	**1.5**	----	**1.5**	----
Net Acidity (sulfur units)	% S	0.02	0.03	**0.78**	<0.02	----	<0.02	----	**2.22**	<0.02	----	<0.02	----
Net Acidity (acidity units)	mole H+ / t	10	18	**488**	<10	----	<10	----	**1380**	<10	----	<10	----
Liming Rate	kg CaCO3/t	1	NV	**37**	<1	----	<1	----	**104**	<1	----	<1	----

Appendix H
Summary ASS Results - Western Basin Expansion

Matrix: SOIL	Sample Type:			REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Workgroup: EB1512125	ALS Sample number:			EB1512899025	EB1512899026	EB1512899027	EB1512899028	EB1512899029	EB1512899030	EB1512899031	EB1512899032	EB1512899033	EB1512899034
Project name/number: GPC Geochemical Investigation	Sample date:			15/02/2015	15/02/2015	15/02/2015	15/02/2015	15/02/2015	15/02/2015	15/02/2015	15/02/2015	15/02/2015	15/02/2015
	Client sample ID (1st):			WBE16 1.0 C	WBE17 0.0 C	WBE17 0.25 C	WBE17 0.5 C	WBE17 0.75 C	WBE17 1.0C	WBE18 0.0 C	WBE18 0.25 C	WBE18 0.5 C	WBE18 0.75 C
	Purchase Order:			245852	245852	245852	245852	245852	245852	245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**										
EA003: pH (field/fox)													
pH (F)	pH Unit	0.1	<4	----	----	**8.6**	----	**8.4**	----	----	**8.8**	----	**8.6**
pH (Fox)	pH Unit	0.1	<4	----	----	**6.5**	----	**1.5**	----	----	**6.5**	----	**1.7**
pHF - pHFOX	pH Unit	-	2			**2.1**		**6.9**			**2.3**		**6.9**
Reaction Rate	Reaction Unit	1	NV	----	----	**3**	----	**4**	----	----	**3**	----	**4**
EA029-A: pH Measurements													
pH KCl (23A)	pH Unit	0.1	<4	**8.3**	**8.7**	----	**8.7**	----	**6**	**8.7**	----	**8.8**	----
pH OX (23B)	pH Unit	0.1	<4	**3**	**8**	----	**7.7**	----	**2**	**8**	----	**7.9**	----
pHF - pHFOX	pH Unit	-	2	**5.3**	**0.7**		**1**		4	**0.7**		**0.9**	
EA029-B: Acidity Trail													
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	<2	<2	----	<2	----	**8**	<2	----	<2	----
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	**245**	<2	----	<2	----	**1120**	<2	----	<2	----
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	**245**	<2	----	<2	----	**1110**	<2	----	<2	----
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	<0.02	<0.02	----	<0.02	----	<0.02	<0.02	----	<0.02	----
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	**0.39**	<0.02	----	<0.02	----	**1.79**	<0.02	----	<0.02	----
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	**0.39**	<0.02	----	<0.02	----	**1.78**	<0.02	----	<0.02	----
EA029-C: Sulfur Trail													
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	**0.14**	**0.1**	----	**0.13**	----	**0.26**	**0.11**	----	**0.12**	----
Peroxide Sulfur (23De)	% S	0.02	NV	**1.12**	**0.32**	----	**1.16**	----	**2.23**	**0.45**	----	**0.85**	----
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	**0.98**	**0.22**	----	**1.02**	----	**1.97**	**0.34**	----	**0.73**	----
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	**615**	**136**	----	**640**	----	**1230**	**214**	----	**455**	----
EA029-D: Calcium Values													
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	**0.4**	**0.3**	----	**0.32**	----	**0.16**	**0.3**	----	**0.28**	----
Peroxide Calcium (23Wh)	% Ca	0.02	NV	**0.7**	**1.09**	----	**7.68**	----	**0.19**	**2.54**	----	**5.98**	----
Acid Reacted Calcium (23X)	% Ca	0.02	NV	**0.3**	**0.8**	----	**7.36**	----	**0.02**	**2.24**	----	**5.69**	----
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	**150**	**398**	----	**3670**	----	**13**	**1120**	----	**2840**	----
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	**0.24**	**0.64**	----	**5.88**	----	**0.02**	**1.79**	----	**4.55**	----
EA029-E: Magnesium Values													
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	**0.25**	**0.16**	----	**0.16**	----	**0.3**	**0.15**	----	**0.13**	----
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	**0.33**	**0.31**	----	**0.3**	----	**0.33**	**0.28**	----	**0.3**	----
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	**0.07**	**0.15**	----	**0.14**	----	**0.03**	**0.13**	----	**0.17**	----
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	**61**	**126**	----	**116**	----	**28**	**109**	----	**139**	----
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	**0.1**	**0.2**	----	**0.18**	----	**0.04**	**0.18**	----	**0.22**	----
EA029-F: Excess Acid Neutralising Capacity													
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	----	**2.38**	----	**18**	----	----	**4.87**	----	**12**	----
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	----	**475**	----	**3590**	----	----	**972**	----	**2400**	----
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	----	**0.76**	----	**5.76**	----	----	**1.56**	----	**3.84**	----
EA029-H: Acid Base Accounting													
ANC Fineness Factor		0.5	NV	**1.5**	**1.5**	----	**1.5**	----	**1.5**	**1.5**	----	**1.5**	----
Net Acidity (sulfur units)	% S	0.02	0.03	**0.59**	<0.02	----	<0.02	----	**1.98**	<0.02	----	<0.02	----
Net Acidity (acidity units)	mole H+ / t	10	18	**368**	<10	----	<10	----	**1230**	<10	----	<10	----
Liming Rate	kg CaCO3/t	1	NV	**28**	<1	----	<1	----	**93**	<1	----	<1	----

Appendix H
Summary ASS Results - Western Basin Expansion

Matrix: SOIL	**Sample Type:**			**REG**	**REG**	**REG**	**REG**
Workgroup: EB1512125	**ALS Sample number:**			EB1512899035	EB1512899036	EB1512899037	EB1512899038
Project name/number: GPC Geochemical Investigation	**Sample date:**			15/02/2015	15/02/2015	15/02/2015	15/02/2015
	Client sample ID (1st):			WBE18 1.0C	ASS DUPLICATE 21A	ASS DUPLICATE 22A	ASS DUPLICATE 23
	Purchase Order:			245852	245852	245852	245852
Analyte grouping/Analyte	**Units**	**LOR**	**Action Criteria**				
EA003: pH (field/fox)							
pH (F)	pH Unit	0.1	<4	**----**	**----**	**----**	**----**
pH (Fox)	pH Unit	0.1	<4	**----**	**----**	**----**	**----**
pHF - pHFOX	pH Unit	-	2				
Reaction Rate	Reaction Unit	1	NV	**----**	**----**	**----**	**----**
EA029-A: pH Measurements							
pH KCl (23A)	pH Unit	0.1	<4	**8.1**	**8.8**	**7.3**	**8.7**
pH OX (23B)	pH Unit	0.1	<4	**2.4**	**7.8**	**2.1**	**7.9**
pHF - pHFOX	pH Unit	-	2	**5.7**	**1**	**5.2**	**0.8**
EA029-B: Acidity Trail							
Titratable Actual Acidity (23F)	mole H+ / t	2	NV	<2	<2	<2	<2
Titratable Peroxide Acidity (23G)	mole H+ / t	2	NV	**361**	<2	**699**	<2
Titratable Sulfidic Acidity (23H)	mole H+ / t	2	NV	**361**	<2	**699**	<2
sulfidic - Titratable Actual Acidity (s-23F)	% pyrite S	0.02	NV	<0.02	<0.02	<0.02	<0.02
sulfidic - Titratable Peroxide Acidity (s-23G)	% pyrite S	0.02	NV	**0.58**	<0.02	**1.12**	<0.02
sulfidic - Titratable Sulfidic Acidity (s-23H)	% pyrite S	0.02	NV	**0.58**	<0.02	**1.12**	<0.02
EA029-C: Sulfur Trail							
KCl Extractable Sulfur (23Ce)	% S	0.02	NV	**0.21**	**0.14**	**0.14**	**0.14**
Peroxide Sulfur (23De)	% S	0.02	NV	**1.91**	**1.01**	**1.65**	**0.8**
Peroxide Oxidisable Sulfur (23E)	% S	0.02	NV	**1.7**	**0.87**	**1.5**	**0.66**
acidity - Peroxide Oxidisable Sulfur (a-23E)	mole H+ / t	10	NV	**1060**	**541**	**939**	**411**
EA029-D: Calcium Values							
KCl Extractable Calcium (23Vh)	% Ca	0.02	NV	**0.42**	**0.29**	**0.19**	**0.36**
Peroxide Calcium (23Wh)	% Ca	0.02	NV	**1.23**	**3.7**	**0.21**	**4.46**
Acid Reacted Calcium (23X)	% Ca	0.02	NV	**0.81**	**3.42**	<0.02	**4.1**
acidity - Acid Reacted Calcium (a-23X)	mole H+ / t	10	NV	**403**	**1700**	<10	**2050**
sulfidic - Acid Reacted Calcium (s-23X)	% S	0.02	NV	**0.65**	**2.73**	<0.02	**3.28**
EA029-E: Magnesium Values							
KCl Extractable Magnesium (23Sm)	% Mg	0.02	NV	**0.23**	**0.13**	**0.26**	**0.15**
Peroxide Magnesium (23Tm)	% Mg	0.02	NV	**0.3**	**0.27**	**0.3**	**0.24**
Acid Reacted Magnesium (23U)	% Mg	0.02	NV	**0.06**	**0.14**	**0.03**	**0.09**
Acidity - Acid Reacted Magnesium (a-23U)	mole H+ / t	10	NV	**53**	**112**	**27**	**72**
sulfidic - Acid Reacted Magnesium (s-23U)	% S	0.02	NV	**0.08**	**0.18**	**0.04**	**0.12**
EA029-F: Excess Acid Neutralising Capacity							
Excess Acid Neutralising Capacity (23Q)	% CaCO3	0.02	NV	**----**	**6.11**	**----**	**11.7**
acidity - Excess Acid Neutralising Capacity (a-23Q)	mole H+ / t	10	NV	**----**	**1220**	**----**	**2330**
sulfidic - Excess Acid Neutralising Capacity (s-23Q)	% S	0.02	NV	**----**	**1.95**	**----**	**3.74**
EA029-H: Acid Base Accounting							
ANC Fineness Factor		0.5	NV	**1.5**	**1.5**	**1.5**	**1.5**
Net Acidity (sulfur units)	% S	0.02	0.03	**0.95**	<0.02	**1.25**	<0.02
Net Acidity (acidity units)	mole H+ / t	10	18	**594**	<10	**779**	<10
Liming Rate	kg CaCO3/t	1	NV	**44**	<1	**58**	<1

Appendix I
ASS duplicates

Contaminant	Primary sample	ASS Duplicate	RPD (%)
EB8 0.0m			
The RPDs did not exceed the recommended limits			
EB19 0.0m			
The RPDs did not exceed the recommended limits			
EB13 0.5m			
Acidity – acid reacted magnesium (a-23U)	101	57	55.7
EB21 0.5m			
Peroxide calcium (23Wh)	4.84	7.63	44.7
Acid reacted calcium (23X)	4.69	7.47	45.7
acidity – acid reacted calcium (a-23X)	2,340	3,720	45.5
Sulfidic – acid reacted calcium (s-23X)	3.75	5.97	45.7
Peroxide magnesium (23Tm)	0.21	0.4	62.3
Acid reacted magnesium (23U)	0.18	0.36	66.7
Acidity – acid reacted magnesium (a-23U)	146	296	67.9
Sulfidic – acid reacted magnesium (s-23U)	0.23	0.48	70.4
Excess acid neutralising capacity (23Q)	13.5	20.5	41.2
Acidity – excess acid neutralising capacity (a-23Q)	2,700	4,100	41.2
Sulfidic – excess acid neutralising capacity (s-23Q)	4.32	6.56	41.2
EB1 0.0m			
Peroxide calcium (23Wh)	13.4	9.85	30.5
Acid reacted calcium (23X)	13.3	9.69	31.4
Acidity – acid reacted calcium (a-23X)	6,620	4,830	31.3
Sulfidic – acid reacted calcium (s-23X)	10.6	7.75	31.1
Peroxide magnesium (23Tm)	0.48	0.29	49.4
Acid reacted magnesium (23U)	0.44	0.25	55.1
Acidity – acid reacted magnesium (a-23U)	362	206	54.9
Sulfidic – acid reacted magnesium (s-23U)	0.58	0.33	54.9
Excess acid neutralising capacity (23Q)	33.8	24.1	33.5

Contaminant	Primary sample	ASS Duplicate	RPD (%)
Acidity – excess acid neutralising capacity (a-23Q)	6,760	4,810	33.7
Sulfidic – excess acid neutralising capacity (s-23Q)	10.8	7.71	33.4
EB6 1.0m			
Peroxide calcium (23Wh)	0.84	0.6	33.3
Acid reacted calcium (23X)	0.57	0.35	47.8
Acidity – acid reacted calcium (a-23X)	287	177	47.4
Sulfidic – acid reacted calcium (s-23X)	0.46	0.28	48.6
Excess acid neutralising capacity (23Q)	2.15	1.4	42.3
Acidity – excess acid neutralising capacity (a-23Q)	430	281	41.9
Sulfidic – excess acid neutralising capacity (s-23Q)	0.69	0.45	42.1
EB14 0.0m			
The RPDs did not exceed the recommended limits			
EB33 0.0m			
Peroxide sulfur (23De)	0.11	0.27	84.2
Excess acid neutralising capacity (23Q)	12.1	4.74	87.4
Acidity – excess acid neutralising capacity (a-23Q)	2,420	947	87.5
Sulfidic – excess acid neutralising capacity (s-23Q)	3.87	1.52	87.2
EB17 0.0m			
Peroxide calcium (23Wh)	3.95	2.06	62.9
Acid reacted calcium (23X)	3.74	1.84	68.1
Acidity – acid reacted calcium (a-23X)	1,860	916	68.0
Sulfidic – acid reacted calcium (s-23X)	2.99	1.47	68.2
Acid reacted magnesium (23U)	0.22	0.1	75.0
Acidity – acid reacted magnesium (a-23U)	181	79	78.5
Sulfidic – acid reacted magnesium (s-23U)	0.29	0.13	76.2
Excess acid neutralising capacity (23Q)	11	5.22	71.3
Acidity – excess acid neutralising capacity (a-23Q)	2,200	1,040	71.6
Sulfidic – excess acid neutralising capacity (s-23Q)	3.52	1.67	71.3
WB2 1.0m			
Excess acid neutralising capacity (23Q)	5	6.13	20.3
Sulfidic – excess acid neutralising capacity (s-23Q)	1.6	1.96	20.2
WB4 1.0m			
Peroxide calcium (23Wh)	3.57	4.58	24.8
Acid reacted calcium (23X)	3.41	4.42	25.8
Acidity – acid reacted calcium (a-23X)	1,700	2,210	26.1
Sulfidic – acid reacted calcium (s-23X)	2.73	3.54	25.8
Excess acid neutralising capacity (23Q)	9.04	14.7	47.7
Acidity – excess acid neutralising capacity (a-23Q)	1,800	2,940	48.1

Contaminant	Primary sample	ASS Duplicate	RPD (%)
Sulfidic – excess acid neutralising capacity (s-23Q)	2.89	4.7	47.7
WB9 0.0m			
The RPDs did not exceed the recommended limits			
WB13 0.0m			
The RPDs did not exceed the recommended limits			
WB14 0.5m			
Acidity – acid reacted magnesium (a-23U)	123	65	61.7
Sulfidic – acid reacted magnesium (s-23U)	0.2	0.1	66.7
Excess acid neutralising capacity (23Q)	8.13	6.38	24.1
Acidity – excess acid neutralising capacity (a-23Q)	1,620	1,280	23.4
Sulfidic – excess acid neutralising capacity (s-23Q)	2.6	2.04	24.1
WB6 0.0m			
Acid reacted calcium (23X)	2.06	2.54	20.9
Acidity – acid reacted calcium (a-23X)	1,030	1,270	20.9
Sulfidic – acid reacted calcium (s-23X)	1.65	2.03	20.7
WB17 0.0m			
The RPDs did not exceed the recommended limits			
WB27 0.0m			
Acidity – acid reacted magnesium (a-23U)	<10	20	66.7
WB25 1.0m			
The RPDs did not exceed the recommended limits			
WB22 1.0m			
The RPDs did not exceed the recommended limits			
PC2 0.0m			
The RPDs did not exceed the recommended limits			
PC4 0.5m			
The RPDs did not exceed the recommended limits			
PC5 0.0m			
Peroxide sulfur (23De)	0.56	0.38	38.3
Acidity – peroxide oxidisable sulfur (a-23E)	245	168	37.3
Peroxide calcium (23Wh)	1.85	4.01	73.7
Acid reacted calcium (23X)	1.46	3.72	87.3
Acidity – acid reacted calcium (a-23X)	728	1,860	87.5
Sulfidic – acid reacted calcium (s-23X)	1.17	2.98	87.2
KCl extractable magnesium (23Sm)	0.23	0.12	62.9
Acidity – acid reacted magnesium (a-23U)	149	237	45.6
Excess acid neutralising capacity (23Q)	3.97	10	86.3
Acidity – excess acid neutralising capacity (a-23Q)	793	2,000	86.4

Contaminant	Primary sample	ASS Duplicate	RPD (%)
Sulfidic – excess acid neutralising capacity (s-23Q)	1.27	3.21	86.6
PC6 0.0m			
Peroxide sulfur (23De)	0.53	0.39	30.4
Acidity – peroxide oxidisable sulfur (a-23E)	246	162	41.2
Peroxide calcium (23Wh)	5.34	4.33	20.9
Acid reacted calcium (23X)	5.11	4.09	22.2
Acidity – acid reacted calcium (a-23X)	2,550	2,040	22.2
Sulfidic – acid reacted calcium (s-23X)	4.09	3.27	22.3
PC10 1.0m			
Peroxide calcium (23Wh)	1.18	0.85	32.5
Acid reacted calcium (23X)	0.87	0.57	41.7
Acidity – acid reacted calcium (a-23X)	436	287	41.2
Sulfidic – acid reacted calcium (s-23X)	0.7	0.46	41.4
WBE21 0.5m			
Peroxide oxidisable sulfur (23E)	0.31	0.4	25.4
Acidity – peroxide oxidisable sulfur (a-23E)	192	251	26.6
Excess acid neutralising capacity (23Q)	1.85	1.47	22.9
Acidity – excess acid neutralising capacity (a-23Q)	369	294	22.6
Sulfidic – excess acid neutralising capacity (s-23Q)	0.59	0.47	22.6
WBE15 1.0m			
Titratable peroxide acidity (23G)	1,780	1,320	29.7
Titratable sulfidic acidity (23H)	1,780	1,320	29.7
Sulfidic – titratable peroxide acidity (s-23G)	2.86	2.12	29.7
Sulfidic – titratable sulfidic acidity (s-23H)	2.86	2.12	29.7
KCl extractable calcium (23Vh)	0.22	0.4	58.1
Peroxide calcium (23Wh)	0.21	0.6	96.3
Net acidity (sulfur units)	2.95	2.35	22.6
Net acidity (acidity units)	1,840	1,470	22.4
Liming rate	138	110	22.6
WBE14 0.0m			
Peroxide sulfur (23De)	0.74	2.05	93.9
Peroxide oxidisable sulfur (23E)	0.58	1.8	102.5
Acidity – peroxide oxidisable sulfur (a-23E)	360	1,120	102.7
KCl extractable calcium (23Vh)	0.3	0.4	28.6
Peroxide calcium (23Wh)	11.9	4.45	91.1
Acid reacted calcium (23X)	11.6	4.05	96.5
Acidity – acid reacted calcium (a-23X)	5,790	2,020	96.5
Sulfidic – acid reacted calcium (s-23X)	9.28	3.24	96.5

Contaminant	Primary sample	ASS Duplicate	RPD (%)
KCl extractable magnesium (23Sm)	0.11	0.22	66.7
Excess acid neutralising capacity (23Q)	31.3	5.83	137.2
Acidity – excess acid neutralising capacity (a-23Q)	6250	1160	137.4
Sulfidic – excess acid neutralising capacity (s-23Q)	10	1.86	137.3
WBE7 0.0m			
Peroxide calcium (23Wh)	2.55	5.94	79.9
Acid reacted calcium (23X)	2.28	5.68	85.4
Acidity – acid reacted calcium (a-23X)	1,140	2,830	85.1
Sulfidic – acid reacted calcium (s-23X)	1.82	4.54	85.5
Excess acid neutralising capacity (23Q)	4.81	12.7	90.1
Acidity – excess acid neutralising capacity (a-23Q)	961	2540	90.2
WBE4 1.0m			
Peroxide calcium (23Wh)	2.38	3.36	34.1
Acid reacted calcium (23X)	2	3.02	40.6
Acidity – acid reacted calcium (a-23X)	1,000	1,510	40.6
Sulfidic – acid reacted calcium (s-23X)	1.6	2.42	40.8
Net acidity (sulfur units)	0.68	0.02	188.6
Net acidity (acidity units)	423	13	188.1
WBE5 0.0m			
Peroxide sulfur (23De)	0.44	0.75	52.1
Peroxide oxidisable sulfur (23E)	0.31	0.61	65.2
Acidity – peroxide oxidisable sulfur (a-23E)	194	381	65.0
Peroxide calcium (23Wh)	1.94	3.16	47.8
Acid reacted calcium (23X)	1.66	2.86	53.1
Acidity – acid reacted calcium (a-23X)	830	1,430	53.1
Sulfidic – acid reacted calcium (s-23X)	1.33	2.29	53.0
WBE2 0.0m			
Peroxide calcium (23Wh)	4.79	3.7	25.7
Acid reacted calcium (23X)	4.44	3.42	26.0
Acidity – acid reacted calcium (a-23X)	2210	1700	26.1
Sulfidic – acid reacted calcium (s-23X)	3.55	2.73	26.1
Excess acid neutralising capacity (23Q)	10.2	6.11	50.2
Acidity – excess acid neutralising capacity (a-23Q)	2,030	1,220	49.8
Sulfidic – excess acid neutralising capacity (s-23Q)	3.25	1.95	50.0
WBE18 1.0m			
Titratable peroxide acidity (23G)	361	699	63.8
Titratable sulfidic acidity (23H)	361	699	63.8
Sulfidic – titratable peroxide acidity (s-23G)	0.58	1.12	63.5

Contaminant	Primary sample	ASS Duplicate	RPD (%)
Sulfidic – titratable sulfidic acidity (s-23H)	0.58	1.12	63.5
KCl extractable calcium (23Vh)	0.42	0.19	75.4
Peroxide calcium (23Wh)	1.23	0.21	141.7
Net acidity (sulfur units)	0.95	1.25	27.3
Net acidity (acidity units)	594	779	26.9
Liming rate	44	58	27.5
WBE16 0.0m			
Peroxide sulfur (23De)	0.38	0.8	71.2
Peroxide oxidisable sulfur (23E)	0.27	0.66	83.9
Acidity – peroxide oxidisable sulfur (a-23E)	168	411	83.9
Peroxide calcium (23Wh)	8.16	4.46	58.6
Acid reacted calcium (23X)	7.87	4.1	63.0
Acidity – acid reacted calcium (a-23X)	3,930	2,050	62.9
Sulfidic – acid reacted calcium (s-23X)	6.3	3.28	63.0
Excess acid neutralising capacity (23Q)	19.1	11.7	48.1
Acidity – excess acid neutralising capacity (a-23Q)	3,820	2,330	48.5
Sulfidic – excess acid neutralising capacity (s-23Q)	6.13	3.74	48.4

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